



OESTERREICHISCHE NATIONALBANK

Eurosystem

WORKSHOPS

Proceedings of OeNB Workshops

The Experience of Exchange Rate Regimes in Southeastern Europe in a Historical and Comparative Perspective

*Second Conference of the South-Eastern
European Monetary History Network (SEEMHN)*

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The issues of the “Workshops – Proceedings of OeNB Workshops” comprise papers presented at the OeNB workshops at which national and international experts – including economists, researchers, politicians and journalists – discuss monetary and economic policy issues. One of the purposes of publishing theoretical and empirical studies in the Workshop series is to stimulate comments and suggestions prior to possible publication in academic journals.

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Editorial

The choice of a country's exchange rate regime is one of the most important decisions with respect to the macroeconomic policy framework. As history shows, the exchange rate regime can, at times, contribute to bringing about incisive and significant changes in the course of macroeconomic developments. Nurturing sound and sustainable growth as well as managing a monetary crisis can be intimately linked to the choice and management of an exchange rate regime. Moreover, regional and global economic integration is closely connected to exchange rate developments and their influence on macroeconomic variables and policies.

Since the start of economic transformation in Southeastern Europe (SEE) almost two decades ago, exchange rate regime issues have often been at the center of the economic policy debate. This is true of the regime choice at the start of transition, but equally so, of the evolution of the exchange rate regimes in the course of transformation, sometimes also in crisis situations. In the debate, it has increasingly been felt that there is a need for more research about the history of exchange rate regimes in SEE also with a view to informing actual decision-making processes today.

This idea of shedding more light on the exchange rate regime experience in Southeastern Europe in the 19th and 20th centuries was taken up by the South-Eastern European Monetary History Network (SEEMHN) in its 2nd Conference in Vienna at the premises of the Oesterreichische Nationalbank on April 13, 2007. The conference was dedicated to "The Experience of Exchange Rate Regimes in Southeastern Europe from a Historical and a Comparative Perspective."

The SEEMHN, a community of financial historians, economists and statisticians, was established in April 2006 at the initiative of the Bulgarian National Bank (BNB) and the Bank of Greece, with the main objective of spreading knowledge about SEE economic history as an integral part of the European experience. The network focuses particularly on financial, monetary and banking history and brings together economists and historians. Additionally, the SEEMHN Data Collection Task Force aims at establishing a historical data base with 19th and 20th century financial and monetary data. The BNB had hosted the 1st SEEMHN Workshop/Conference on "Monetary and Financial Policies in South-East Europe. Historical and Comparative Perspective" in Sofia from April 13 to 14, 2006.

For the Oesterreichische Nationalbank, the 2007 SEEMHN conference in Vienna complemented a series of conferences and workshops with a focus on SEE

that the OeNB had organized in the past, e.g. the 2004 Conference on European Economic Integration and workshops bringing together the chief economists of SEE central banks in 2005 and 2006 in Vienna.

This volume presents the keynote lectures and papers of the 2nd SEEMHN conference, which was attended by representatives of the Albanian, Austrian, Bulgarian, German, Greek, Romanian, Serbian, and Turkish central banks, as well as participants from a number of European universities and research centers.

In his welcome contribution, *Peter Mooslechner (Oesterreichische Nationalbank)* underlined the undiminished importance for economic policy attached to choosing exchange rate regimes. This issue is particularly relevant for small open economies such as (almost all) SEE economies. Despite the fact that in Europe the overall perception of monetary policy has shifted to the notion of monetary union, it is still necessary to review and reflect on different approaches, which is reinforced by recent economic experience in several respects.

He pointed out that the worldwide surge of capital flows in the last two decades appears to have favored a tendency of exchange rate regimes moving either toward either a hard peg or toward a free float; intermediate regimes turned out to be difficult to sustain. Looking at SEE as well as the entire Central, Eastern and Southeastern European (CESEE) region, the larger countries seem to have more frequently opted for free or managed floats, whereas the majority of countries (including, especially, the smallest/smaller ones) retained pegs to the euro. Regardless of their present regimes, according to the Treaty, all current and future EU Member States will need to participate in the Exchange Rate Mechanism II (ERM II) before eventually joining the euro area. Such an explicit commitment had to be compatible with other elements of the overall policy framework, in particular with monetary, fiscal and structural policies.

Luca Einaudi (Italian Prime Minister's Office) argued in his keynote lecture on the monetary separation of Southeastern Europe in the 19th and the early 20th centuries that although the efforts of Balkan states to break away from the former Ottoman Empire and the Austro-Hungarian Empire and to introduce sovereign currencies were successful, the desire to rapidly modernize and catch up with the most advanced European nations unfortunately could not offset bleak economic and financial realities.

Matthias Morys (University of Oxford) stated in his paper that under the classical gold standard from the 1870s to 1914 there might have been more room for economic policy maneuver (also for peripheral economies) than scientists had previously thought. *Kalina Dimitrova and Nikolay Nenovsky (both from the Balgarska Narodna Banka)* and *Giovanni Pavanelli (University of Torino)* described the history and perspectives of exchange rate control in Italy and Bulgaria in the 1930s. While officially aiming at monetary stability and enhanced credibility in a very difficult external environment, these policies are found to have been bogged down in unethical practices and political favoritism. *Erik Buyst*

(*Katholieke Universiteit Leuven*) and *Ivo Maes (National Bank of Belgium)* dedicate their paper to the role of central bank as a lender of last resort in 19th century Belgium. While they find that the Belgian central bank had rendered the Belgian financial system more crisis resistant, especially by restricting banking sector leverage, they conclude that the National Bank of Belgium had not really functioned as a lender of last resort, as most rescue operations had taken place upon the explicit request of the finance minister. In their paper, *Martin Pontzen and Franziska Schobert* (both from the Deutsche Bundesbank) discussed episodes of German monetary history and drew lessons for transition economies. The authors found interesting parallels between post-Second World War German bank restructuring and banking reforms in transition countries during the 1990s, and between monetary aspects of West Germany's catching-up process during the Bretton Woods era and of the catching-up processes of many emerging markets today.

In his keynote lecture, *Peter Bernholz (University of Basel)* focused on general patterns in the monetary history of Balkan countries in the 20th century. He distinguishes four episodes of hyperinflation that struck the region since 1945, namely in Greece in the aftermath of the Second World War, in Yugoslavia between 1989 and 1990, in Serbia and Montenegro between 1992 and 1994, and in Bulgaria in 1997. These episodes share a number of qualitative characteristics that have been confirmed in other cases: At the beginning of the hyperinflation episodes, the real stock of money increases at a faster rate than the price level and the exchange rate. Later, the dynamics reverse, leading to undervaluation, which is only overcome once monetary stabilization has been effected.

In their study, *Kalina Dimitrova (Balgarska Narodna Banka)*, *Martin Ivanov (Bulgarian Academy of Sciences)* and *Ralitsa Simeonova-Ganeva (St. Kliment Ohridski University, Sofia)* analyzed the impact of the effective exchange rates in Bulgaria in the period 1897–1939. They find that real effective exchange rate movements had statistically significant effects on Bulgarian exports only during the period of relatively free international trade, namely when the classical gold standard was in force (1896–1913). *Biljana Stojanović (Megatrend University, Belgrade)* discussed the exchange rate regimes of the dinar in the years 1945–1990 and assessed their appropriateness and efficiency. Given that in former socialist Yugoslavia ideological and legal frameworks were conducive to persistent monetary expansion, the weakening of the Yugoslav currency was inevitable, whatever the officially applied exchange rate regime. *Elisabeta Blejan*, whose paper was prepared under the coordination of *Professor Stoenescu*, and the co-authors *Brîndusa Costache* and *Adriana Iarovici (all Banca Națională a României)* described the foreign exchange regime in Romania between 1929 and 1939. Whereas the country had introduced exchange controls, the large number of foreign exchange and trade regulations and their frequent modifications as well as the multiple exchange rates for the same currency resulted in distorted exchange

relations between the leu and foreign currencies. *Yury Goland* (*Russian Academy of Sciences*), in turn, discussed the exchange rate in the period of New Economic Policy (NEP; 1921–1928) in Soviet Russia, from which he draws some lessons for present-day Russia: Competitiveness should be improved by cutting production and distribution costs, and real exchange rate depreciation should be achieved by decreasing inflation rather than through nominal devaluation.

Yüksel Görmez and *Gökhan Yılmaz* (*Türkiye Cumhuriyet Merkez Bankası*) elaborated on the evolution of exchange rate regime choice in Turkey. Turkey appears to have tried various kinds of exchange rate regimes, ranging from strictly fixed to free-float regimes. In the past – contrary to the current situation – an experimental regime choice was common practice against the background of structural imbalances, ever increasing dollarization and the lack of fiscal discipline coupled with central bank financing of public deficits through short-term advances. In their study, *Ljiljana Đurđević* and *Milan Šojić* (*both Narodna banka Srbije*) focused on the exchange rate of the dinar in the Kingdom of Serbia in the period 1882–1914. The country had committed itself to bimetallism, and the dinar remained a relatively stable currency in spite of a number of economic challenges that had emerged during this period. *Dragana Gnjatović* (*Megatrend University, Belgrade*) analyzed the foreign exchange policy in the Kingdom of Yugoslavia during and after the Great Depression. The author outlined the short period during which the gold exchange standard was in place, explained the reasons for a sudden decrease in the state's foreign exchange earnings during the Great Depression and reviewed the successful dinar stabilization achieved thereafter.

Finally, moving further up to the present, *Stephan Barisitz* (*Oesterreichische Nationalbank*) shed some light on paths of monetary transition and modernization: He provided an analytical survey of exchange rate regimes and monetary policy in Southeastern Europe including Turkey from the 1990s to 2006. Barisitz concluded that a wide variety of monetary strategies had been put in place and had been practiced quite successfully across the region.

This volume also contains an annex of historical data pertaining to exchange rates, discount rates, reserves and banknotes in circulation in Albania, Austria-Hungary, Bulgaria, Greece, Romania and Serbia in the period 1867–1914. For each country, aggregate data displays are preceded by explanatory remarks. (In the case of Albania, only explanatory remarks are available.) For Albania, the latter were written by *Elsida Orhan* and *Kelmend Rexha* (*Banka e Shqipërisë*); for Bulgaria, the authors are *Kalina Dimitrova* and *Martin Ivanov*, for Serbia *Milan Šojić*, *Ljiljana Đurđević*, *Sanja Borković* and *Olivera Jovanović* (*Narodna banka Srbije*), for Austria *Thomas Scheiber* (*Oesterreichische Nationalbank*), for Romania *Professor Stoenescu*, *Elisabeta Blejan*, *Brîndușa Costache* and *Adriana Iarovici*, for Greece *Sophia Lazaretou* (*Bank of Greece*). We would like to thank all colleagues, especially *Matthias Morys* (*University of Oxford*), who coordinated and

managed this exercise, for the valuable contributions to the first stage of the SEEMHN Data Collection Task Force endeavor.

The SEEMHN will continue to take up research issues from a historical angle that provides insights also for the analysis of present economic and financial developments and for today's policymaking in these areas. It was agreed already, that the 3rd SEEMHN meeting will be hosted by the Bank of Greece on March 14, 2008, in Athens. The topic of the conference will be "Banking and Finance in South Eastern Europe: Lessons of Historical Experience".

Last but not least, special thanks go to all those who helped to organize the whole event as well as to the members of the organizing committee and the scientific committee of the conference and, in the end, to those who have worked on the publication of this conference volume. Only their enthusiasm and efficiency has made the conference and the book possible.

Peter Mooslechner

Oesterreichische Nationalbank

Chair of the Organizing Committee and the Scientific Committee of the Conference

The Choice of Exchange Rate Regimes: Where Do We Stand?¹

Peter Mooslechner

“Exchange rate regimes in emerging markets have been a primary concern of international economists and policy makers since the 1990s cycle of record capital flows to these countries followed by widespread crises.”

(Frankel and Wei, 2007)

“Mutual exchange rate stability is the quintessential public good. ... This point was well recognized by the designers of the old Bretton Woods parity regime in 1944, but their successors ... act as if they have become oblivious to it.”

(McKinnon, 2005)

1. Introduction

Widely neglected in everyday life, but – more important – in day to-day economic policy making the choice of a country’s exchange rate regime is one of the most important framework decisions for economic development. Eventually, this decision affects most if not all fundamental structures as well as the design of the entire economy, starting from the functioning of the price system to market structures via many channels in different ways. Mainly for this reason, the creation of a new International Monetary System was the main focus of the political discussions shaping the new international economic order after the Second World War. Nowadays, the EUR/USD exchange rate as well as the exchange rate policy of China are at the heart of international economic policy discussions.

However, in stark contrast to this the fundamental importance of the exchange rate regime chosen and its implications become visible to the public audience and/or to domestic economic policy makers only from time to time. An exchange rate crises obviously is the most certain occasion. Economic integration, a process shaping not only the European situation but in place globally, is another important process closely linked to exchange rate developments and, in particular, the

¹ The title of this paper makes a special reference to the late Rudi Dornbusch (1980), who contributed a lot to our modern understanding of exchange rate economics.

influence of the exchange rate regime on macroeconomic variables and related economic policies. Therefore a look at the ongoing and forthcoming integration process of Central, Eastern and Southeastern European Countries (CESEE) with the European Union and, eventually, European Monetary Union from the perspective of exchange rate regimes is one of the obvious starting points for this. This includes also the analysis of the exchange rate history of this European region as the institutional perspective of exchange rate regimes is one of the most persistent economic arrangements shaping the structure of a country for decades.

There is extended economic literature covering all types of questions related to exchange rate regimes from the times of the Gold Standard up to today's liberalized international financial market conditions from various perspectives. However, the conclusions from the available theoretical as well as empirical literature on the topic seem far from clearcut. This can be illustrated by a short but significant collection of statements from the recent literature:

- The choice of exchange rate arrangements that countries face at the beginning of the twenty first century is considerably greater and more complicated than they faced at the beginning of the twentieth century yet the basic underlying issues haven't changed radically. (Bordo, 2004).
- The choice of exchange rate regime is a subject that attracts strong opinions, often based on weak theory. (Crockett, 2003)
- Each of the major international capital market-related crises since 1994 has in some way involved a fixed or pegged exchange rate regime. At the same time, countries that did not have pegged rates avoided crises of the type that afflicted emerging market countries with pegged rates (Fisher, 2001).
- No exchange rate regime is likely to serve all countries at all times. (Gosh et al., 1997).
- Countries choose their exchange rate regime for a variety of reasons, some of which have little to do with economic considerations. However, if the choice of exchange rate regime is to have any rational economic basis, then a first requirement must surely be to understand the properties of alternative regimes. (Gosh et al., 2002).

Taken together, this selection of quotes – although far from being able to cover the extensive literature on exchange rate regimes in any respect – very well illustrates the difficulties economic policy faces in drawing any convincing solutions from the literature as well as the challenging nature of the entire subject.

Nevertheless, few questions in international economics have aroused more debate than the choice of an exchange rate regime. Should a country fix the exchange rate or allow it to float? And if pegged, to a single “hard” currency or a basket of currencies? Economic literature pullulates with models, theories, and propositions. Yet, little consensus has emerged on how exchange rate regimes affect common macroeconomic targets, such as inflation and growth. At a theoretical level, it is difficult to establish unambiguous relationships because of

the many ways in which exchange rates can influence – and be influenced by – other macroeconomic variables. Likewise, empirical studies typically find no clear link between the exchange rate regime and macroeconomic performance.

Ultimately, the exchange rate regime is but one facet of a country's overall macroeconomic policy. No regime is likely to serve all countries at all times (Gosh, 1997). Countries facing disinflation may find pegging the exchange rate an important tool. But where growth has been sluggish, and real exchange rate misalignments common, a more flexible regime might be called for. The choice, like the trade-off, is the country's own.

Starting from this, the paper covers a range of current issues related to the choice of the exchange rate regime in a rather condensed way to set the general scene for the much more specialized contributions to follow. First, it gives a short history of the International Monetary System to derive from this, second, some stylized facts concerning the nature of exchange rate regimes and, third, dealing with the essential factors shaping the choice of the exchange rate regime. Fourth, a quick overview of prevailing exchange rate regimes in CESEE countries is presented to review, finally, the recent challenges of these countries in joining the European Union, EMU and, in the end, the single monetary policy and the euro. No need to mention that the attempt to cover all these issues in one short paper is an impossible exercise. However, leaving many things aside, the objective of the paper is to provide a quick orientation regarding the most important aspects to guide the reader through the subject of the following papers.

2. As a Starting Point: An Extremely Short History of the International Monetary System and Exchange Rate Regimes

Much of the changes and the progress of international monetary systems reflect concerns with particular recurring historical puzzles. A familiarity with the broad strokes of monetary history hence often comes in rather useful in understanding where the field has come from and where it is heading.

During the late 19th century and the early days of the 20th century, exchange rate regimes were dominated by fixed exchange rate regimes until the breakout of the First World War. In those days, the classical gold standard constituted the building block of the international monetary system. The classical gold standard may not be the beginning of exchange rate history, but it is a convenient starting point for considering the evolution of conventional wisdom on the subject. For several decades around the end of the 19th century, the gold standard functioned with apparent success (Crockett, 1997). Under the classical gold standard, the rate of exchange of the different currencies was given by the mint parity, i.e. the rate of exchange of the domestic currency vis-à-vis the price of gold related to the rate of

exchange of the foreign currency against the price of gold. Because governments credibly committed themselves to the fixed gold price and because of the free flow of gold across countries, private sector agents started gold arbitrage as soon as market prices departed from the official price. Consequently, fluctuations around the mint parity were actually delimited by the cost related to transporting gold from one country to another, like freight, insurance, handling (package and cartage), interest on money committed to the transaction and risk premium (Officer, 2001).

The eruption of the First World War in August 1914 led to the dissolution of the classical gold standard chiefly due to a run on the sterling. By that time, the reserve ratio in Britain, which is the ratio between gold reserves and liabilities to foreign governments (foreign sterling reserves) was extremely low. In this situation, the Bank of England decided to impose exchange rate controls, which led to the breakdown of the system. With the end of the war, most countries sought to re-establish exchange rate stability and returned, one after another, to a (sort of new) gold standard rule by the mid-1920s – only to give up gold again after the onset of the Great Depression in the early 1930s (Eichengreen, 1989). The gold standard that apparently worked so well in the pre-First World War periods did not prevent chaos and depression in the 1920s and 1930s. What triggered this change? The short-lived interwar gold standard differed from the classical coin gold standard as it was a bullion gold standard or a gold exchange standard, in which a country's currency was backed by a reserve currency exchangeable to gold. This mechanism became more and more complicated as the US dollar developed to challenge the sterling as the dominant international reserve currency.

Another era of fixity came to be decided at the Bretton Woods conference in 1944 that lasted until 1973. The Bretton Woods conference represented the first successful attempt to consciously design an international economic system. It relected lessons drawn from both the fixed and floating period. The floating rate period seemed to teach that exchange rates should be viewed as matters of mutual concern, since individually determined exchange rate policies could be inconsistent and unstable (McKinnon, 2005). The gold standard experience seemed to show that fixed exchange rates were more stable, but required a credible domestic adjustment mechanism, a cooperative international environment, and an absence of destabilising capital flows. The Bretton Woods system worked well as long as capital flows were modest, international inflationary and deflationary pressures were limited, and countries accepted an obligation to direct domestic macroeconomic policies towards achieving external balance (Crockett, 1997).

The system was designed to provide fixed exchange rates fluctuating not more than $\pm 1\%$ around the central parity of the participating countries against the US dollar that served as the reserve currency and was tied to gold at a rate of USD 35 an ounce. This gold exchange standard worked smoothly until the USA started having large current account deficits financed by US dollar supply, in particular related to the financing of the Vietnam War. This meant that the other central

banks had to buy US dollar to maintain the fixed parity and thus accumulated large US dollar reserves. At a certain point, rumours about the FED's ability to convert those reserves into gold became more and more important. This resulted in the disconnection of the dollar from gold in 1971 and the float of the German mark against the dollar in 1973. This marks the beginning of a new era of floating, in which demand and supply on the market determined the relative price of two currencies and in which gold lost its former central monetary statue and became a "simple commodity", at least from a monetary policy as well as an exchange rate regime perspective.

Table 1: Chronology of Exchange Rate Regimes

1880–1914	Specie gold standard (bimetallism, silver), currency unions, currency boards, float
1919–1945	Gold exchange standard , floats, managed floats, currency unions (arrangements), pure floats, managed floats
1946–1971	Bretton Woods adjustable peg , floats (Canada), dual/multiple exchange rates
1973–1998	Free float, managed float, adjustable pegs, crawling pegs, basket pegs, target zones or bands, fixed exchange rates, currency boards; (<i>"snake" and ERM in Europe</i>)
1999–present	European Monetary Union (<i>plus ERMII</i>), free float, managed float, adjustable pegs, crawling pegs, basket pegs, target zones or bands, fixed exchange rates, currency boards

Source: Adapted from Bordo (2004).

In Europe, fears about the damaging effects of excessive exchange rate volatility prompted the creation of the so-called "snake" in which the European Economic Community (EEC) countries' currencies were tied one to another fluctuating in a tunnel against the dollar. The snake was superseded by the European Monetary System (EMS) in 1979 which paved the way for closer monetary ties in Europe. Monetary union, which had been proposed already earlier (Werner plan in 1970), came again on the agenda and was enshrined in the Maastricht Treaty in 1991. After turbulences in the EMS 1992/93 – which led to substantial devaluations of some currencies and related enormous swings in countries' competitiveness – the momentum to monetary integration was regained and led, eventually, to the launch of the euro in 1999.²

Eichengreen (1993), for example, indeed argues that the sequence of fixed to float and back again to fixed exchange rate regimes can be explained by (1) the presence or absence of a dominant power that takes the lead in securing fixed

² Triffin (1991) qualified the entire situation of turbulences and instability "...scandal?"

exchange rates, (2) the degree of international cooperation, (3) the intellectual consensus regarding the desirability of either systems, (4) macroeconomic volatility and (5) the coordination of fiscal and monetary policies.

3. The Nature of Exchange Rate Regimes

Notwithstanding the general view that the pre-1973 period was dominated by fixed and the post-1973 period by floating exchange rate regimes, a look at both developed and developing countries reveals substantial cross-country heterogeneity in this respect (Reinhard and Rogoff, 2002)³.

The wide range of observed exchange rate regimes begs the question whether large shifts occurred in the composition across fixed, intermediate and flexible exchange rate regimes over time. This is an interesting question, in particular in the light of the paradigms often aired in policy circles with regard to exchange rate regimes. The first paradigm, the so-called bipolar view, or the excluded middle in the words of Reinhart and Reinhart (2003), asserts that intermediate regimes are not sustainable and tend to disappear if capital flows are liberalised. The second paradigm, among others advocated by the IMF, emphasises the vulnerability of pegs to speculative attacks (the “crisis view”) and suggests a move from pegs towards more flexibility take place over time.

Looking at table 2 below indicates that a large number of countries had either a peg or a floating exchange rate in April 2006, and that only few countries opted for intermediate regimes. Chart 1 reveals that the two extremes (peg and float) are much more densely populated than the middle ground. This gives credit to the view that in practise countries seem to “need” to choose between fixity and flexibility. Nevertheless, pegs are more numerous than floating regimes, which is in contradiction with the second proposition related to the vulnerability of pegged regimes.

Although the nature of exchange rate regimes is rather difficult to characterise in practise, Eichengreen and Razo-Garcia (2006) – among other – show the decline of intermediary regimes since the early 1990s from about 70% to 45% in 2004. In particular, they conclude that among the advanced countries intermediate exchange rate regimes have almost disappeared. This tendency clearly supports the “bipolar view” related to a country’s degree of development and is reflecting monetary unification in Europe at the same time.

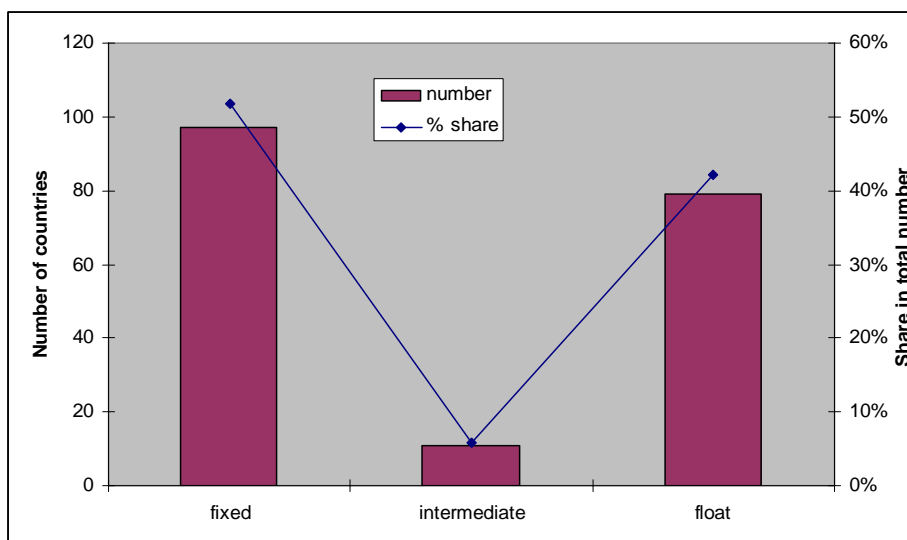
³ In fact, Reinhard and Rogoff (2002) argue that the move from Bretton Woods to float regimes did not have a major impact on the distribution of the different types of exchange rate regimes.

Table 2: De facto Exchange Rate Arrangements in IMF Member Countries, April 2006

Exchange rate regime	Number of countries	% in total
1. Exchange rate regimes with no separate legal tender	41	21.9%
2. Currency board	7	3.7%
3. Conventional pegs	49	26.2%
4. Pegs within horizontal bands	6	3.2%
5. Crawling pegs	5	2.7%
6. Crawling bands	0	0.0%
7. Managed floating	53	28.3%
8. Independent floating	26	13.9%

Source: IMF, *Annual Report on Exchange Rate Arrangements and Exchange Restrictions*, p. 3.

Chart 1: Distribution of Exchange Rate Regimes in April 2006



Source: Authors' calculations based on IMF, *Annual Report on Exchange Rate Arrangements and Exchange Restrictions*, p. 3.

While the main trends appear fairly clear, some caution is needed in interpreting them on the grounds that the distribution of exchange rate regimes might look differently for different country groups at different levels of economic development (developed, emerging and developing countries) and that there are various ways to determine the “genuine” (de facto) nature of a given exchange rate regime. As is

well known, the type of an exchange rate regime officially announced by the central bank or the government does not necessarily match with the actual behaviour of the exchange rate. The data shown in table 2 and chart 1 are based on the IMF classification of *de facto* exchange rate regimes,⁴ but alternative methods to determinate *de facto* regimes might well yield different outcomes.

A number of influential papers have scrutinized these issues. For instance, the analysis of Levy-Yeyati and Sturzenegger (2003) broadly confirms the U-shape in chart 1 in historical perspective from 1991 to 2000, though the share of intermediate regimes is higher and less floating regimes are identified with their classification algorithm from 1974 to 2000. However, and this came as a surprise, the picture changes when the distribution of regimes is looked at for different country groups. Indeed, for developed and emerging countries, intermediate regimes represented the largest share in 1991, while hard pegs, intermediate regimes and floats accounted for around one third each of the observations in 2000.

They assert that the number of *de facto* pegs remained fairly stable between 1991 and 2000 but the officially announced pegs recorded a dip. This phenomenon – “the hidden pegs” – can be observed for countries with liberalised capital accounts but not for countries with limited access to capital markets. Reinhart and Rogoff (2002) apply a different identification technique which looks at parallel exchange rate data for 153 countries starting from 1946 and come to even more straightforward results. They find that half of the officially announced pegs are not pegs, but rather a variant of float.⁵ Similarly, regimes that are officially labelled as float often turn out to be pegs in practice. On the basis of the Reinhart and Rogoff dataset, Husain, Mody and Rogoff (2004) undertake an even more scrupulous analysis of the data. Their results shed even more light on that issue. They show that pegs are very much long-lived in countries with limited access to capital markets, but are vulnerable in emerging markets, mainly due to sudden stops of capital flow. In addition to that, developed countries seem to be better off with floating exchange rate regimes than with pegs. Finally, they observe and predict an increasing trend towards intermediate regimes.

These results attest that the two paradigms lined out above – the bi-polar view and the supposed vulnerability of pegs – need to be taken with substantial qualification.

Calvo and Végh (2000) popularised the view that, as they coin it, “fear of floating” is one reason that explains why official floats resemble more to pegs in practice. They argue that fear of floating is a result of a lack of credibility of the

⁴ In fact, one has also to take into account that these classifications are based on questionnaires supplied by the respective IMF member countries and, therefore, represent a country’s view or philosophy concerning its exchange rate system.

⁵ A major criticism of Levy-Yeyati and Sturzenegger (2003) is that crisis periods, i.e. drastic devaluations or moves from one type of regime to another type of regime, are not eliminated from the dataset. Reinhart and Rogoff (2002) focuses on calm periods.

monetary authorities that results in volatile interest rates and sovereign credit ratings. They add that liability dollarization also incite central banks to seek to limit exchange rate volatility, because of the fear of large depreciations, also termed “dread of depreciation” by Dutta and Leon (2002), that could have disastrous balance sheet effects if there is a currency mismatch between assets and liabilities in the household and/or the corporate sector. Moreover, a higher degree of dollarization usually goes in tandem with higher exchange rate pass-through (Reinhart, Rogoff and Savastano, 2003). This being so, it is in the interest of the central bank to seek to reduce the impact of exchange rate fluctuations on the inflation rate.

Finally, it has to be stressed that a considerable change in how the role of exchange rate developments is qualified has taken place, which broadly influences the hierarchy and sequence of economic policy strategies to be followed. After the breakdown of the Bretton Woods system and under the impression of the difficulties the system faced during its final decade, exchange rate movements and exchange rate flexibility were mainly seen as important economic policy tools to address important macroeconomic imbalances successfully. This perspective is also a dominant ingredient of the famous Mundell-Fleming (OCA) approach of open economy macroeconomics, which attributes a rather strong position to the exchange rate as a policy instrument (Frankel and Rose, 1998).

Compared to this – optimistic – view of the exchange rate as a macroeconomic policy tool, the experience of the 1980s and 1990s led to a completely different assessment of exchange rate developments. In the wake of the European exchange rate crises of the early 1990s exchange rate developments were seen more and more as becoming a permanent source of international financial instability. To cope with this new understanding of exchange rates many initiatives were launched to create a new European framework of exchange rate stability. In the end, this change in perspective led to the establishment of the euro area as an institutional framework that makes exchange rate volatility obsolete as a potential source of macroeconomic instability.

Of course, in this new world our overall understanding of the role of exchange rates in economic policy was not the only thing to change; the hierarchy of economic objectives and policies has also changed substantially. In particular, for countries intending to join the European Union and – eventually – monetary union, stabilizing the exchange rate, via participation in ERM II first, has become an overriding goal in the integration and convergence process. This gives the exchange rate obviously a much higher weight in policy making even if countries are still at the beginning of the integration process.

4. The Choice of the Exchange Rate Regime

Standard theory suggests that the choice between fixed and floating exchange rate regimes should be governed by the desire to minimise output and employment volatility. Hence, the nature of the shocks hitting an economy is primordial. If an economy is exposed to nominal shocks due to money supply or demand, choosing a fixed exchange rate regime seems natural as it acts to absorb the nominal shock. If shocks are real, due to productivity for instance, a flexible exchange rate performs better.

However, standard theory is not very appealing to emerging market economies because “no exchange rate regime can prevent macroeconomic turbulence” (Calvo and Mishkin, 2003, p. 13). As a matter of fact, the choice of the exchange rate is of secondary importance in emerging market economies. What really matters is the quality of institutions, including fiscal, financial and monetary institutions. For instance, in a peg, irresponsible fiscal policy may lead to disaster if the peg breaks and the large depreciation realises existing balance sheet vulnerabilities due to liability dollarization. Nonetheless, float is not a remedy because it also allows large depreciations.

Notwithstanding these arguments, both types of exchange rate regimes have their merits and shortcomings. Generally, pegs are thought to be as a disciplining device for fiscal policy. At the same time, pegs reduce exchange rate premium that opens the way to financing public spending at cheaper rates, a possible recipe for disaster. Importantly, pegs may provide a usual nominal anchor to inflation expectations in the wake of high inflationary periods and even can import credibility of the anchor currency. Fixed exchange rate regimes help reaping the gains of economic integration by eliminating the detrimental effects of exchange rate fluctuations on trade (Frankel and Rose, 2002). Note that this argument contradicts the results of Husain, Mody and Rogoff (2004). Fixed exchange rates are more useful than floats for developed countries if they engage in economic integration and if adjustments due to asymmetric shocks can be adjusted by factor mobility, labour market flexibility or increasing intra-industry trade. Finally, keeping the exchange rate stable also promotes financial and macroeconomic stability if the share of foreign currency denominated private and public debt is high.

On the other hand, a floating exchange rate regime makes possible the conduct of an autonomous domestic monetary policy if capital flows are fully liberalised. Floats require no international reserves. Finally, large external imbalances that can build up easier under a peg if exchange rate misalignments become persistent can be handled not only via internal adjustment, as in a pegged regime, but also through the external adjustment channel (Calvo and Mishkin, 2003).

Obstfeld et al. (2004) forcefully restated the argument that policy makers in open economies face a macroeconomic trilemma of pursuing three typically

desirable, yet contradictory objectives. The trilemma consists of stabilizing the exchange rate, enjoying free international capital mobility and employing monetary policy for domestic goals at the same time. With liberalized international capital flows generally considered a basic precondition for participating in international markets, to fix or not to fix the exchange rate, and at which level of development to decide on the issue, become fundamental questions for a small country's policy orientation. Moreover, Obstfeld et al. conclude that based on empirical evidence the trilemma still makes sense as a guiding policy framework and that the constraints implied by it are largely borne out by history.

Relating this to the situation of countries at an earlier state of economic development or real convergence it becomes immediately clear that one of their permanent and ultimate policy-making objectives is to balance the needs between domestic development goals and international monetary integration.

5. Recent Exchange Rate Regime Trends in CESEE Countries

In an unstable environment and a situation in which it is difficult to establish internationally acknowledged institutions and to enforce sound decision-making, perhaps the biggest challenge for economic policy – and for monetary policy alike – is how to gain and preserve credibility. The preferred solution, anchoring the national currency somehow to a strong and stable neighbouring currency, is obvious. For Southeastern Europe (SEE) the euro is the obvious choice, given that trade figures indicate a close relationship between SEE and the euro area. Another advantage is that a stable exchange rate may enhance the already existing strong FDI between the two parties involved. Finally, this decision is based on the good experiences other small open economies have made with such kind of a strategy. Although the waters were much calmer then, one can refer to the hard currency policy of Austria in the 1970s and 1980s in this respect.⁶

At the beginning of transition and in the first half of the 1990s, many Southeastern European countries opted for managed or loosely managed floats, whereas the typical Central European and Baltic strategy was to anchor domestic currencies to the US dollar and/or the German mark, with increasing weight for the latter. A number of countries/territories (in the Western Balkans) that were not yet independent or had just become independent (Bosnia-Herzegovina, Kosovo, Montenegro and Serbia) remained dominated by the Yugoslav dinar up to the late 1990s or beyond. From the early years of that decade until the turn of the millennium most Southeastern European countries' currency regimes (except

⁶ For detailed analyses of the Austrian case related to the challenges of transition countries see Handler (1989) and Backe and Mooslechner (2004).

that of Albania) appeared to be steadily moving into the orbit or proximity of the euro. The same goes for Central European and Baltic countries' regimes.

As table 3 demonstrates, since early 2001 (the time of the floating of the Turkish lira) two diverging tendencies seem to have emerged in Southeastern Europe: A number of smaller countries/ territories (the largest one being Bulgaria, which joined the EU in January 2007) are holding on to the euro as a nominal anchor (from tightly managed float to euroization). In contrast, a smaller number of mostly larger countries (incl. the new EU members Romania and Turkey) have progressively opted for inflation targeting (at least of an informal kind) and have thus loosened up their currency regimes and connections to the euro and reverted to loosely managed floats. Neither Bulgaria nor Romania have yet joined the ERM II.

Since the late 1990s some differentiation could also be observed among the transition countries further north, although the clearly dominating tendency of the currencies of the Central European and Baltic states that all joined the EU in May 2004 has been to progressively align themselves with the euro. Some – but not all – of these new EU members have entered ERM II, and Slovenia has gone all the way – to the adoption of the common European currency in January 2007. In 1997 the Czech Republic, and in 2000 Poland – two relatively large countries – had somewhat weakened their links to the euro by passing from euro-dominated exchange rate corridors to free or managed floats, which remain valid today. All other Central European and Baltic countries have exclusively anchored their currencies to the euro, and given existing obligations and perspectives, there can be no doubt about the long run.

Nevertheless, as can be seen in table 3, a common trait across the whole region (North and South) seems to be to opt for inflation targeting in all cases (incl. ERM II) except where hard euro pegs are chosen or where the euro is legal tender. As of May 2007, inflation targeting (sometimes informal) was the policy in Albania, the Czech Republic, Hungary (which also committed to a wide-band euro peg), Poland, Romania, Serbia, Slovakia (ERM II), and Turkey. Thus, the largest countries of the region followed this strategy. In contrast, hard euro pegs reigned in the three Baltic states (all of them also ERM II), Bosnia and Herzegovina, Bulgaria, Croatia, and Macedonia. The euro was legal tender in the euro area member Slovenia, in Kosovo and Montenegro.

Table 3: Central and Southeastern European Countries' Monetary Characteristics

Country/ territory	Currency (since); previous	Exchange rate regime (since); previous	Monetary policy framework (since); previous framework
Central Europe and Baltics			
<i>Czech Republic</i>	Czech koruna (CZK, Jan. 1993)	Managed float (May 1997), reference currency: EUR (DEM)	Inflation targeting (Jan. 1998)
<i>Estonia</i>	Estonian kroon (EEK, June 1992)	ERM II (June 2004), currency board: peg to EUR (DEM) (June 1992)	Nominal exchange rate anchor EUR (DEM) (June 1992)
<i>Hungary</i>	Hungarian forint (HUF)	Wide-band peg to EUR ($\pm 15\%$) (October 2001)	Inflation targeting (June 2001) coupled with nominal exchange rate anchor EUR
<i>Latvia</i>	Latvian lat (LVL, June 1993)	ERM II (2 May 2005), peg to euro (1 Jan 2005); peg to SDR (band of $\pm 1\%$) (February 1994)	Nominal exchange rate anchor EUR (Jan. 2005), previously SDR
<i>Lithuania</i>	Lithuanian litas (LTL, June 1993)	ERM II (June 2004), currency board: peg to EUR (Feb. 2002)	Nominal exchange rate anchor EUR (Feb. 2002)
<i>Poland</i>	Polish zloty (PLN)	Free float (April 2000), no foreign exchange interventions since 1998	Inflation targeting (Jan. 1999)
<i>Slovakia</i>	Slovak koruna (SKK, Jan. 1993)	ERM II, standard fluctuation band (28 Nov. 2005), managed float (Oct. 1998)	Inflation targeting (Dec. 2004) coupled with nominal exchange rate anchor EUR (Nov. 2005)
<i>Slovenia</i>	Euro (Jan. 2007); Slovenian tolar (SIT, Oct. 1991)	Member of euro area (1 Jan. 2007); ERM II (28 June 2004), tightly managed float (Oct. 1991), reference currency: EUR (DEM)	Euro area (Jan. 2007); nominal exchange rate anchor EUR (June 2004)
Southeastern Europe incl. Turkey			
<i>Albania</i>	Albanian lek (ALL)	Loosely managed float (early 1990s), major reference currencies: EUR, USD	Informal inflation targeting through money growth targeting (Jan. 1998)
<i>Bosnia and Herzegovina</i>	Konvertibilna marka (BAM, June 1998)	Currency board: peg to EUR (DEM) (formally introduced: August 1997, de facto since mid-1998)	Nominal exchange rate anchor EUR (DEM) (August 1997)
<i>Bulgaria</i>	Bulgarian lev (BGN)	Currency board: peg to EUR (up to end-1998: to DEM) (since July 1997)	Nominal exchange rate anchor EUR (DEM) (July 1997)
<i>Croatia</i>	Croatian kuna (HRK) (May 1994)	Tightly managed float, reference currency: EUR (up to end-1998: DEM) (since Oct. 1993)	Nominal exchange rate anchor EUR (DEM) (Oct. 1993)
<i>Kosovo/ Kosova (Serbia)</i>		All foreign currencies legalized for transactions, EUR (DEM) predominant, YUM used regionally (Sept. 1999)	EUR legal tender (Sept. 1999)

Table 3 continued: Central and Southeastern European Countries' Monetary Characteristics

FYR Macedonia	Macedonian denar (MKD, April 1992)	De facto peg to EUR (exchange rate target, up to end-1998: DEM) (since Oct. 1995)	Nominal exchange rate anchor EUR (Oct. 1995)
Montenegro	Unilaterally euroized/EUR (Nov. 2000)		EUR legal tender (Nov. 2000)
Romania	Romanian leu (RON, redenominated July 2005)	Loosely managed float (Aug. 2005); managed float (1991), reference currency: EUR (since early 2005)	Inflation targeting (August 2005); Money growth targeting (early 1990s)
Serbia <i>(without Kosovo/Kosova)</i>	Serbian dinar (RSD, from 2003 until end-2006 called CSD)	Loosely managed float (Feb. 2006); managed float (Jan. 2003), reference currency: EUR	Informal inflation targeting through "inflation objectives" (Sept. 2006); real exchange rate anchor (Jan. 2003)
Turkey	Turkish lira (YTL, redenominated Jan. 2005; TRL)	Loosely managed float (Feb. 2001), major reference currencies: USD, EUR	Inflation targeting (Jan. 2006); Money growth targeting, informal inflation targeting (Feb. 2001)

Source: Compiled by Stephan Barisitz, OeNB.

Of course, the whole framework of macroeconomic policies is relevant for successful economic policies and smooth monetary integration in particular, but some elements have proven to be of specific importance by historical experience. Among these are some of the most basic challenges of the macroeconomic framework, like the question of fixed versus flexible exchange rates, the specific conditions relevant for small open economies (SMOPEC), the challenges created by the so-called policy trilemma. In the end it took almost two decades until fixed exchange rate regimes regained in importance as a reliable policy framework to stabilize the macroeconomic situation of a country.

The second important basic element to be considered in this respect is the SMOPEC characteristic or assumption that gained particular importance in the discussions following the Mundell-Fleming model of fundamental open-economy characteristics. Introduced at the time mainly to allow for differences concerning optimal currency area (OCA) preconditions between large and small countries, SMOPEC characteristics turned out to be instrumental in making open-economy analysis and results more realistic, given the differences in country size across the EU. Essential elements of this perspective are that small countries are usually price-takers on international markets, that they are characterized by a high share of constant return industries, a high concentration of product/industry specialization, a high geographic concentration of production as well as an overall high share of foreign trade in GDP. As a result small countries typically face a higher likelihood of asymmetric shocks, a fact that creates a challenge for all types of fixed exchange rate arrangements.

A different set of criteria for exchange rate regime choice than that based on the benefits of integration versus the benefits of monetary independence, is based on the concept of a nominal anchor (Bordo, 2004). In an environment of high inflation, as was the case in most countries in the 1970s and 1980s, pegging to the currency of a country with low inflation was viewed as a precommitment mechanism to anchor inflationary expectations. In an SMOPEC a pegged exchange rate may promote such a precommitment device, at least as long as the political costs of breaking the peg are sufficiently large. This argument was and is used to make the case for the Exchange Rate Mechanism (ERM) in Europe and for currency boards and other hard pegs in transition and emerging countries.

Summing up, the confidence and stability-enhancing effect of hard pegs appears to have borne out success in most of the countries analyzed; but this does not preclude other monetary strategies – notably inflation targeting and a loose float – from being effective as well. Overall monetary and economic policy soundness, credibility and perseverance remain the key to success here. In particular, prudent fiscal policies and general policy discipline, possibly favored by peer pressure within the Southeastern European region, IMF surveillance and EU membership aspirations (now already fulfilled in the cases of Bulgaria and Romania), have assisted the central banks in pursuing their goals.

6. A Little Bit of “Current” History: ERM II and the Road towards Monetary Union

EU integration is a rule-based process. This also holds true for monetary integration. According to the Maastricht Treaty monetary integration takes place in stages, leading from EU membership through participation in the Exchange Rate Mechanism II (ERM II) to eventual euro area membership.

Upon accession to the European Union, new Member States are required to treat their exchange rate policy as a matter of common interest and to pursue price stability as the primary objective of monetary policy. Beyond these obligations, the choice of the monetary and exchange rate strategy remains, during this phase, a responsibility and prerogative of the Member State concerned.

Participation in ERM II, which is a multilateral arrangement of fixed, but adjustable, exchange rates between the currencies of Member States participating in the mechanism and the euro, involves an explicit exchange rate commitment. This commitment must be compatible with the other elements of the overall policy framework, in particular with monetary, fiscal and structural policies. Countries that submit a request for ERM II entry have, thus, to be appropriately prepared: “To ensure a smooth participation in ERM II, it would be necessary that major policy adjustments are undertaken prior to entry into the mechanism and that a

credible fiscal consolidation path is being followed.” (European Central Bank, 2003).

It is important to note that ERM II has two roles. One is to act as an arrangement for managing exchange rates between non-euro area Member States and the euro area, and the other is to play a role in the convergence criteria for joining the euro. As regards the second role, ERM II acts as a testing phase (“training room”) for both the central rate and the sustainability of convergence in general. By joining the EU, new Member States undertake the commitment to strive towards the eventual adoption of the euro upon having fulfilled the convergence criteria laid down in the Treaty in a sustainable manner. The assessment on the fulfilment of the criteria is made on a case-by-case basis, taking into account the specific situation of each individual country. It is based on the principle of equal treatment across Member States and time.

With regard to exchange rate stability, which is of particular interest in the context of this conference volume, the criterion refers to participation in ERM II for a period of at least two years prior to the convergence assessment without severe tensions, in particular without devaluing against the euro. The Governing Council position points out that “the assessment of exchange rate stability against the euro will focus on the exchange rate being close to the central rate while also taking into account factors that may have led to an appreciation, which is in line with what was done in the past.” It also stresses that the width of the fluctuation band within ERM II shall not prejudice the assessment of the exchange rate stability criterion. Finally, it recalls that the issue of absence of “severe tensions” is, in general, addressed: (i) by examining the degree of deviation of exchange rates from the ERM II central rates against the euro; (ii) by using indicators such as short-term interest rate differentials vis-à-vis the euro area and their evolution; and (iii) by considering the role played by foreign exchange interventions.

Finally, as underlined by the EU Council in November 2000, any unilateral adoption of the single currency outside the Treaty framework – by means of unilateral euroization – would run counter to the economic reasoning underlying Economic and Monetary Union, which perceives the adoption of the euro as the end-point of a structured convergence process within a multilateral framework.

7. Any Conclusions?

Which exchange rate regime is appropriate for which country? Despite the extensive scientific knowledge on this important question, real world uncertainty leaves us with a substantial range of indeterminateness when trying to find an straightforward answer to it. Obviously, potentially sustainable exchange rate regimes can be related to four different groups (Crockett, 2004): (i) fully fixed rates, in particular if they come close to abandon the individual exchange rate of a country, (ii) pegging regimes, when they are supported by appropriate economic

policies or framework conditions, (iii) managed floating regimes, when market expectations concerning exchange rate “moves” or “instability” never become too strong and (iv) free floating regimes, where countries have to accept the potentially real economy consequences of this choice.

A particular problem in this respect is the move from one currency regime to another. Countries which have once for specific – and possibly well justified – reasons embarked on the road to a particular exchange rate regime are “tied” to a large extent to this particular choice because of market pressure as well as potentially bad expectation formation and consequent exchange rate instability. Although the choice of an exchange rate regime may certainly be seen as an outstanding economic policy challenge, the transition from one regime to another one – think, for example, of the transition from a well established currency board to managed floating – obviously means a multiplication of problems, with unclear results.

Long-term historical tendencies may suggest, that an increase in capital mobility tends to make intermediate exchange rate regimes disappear, in favour of the extremes of currency boards or monetary union on the one hand, and freely flexible exchange rates on the other. But one has also to take a view, if the abandonment of intermediate exchange rate regimes is the result of voluntary choice or if countries are forced to exit, for example because of a speculative attack. The latter explain the exit from an exchange rate peg as triggered by the action of speculators. But if a forced exit involves a sort of choice between alternative regimes, then both elements would be present at the same time. Therefore, forced exit – even preventive strategies of exit – could lead into a situation of new equilibrium if the right choice is made at the right time and respective framework conditions allow for implementing such a choice. No doubt, explaining transitions between exchange rate regimes and their consequences is the central challenge – countries in particular countries of the CESEE area face nowadays on their way into – eventually – monetary union.

Taking into account that countries have to choose their exchange rate regimes for a variety of international and domestic reasons, one obvious requirement is that all actors surely understand the properties of alternative – or potential – regimes. There are some important trade-offs in the choice of the exchange rate regime. On the one hand, an exchange rate regime can promise to impose policy discipline, thereby stabilizing expectations and creating confidence in the currency. On the other hand, no exchange rate regime can substitute for sound macroeconomic management, leaving the burden of doing the right things to policy makers again. Nevertheless, countries have to decide upon their particular regime at any given point in time. Because of this, this is clearly an issue where the “art” component of economic policy making becomes important. Historical experience and evidence can be of valuable help as ingredients in making far ranging decisions on issues like this. Without doubt, the choice of the appropriate exchange rate regime will

stay with us as one of the important open questions in academics as well as in economic policy making for some time, if not decades. Obviously, whatever choice it will be makes an important difference: Consider, for example, a comparison of the Gold Standard framework with nowadays world: Decisions on interest rate policies would be guided by completely different reasons and lead to completely different outcomes.

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Monetary Separation and European Convergence in the Balkans in the 19th Century

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Italian Prime Minister's Office

Balkan countries have built their national currencies in the course of the nineteenth century and early twentieth century under the dual and apparently conflicting tension between separation and convergence. On one side the progressive political emancipation from the domination of the three Empires, the Habsburg, the Ottoman and the Tsarist, pushed towards distinct national currencies, as different as possible from those of the previous rulers and from each other. On the other side the desire to belong to the core group of the most advanced European nations pushed towards monetary harmonisation, identified for several decades, from 1865 to the First World War, with the Latin LMU. The conflict between the aspiration to rapid modernisation and economic growth and the bleak economic and financial realities help to explain how this project never really succeeded and disappeared from public sight for most of the twentieth century, only to reappear after the collapse of the political and economic bloc built by the successor regime of the Russian Empire.

Just like Italy and Germany until the 1860s and 1870s, Balkan countries had a chaotic monetary circulation composed of diverse coins, originating from distant as well as neighbouring countries, belonging to different periods, different monetary and metallic systems, often old and worn. In such a situation the repeated attempts to reform the coinage to achieve a better regulated circulation encountered the usual difficulties; how to finance the operation and withdraw forms of depreciated paper money, how to prevent the new coinage from being hoarded and exported following Gresham's law. In addition to this, the difficult development of the project of European monetary unification in the 1860s and 1870s introduced further obstacles.

This paper is essentially based on materials from French diplomatic, monetary and banking archives and from numismatic sources. It attempts to provide a view from Western Europe of the monetary transformation of the Balkans in the nineteenth century.

1. Leaving the Empires: the Difficulty of an Early Construction of Balkan Currencies before 1865

All the new Balkan states attempted to assert national sovereignty in the monetary field as much as in all the other classic fields of Nation building (political and economic institutions, language, legal system, units and weights, etc.). In order to do so they worked to remove the symbols of the former occupying powers, removing their coinage and currency and possibly also all the other various types of foreign currencies circulating alongside it. This was a situation similar to that of Italy before 1862 or of some German states, where hundreds of different types of coins, from different periods and with variable levels of wear and tear coexisted in a chaotic cohabitation.

Greece attempted as early as 1831 to prohibit Ottoman coinage from its territory, only obtaining an increased foreign circulation, given that only a minimal amount of national currency had been minted.¹ Serbia counted 33 different currencies in its territory in 1819 and included 12 of them in an official currency exchange rate list.² Multiple accounting was also common, associating existing national and foreign currencies with older ones, which had become by then abstract units of account or “imaginary” money.

For newly formed states of limited size finding enough metal to mint was difficult, not to talk about creating a national Mint, something which was increasingly expensive and technically demanding as the nineteenth century progressed. The absence of free mintage meant that the rules of bimetallism as encountered in France had little relevance in smaller states. Overall many monetary reforms were decided only on paper, without leading in practice to significant monetary issues. It was particularly the case with the Greek monetary laws of 1829 introducing the Phoenix, with the 1833 reform introducing a Drachma aligned to Mexican silver and with the 1862 reform, aligning the drachma to the franc (see table 1). When monetary reforms were decided, the withdrawal of old coinage was not necessarily decided for all currencies and cohabitation of different types of coins (national and foreign) continued anyway.

In other states the population was too limited for the government to be able to afford a separate currency (Montenegro) or the level of political autonomy was insufficient to allow minting rights until the 1860's and 1870's (Rumania, Serbia, Bulgaria and even Hungary).

¹ Leconte, *Le bréviaire des monnaies de l'Union latine*, p. 226.

² Gnjatovic, *Introduction of Limping Gold Standard in the principality of Serbia*, pp. 45–56, in: Roumen Avramov and Sevket Pamuk, *Monetary and Fiscal Policies in South-Eastern Europe, Historical and Comparative Perspective*, First General Meeting of the South-Eastern European Monetary History Network, 13–14 April 2006, Sophia.

2. How the Creation of the Latin Monetary Union Became an Opportunity for the Establishment or the Convergence of Different National Currencies

The appearance of an international standard widely accepted in Europe and with further prospects of becoming the global international monetary standard of the time helped Southeastern European states to focus on a single project.

The LMU was formed in 1865 by France, Italy, Belgium and Switzerland in order to provide a common response to the difficulties of managing separately their national divisionary silver coinage against massive operations of arbitrage between silver and gold and between different national coinages. It was initially only a technical response to the difficulties of managing bimetallism after a protracted period of massive gold inflows (1848–1965). This movement had reduced the price of gold and was crowding out of circulation silver coins whose market value as bullion had risen above its legal value as currency.³

The solution devised by the four founding members of the Monetary convention of 1865 was to remove most of the silver coinage from the free operation of the market, by reducing its real silver value below both legal and market value (reducing its silver fineness from 900/1000 to 835/1000). In this way no arbitragiste would find any profit in removing those coins from circulation as currency. Furthermore the mintage of these coins, reduced in effect to tokens, would be reserved to the governments and subjected to a ceiling of 6 francs per inhabitant, to prevent any temptation to overissue what was in effect a debased coin. In order to maintain bimetallism alive, a priority of the majority of French institutions, it was however necessary to keep an intact representative of the silver coinage side by side with the gold pieces. Therefore the silver 5 francs/5 lire piece, also known as *écu* or *scudo*, was kept at 900/1000 fineness. The *écu* was initially left to the free play of the market, together with gold coinage, allowing private operators to mint it freely on their own account, following the fluctuations of the price of silver and gold.

The additional advantage of the Monetary Convention was to facilitate commerce between neighbouring countries, through a 1 to 1 exchange rate. In fact, the Convention of 1865 was neither Latin, nor monetary, nor even really a full union. The name had been introduced by the British press, keen to keep its distances from any Continental supranational agreement, especially if reached under the French influence. The Convention was really a limited coinage agreement for public cashiers to accept each others silver and gold coins at a par. It did not concern bronze coinage, banknotes, bank deposits, nor any National Bank

³ For a history of the Latin Monetary Union see Einaudi, Money and Politics. For bimetallism and the gold standard see Flandreau, L'or du monde, la France et la stabilité du système monétaire international, 1848–1873, Paris, L'Harmattan, 1995.

of Issue. No central authority was formed to manage the agreement. The modifications of the monetary circulation of the four funding members necessary for the LMU was minimal, given that their coinage had already been harmonised under Napoleon I and only a part of the divisionary silver coinage had to be reminted at 835/1000. Each country preserved its coins, its symbols and the name of its currency (as can be seen from the 1887 poster indicating which LMU coins were acceptable in France and which were not). In fact it should have been named the “Post-Napoleonic Silver and Gold Coinage Agreement”, but “Latin Monetary Union” was a far more fascinating name.

This arrangement however lost rapidly its purely technical nature, moving from the Finance Ministries to the realm of foreign politics and struggle for international influence. Against the opposition of the French Finance Ministry and of the Bank of France, the French Government, under the leadership of the Vice President of the Council of State Félix Esquirou de Parieu and the Foreign Affairs Ministry, extended its purpose to “a larger and more distant perspective, that of a uniform monetary circulation for the whole of Europe.”⁴ As a consequence the Monetary Convention of 1865 included the article 12, inviting other countries to join the Union, provided that they had accepted its monetary system and the obligations connected to it. Furthermore the French Foreign Affairs Ministry conducted a global diplomatic campaign to invite membership and participation to an International Monetary Conference in Paris in 1867, to further the cause of International Monetary Unification.

The conclusion of the 1867 International Conference, attended by most European States, the USA, Russia and the Ottoman Empire, was a unanimous call for the adoption of universal money trough the gold standard and an extended LMU system with a gold coin acting as a pivot, a 25 francs piece equal to 25 lire and pesetas, 10 Austrian florins, 5 US dollars and 1 British pound. Apparently the march towards a universal currency was proceeding quickly. In reality British and Prussian resistance to international monetary unification already existed and the question of the abolition of bimetallism in favour of the gold standard was far from resolved in France and elsewhere and was to be debated for more than thirty years all over the world.

The French initiative received a particularly warm response from Southeastern Europe. All Balkan governments at some point saw the LMU as an opportunity, decided to adopt the LMU style system and passed laws accordingly. The weakness of existing national or imported coinage reduced the opportunity cost of reminting, and the added credibility of a modern international coinage promised a more rational system, internationally accepted, reducing transaction costs and possibly facilitating access to the western European capital markets.

⁴ Speech by Parieu to the delegates of the Conference discussing the creation of the LMU in 1865. Einaudi, Money and Politics, p. 42.

Romania passed legislation in March 1867, before the Paris Conference met, and started minting bronze coinage at Birmingham with Heaton, Watt & Co, for 3,95 million francs, followed in the early 1870's by silver coinage produces at the Brussels mint.

Greece passed legislation in April 1867 to adopt the LMU system for silver coinage and completed it in 1876 concerning the gold coinage. Mintage started in Paris in 1868 with numerous difficulties.

Austria-Hungary reached an agreement with France immediately after the conclusion of the International Monetary Conference of 1867. The agreement however only concerned the 25 francs gold coin, because Austria wanted the gold standard while the French delegation was unable to commit to it because of the delaying tactics of the French Treasury, a staunch supporter of bimetallism. The 25 francs coin was never minted by France and therefore Austria started minting from 1870 to 1892 some gold trade coins, of 20 francs/8 florins and 10 francs/4 florins. These coins however were not included in the ordinary Austro-Hungarian monetary system but belonged to a parallel system, dedicated to international trade and whose price in terms of national currency was changed daily at the stock market.⁵ They neither belonged to a gold monometallic system nor to a bimetallic system.

Serbia adopted LMU type legislation in 1873 and started minting in 1874. The new currency circulated alongside Austrian ducats with legal course.

Bulgaria adopted legislation in June 1880 and started minting bronze in 1881 and silver in 1882.

When these various states' applications for LMU membership were introduced, the French Government acted as the informal watchdog and coordinator of access to LMU membership. Only Greece was ultimately successful in its bid for membership, but its experience within the Union, together with the Papal and Italian behaviour, convinced France to refuse any further enlargement of the Union to other Balkan states

3. Greece in the LMU

By associating itself to the LMU, Greece expected to obtain monetary stability, to end monetary scarcity through a new coinage integrated by French currency, to reduce exchange rate fluctuations and to improve its solvency in the international capital market in Paris.⁶ The Greek accession to LMU was successful essentially because of its speed: had the decision been delayed until a few months later it would have never been accepted as we shall see. It was an early application,

⁵ Haupt, *L'histoire monétaire de notre temps*, p. 132.

⁶ Lazaretou, *Greek Monetary Economics in Retrospect: the Adventures of the Drachma*, *Economic Notes*, vol. 34, no .3, 2005, pp.331–370, see p. 338.

accompanied with the commitment to mint immediately the full set of LMU coinage and offering to France the complete control of the quality and quantity of the new coinage, which would be produced in France. These guarantees were in fact still insufficient, as the effects of inconvertible paper currency and unfaithful French agents proved later on, but Greece had already managed membership starting 1 January 1869, by the time the French Government had second thoughts.⁷ Initially the French government consented and considered mintage in Paris a sufficient guarantee because it was looking for new members to boast the project of Universal Money and already supported Greece politically. Despite that, the Swiss government expressed its disappointment through their representative Feer-Herzog, fearing difficulties and violations, given the poor state of Greek public finances.

Problems immediately arose. The Greek government had contracted operations in Paris to the firm Erlanger and Cie, which was supposed to buy silver on the market, have it minted in Paris and transported to Greece and to distribute it to Greek banks at its own cost, financing the whole operation from the seignorage on the coins. At the end of 1868, however, Greece went on inconvertible paper money to finance the uprising of Crete against the Ottoman Empire and the financial mechanism unravelled. The French financiers decided to suspend the operation considering that their profit was lost and placed the Greek coins in the Parisian market at a price below par, thanks to the LMU provisions. The French Government was furious about the immediate breach of confidence and the Belgian Government argued that such violations threatened the very existence of the monetary union.

Together with the evidence of the Papal and Italian problems, the Greek case was showing how dangerous it was to enter into a monetary union with states with unsound public finances and large quantities of paper money which could lead to inconvertibility at any time and then flood France with debased divisionary silver coinage.

The Papal States had applied for membership of the LMU and had obtained access to the French market for their coinage while negotiations were taking place. Profiting from French goodwill, the Papal Government delayed all negotiations while it minted 30 million lire of divisional silver coins, more than ten times more than the maximum of 6 francs per inhabitant mandated by the Convention. This cheap form of public finance sustained the ailing Roman State, but immediately migrated to France; it was replaced in Rome by inconvertible paper money, moving through the Papal trade deficit and the payments to the French troops protecting the Pope from the Italians. Once the negotiations ended in December 1868, the Papal Government dropped its pretence, acknowledged overissuing but refused to take back its coinage, provoking a political crisis in France, an

⁷ For a detailed account of Greece in the LMU in 1868–1874 see Einaudi, *Money and Politics*, pp.105–111.

immediate exclusion from LMU negotiations and the withdrawal of Papal currency from the French public, with a loss between 5% and 20% for the holders.

In Italy the war of 1866 with Austria had similarly precipitated public finance problems and forced the adoption of a depreciated inconvertible paper currency. Italian silver currency migrated to France as well, and encumbered French circulation, preventing the Imperial government from completing its programme of new monetary issues. It would take until 1882 for Italy to resume full convertibility.

Considering all those problems the French, Belgians and Swiss decided in 1869 to neutralise as much as possible existing difficult members of the LMU (Greece and Italy) and to refuse all other dubious candidates, starting from the Pope and the Balkans, regardless of all guarantees they would offer in terms of monetary control.

Greece was asked to submit itself to draconian controls. The Swiss wanted guarantees about the withdrawal of small banknotes and obsolete coinage so that the new issue would be substituted and not added to the monetary stock, so as not to leave room for re-export to northern Europe of the new LMU drachme. The French insisted also that French governmental representatives should follow the production of new coins in France, accompany the transport until Greece and verify all the boxes at the moment of delivery to the National Bank of Greece. The Greek Prime Minister Delyannis had to intervene directly to break the deadlock, promising that Greece would raise a loan, abolish the *cours forcé* and withdraw small paper money. After the Greek drachme were sold in Paris it took almost two years before the French agreed to end the controversy and authorise new issues. At that point it was August 1870; the Franco-Prussian War and its consequences blocked everything for another three years. Greece received its divisionary silver coinage only in 1874–1875, and the silver *écus* and gold coins in 1876.⁸

By then the expansionist phase of the LMU was over. Its success had been doomed first by the British Chancellor's refusal to join a Monetary Union without the French abandoning bimetallism (and a general hostility of public opinion to change the Pound). The creation of a United Germany in 1871 followed by the creation of a German mark, which was incompatible with the LMU and firmly rooted in the gold standard, was the last nail on the coffin of the project of Universal coinage. France was not willing anymore to offer access to its monetary market to anything which was not good gold (agreement to receive trade coins: Austrian gold francs-florins in 1872 and Russian francs-roubles in 1887). New

⁸ Lazaretou attributed the delay to a governmental decision following war and the imposition of a fiat money, but the true story was not public and can only be reconstructed through the diplomatic despatches held at the Quai d'Orsay and the papers of the French Finance Ministry, dutifully copied by hand in the volumes of the *Question Monétaire* held in the archives of the Bank of France. Lazaretou Sophia, Monetary system and macroeconomic policy in Greece, 1833–2003, in: Bank of Greece, Economic Bulletin, no. 22, January 2004, pp. 33–66.

mintage of silver *écus* at full 900/1000 fineness was first limited by the LMU from 1874 to 1879 and then completely prohibited within the Union, in reaction to the overissue due to the collapse of silver prices from 1872 onwards. The old stock of *écus* was kept in circulation, giving birth to the so-called limping bimetallism, with an effective dominance of gold. In 1893 Italian divisionary silver was renationalised and Italy withdrew 75 million lire of it from its northern partners and Greece had already done so at the end of the 1870's.

The door of the LMU was continuously kept closed for Balkan states, considered of too little interest from the economic point of view and too weak and dangerous from the point of view of public finances and paper money. Even more than Greece, the other Balkan countries could not afford a national currency of adequate amounts in gold, (or even in full fineness silver, until the collapse of the price of silver).

4. Romania, Bulgaria and Serbia

The reason for the scarce interest shown by France towards the Romanian request to become a member of the LMU in 1867 was the perceived backwardness of the country and the reduced bilateral trade. The prospects of promising increases were also limited by the distance and the joint Turkish and Russian influence over the region. The often recalled French cultural influence in Romania was not sufficient to overcome those economic arguments.

In a letter from the French Foreign Affairs Minister to the French Finance Minister, reviewing all the replies to the French offer to join the LMU or participate in an International Monetary Conference to discuss monetary harmonisation, the Romanian case was discussed⁹. Romania had just passed a new law introducing the LMU coinage as the new Romanian Monetary System. The French representative in Bucharest was informed of the new law by the Romanian Foreign Minister who requested the admission of his country to the LMU.

The French Minister of Foreign Affairs transmitted to his counterpart at the Treasury his sceptical evaluation: "D'après ce que m'écrit le Baron d'Avril, il ne serait question pour le moment que de frapper de la monnaie de billion, le monnayage des espèces d'or et d'argent devant être réglé ultérieurement de commun accord avec la Porte [Ottoman Empire]. En cet état de choses la demande du gouvernement roumain me paraît tout au moins prématurée et dans tous les cas en dehors des considérations d'ordre politique que je n'examine pas ici, nous

⁹ Archives de la Banque de France, La Question Monétaire, Vol. I, folio 543, 16 Feb. 1867.

aurions à apprécier s'il serait dans notre convenance d'admettre la monnaie moldo-valaque dans la circulation monétaire de l'Empire.”¹⁰

The President of the French Commission des Monnaies, Jules Pelouze, explicitly opposed the admission of Romania, because its initial intention was only to mint bronze pieces, which were not included in the Convention, but more generally because Romania could not be trusted either to respect the qualitative nor the quantitative limits of LMU, for lack of a sufficiently organised public administration. In Pelouze own words:

“Le nouveau système monétaire des Provinces Unies ne concorde pas avec celui qui a été adopté par le quatre puissances signataires du traité. Cet état de choses serait un premier obstacle à ce que la Roumanie fut admise dans l'Union. En second lieu il importe de remarquer que par la suite de cette convention les Etats associés sont pour ainsi dire solidaires et que chacun d'eux est intéressé 1) à ce que les fabrications effectuées par les autres gouvernements soient convenablement exécutés; 2) à ce que la quantité de monnaie d'argent à 835/1000 stipulée pour chacun d'entre eux ne soit pas dépassée.

Avant d'admettre une nouvelle puissance dans l'Union monétaire, il est donc nécessaire de s'assurer qu'elle présente toute le garanties désirables, garanties qui n'existent pas, si faute de posséder des établissements et une administration très organisés, cette puissance pouvait confier la fabrication de ses monnaies à des entreprises privées sans exercer sur elles une surveillance suffisante.”¹¹

Serbia had clearly not perceived fully the new state of mind of the French administration in the 1870's and 1880's, opposed as a matter of principle to any enlargement of the LMU.¹² It probably took at face value the excuses advanced by the French government to refuse its applications for membership and applied three times. The first request was in 1874 just before its first silver coins were being minted in Vienna. A second attempt was made in 1879 offering to mint in Paris gold coins and silver *écus* (5 dinara pieces), as the French had previously requested from new LMU applicants. France only minted a small fraction of the gold contingent and then suspended the operations, claiming that the transformation of the Paris Mint requested some work. The Serbs then completed the silver issue in Vienna and the bronze one in Birmingham. The French then refused the third

¹⁰ Letter of the French Minister of Foreign Affairs to the French Finance Minister, 16.2. Feb. 1867, Archives de la Banque de France, La Question Monétaire, Vol. I, folio 548–549.

¹¹ Letter of Jules Pelouze, President of the French Commission des Monnaies to the French Finance Minister, 3 May 1867, Mss, 1p, Archives de l'Hotel de la Monnaie, Fonds Union Latine, K2, dossier 18.

¹² For a view from Serbia see Gnjatovic, Introduction of Limping Gold Standard in the principality of Serbia.

application in 1880 arguing that they could not accept this new coinage because it had been minted outside French control.¹³

The Bulgarian application was introduced in 1880, after the newly independent state had passed its monetary law (27 May, 9 June 1880), introducing the lev, a currency based on LMU prescriptions, but this project was unsuccessful like all the others, regardless of which continent they came from.

Epilogue

Even after the dream of LMU membership vanished for most countries in the 1880's, the completion of a modern monetary circulation slowly continued using LMU types of currency. The main difference was that generally all issues were concentrated in the hands of the governments without free private access to the mints. This was necessary to prevent private speculations, to reserve to the weak public budgets all the profits of seignorage, extended by the depreciation of silver. Often however the State had little profit to make given that it was simply reminting old foreign or national coinage already on its territory, without any arbitrage on the metal markets. Furthermore opening the mints to the public was generally not an option given that most of the issues were taking place in foreign mints, for lack of adequate modern local infrastructures (table 3).

Despite the collapse of the international price of silver, this metal continued to be predominant in most countries in the area. In the early 1880's Romania minted substantial quantities of silver *écus*, not being bound by LMU restrictions, mainly reusing silver roubles already in its territory. It was followed on a similar path by Bulgaria (which however kept a large circulation of unreformed roubles for some more time)¹⁴, while Serbia minted mainly divisionary coinage (see table 5). Periodically, limited issues of divisionary silver, bronze or nickel coins took place, on a declining path, until the 1912 Balkan wars increased again issues. Montenegro started minting some coinage in 1906, but it was based on the Austrian reformed system of 1892 and was similar but incompatible with the LMU standard and therefore somehow isolated from the rest of the Balkans.

Sudden but temporary mintage of gold coinage, attempted by some governments, was insufficient to permit the adoption of the gold standard. Serbia

¹³ Leconte, *Le bréviaire des monnaies de l'Union latine*, p. 245. The archival material at the French Ministry of Foreign Affairs relating to this issue can be found in. Sous-direction commerciale, affaires diverses antérieures à 1902, ADC 582, Relations de la Roumanie et de la Serbie avec l'Union Latine.

¹⁴ Avramov, *The Bulgarian National Bank in a Historical Perspective: Shaping an Institution, Searching for a Monetary Standard*, in: Roumen Avramov and Sevket Pamuk, *Monetary and Fiscal Policies in South-Eastern Europe, Historical and Comparative Perspective*, First General Meeting of the South-Eastern European Monetary History Network, 13–14 April 2006, Sophia, pp. 93–108.

minted 9 million dinara, equivalent to merely 5 francs per inhabitant in 1882, without any further issue until the First World War. Greece minted 11 millions drachme in 1884 (6,5 francs per inhabitant) to prepare the resumption of specie payments the following year. However that effort lasted for barely a few months and Greece as well did not try to resume issue of gold, even when it managed to get back to a gold standard in 1909. Bulgaria made its attempt to go on gold in 1897 but it remained largely theoretical and in 1899 a financial crisis forced the inconvertibility of gold banknotes. Indeed it seemed a waste of resources to have an independent gold coinage when it was so difficult to maintain it in circulation. Often new issues entered the reserves of national banks never to leave them, except to be melted and reminted on a different standard after a few decades. It was more effective to call gold from abroad through the exchanges, through emigrant's remittances or through loans, given that anyway a mix of foreign gold coinages existed everywhere around Europe. The only substantial and protracted monetary issue of the area was provided by Hungary which minted 140 million gold francs of trade coins between 1870 and 1892.

To compare the total issue of LMU standard coins with an overall estimated monetary circulation in 1885, please see tables 5, 6 and 7, which also allow a comparison with larger European states. Overall the growing weight of paper money appears clearly, even if the 1885 estimates for Greece over-emphasize the temporary high weight of foreign gold circulation.

Paper standards were a necessity until sustained economic growth and peace created the economic conditions for a successful stabilisation. Greece was forced to go on inconvertible paper circulation briefly in 1868–1869, again in 1877–1885 and 1886–1909,¹⁵ and also enlarged its monetary circulation minting in 1893 cupro-nickel coins outside the reach of the LMU. Austria-Hungary was also on a paper standard for most of the second half of the nineteenth century, as well as Italy (1866–1881 and 1889–1900). Paper standards were not only the advancing signs of a century of inflation, they also announced the inevitable dematerialisation of money, which started in the nineteenth century and continued in the twentieth.

After the first world war the currencies of the LMU, or assimilated to it, were almost all destroyed by the different levels of depreciation produced by the various degrees of monetary financing of the military conflict. The LMU formally disbanded in 1926, but it had lost any real substance already in 1914. Nevertheless, as late as 1926 some of the States creating a new currency looked at the LMU system as an anchor (Albania and Poland). It was a proof of the long standing attraction of a common monetary system. The stabilisation of the mid 1920's destroyed the LMU and the brief temptation of European federalism of 1925–1930 (Briand, Streseman, etc....) was shattered by the Great Depression which opened

¹⁵ Lazaretou, Greek Monetary Economics in Retrospect: History and Data, in: Roumen Avramov and Sevkert Pamuk, Monetary and Fiscal Policies in South-Eastern Europe.

the age of triumphant Totalitarianism. For a large part of the Balkans this continued until 1989–1891. Only after that date the convergence path towards a common European currency started anew. Seen from that point of view, the inheritance of the missed opportunity of the LMU in the Balkans is, after all, and despite all its limitations, still positive, fostering modernisation and convergence.

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Table 1: Transformation of National Currencies in Southeastern Europe

	Name of the currency	Established	Currency aligned to	Metallic system	Par of the exchange rate
Greece	Phoenix	1829	Russian ruble	Silver standard	1 phoenix = 20 kopecks
	Drachma	1833	Mexican piastre	Bimetallism 15,5/1	1 drachma = 1/6 piastre
	LMU drachma	1867	LMU	Bimetallism 15,5/1	1/1 with the franc
Romania			Before 1867 Russian, Ottoman and foreign currencies		
	Leu	1867	LMU	Bimetallism 15,5/1	1/1 with the franc
Serbia			Before 1868 Ottoman, Austrian and foreign currencies		
	Dinar	1868	LMU	Bimetallism 15,5/1	1/1 with the franc
Bulgaria			Before 1880 Russia, Ottoman and foreign currencies		
	Lev	1880	LMU	Bimetallism 15,5/1	1/1 with the franc
Austria-Hungary			Pre 1857 Austrian florin (gulden) and silver standard		
	Florin and thaler	1857	German Münzverein	Silver standard	1,5 florin = 1 Vereinsthaler
	Florin trade coin	1870	Gold LMU	Parallel standard	Florin = 2,5 francs
Montenegro			Various foreign currencies before 1906		
	Perper	1906	Austro-Hung. korona	Paper	1/1 with the Austrian korona
Albania			Pre 1928 Ottoman and foreign currencies		
	Lek	1926	LMU	Paper	
Hungary			Austro-Hungarian korona until 1918		
	Pengő	1926		Paper	
Czechoslovakia			Austro-Hungarian korona until 1918		
	Koruna	1921		Paper	
Yugoslavia			Serbian dinar, Montenegro perper and Austro-Hungarian korona until 1918		
	Dinar	1920		Paper	

Sources: Elaboration of the author on various numismatic sources. Dates are referred to the beginning of new issues and not to the adoption of a new monetary law. The adherence to various metallic systems is purely theoretical.

Table 2: The LMU Standard Defined in 1865

	Total standard weight	Standard finenesse	Pure gold or silver content	Gold value in pounds
Gold	Grams	Thousands	Grams	£
100 francs	32.2581	900	29.0323	3.9649
50 francs	16.1290	900	14.5161	1.9824
20 francs	6.4516	900	5.8064	0.7930
10 francs	3.2258	900	2.9032	0.3965
5 francs	1.6129	900	1.4516	0.1982
Silver				
5 francs	25.0000	900	22.5000	Fluctuating with the price of silver
2 francs	10.0000	835	8.3500	
1 francs	5.0000	835	4.1750	
50 centimes	2.5000	835	2.0875	
20 centimes	1.0000	835	0.8350	

*Table 3: Public and Private Mints Employed for Monetary Issues on Behalf
of Balkan Governments in the 19th Century and Early 20th Century*

Greece	Egina, Paris, Strassburg, Vienna, Birmingham, Bordeaux, Athens, Poissy
Romania	Paris, Brussels, Bucharest, Hamburg, Birmingham, Poissy, Vienna, London
Serbia	Vienna, Paris, Birmingham, Bulgaria
Bulgaria	Birmingham, Kremnitz
Albania	London, Rome, Vienna

Table 4: The Balkans in and around the LMU

	Latin Monetary Union			Germanic Monetary Union	Scandinavian Monetary Union
	Member	Entirely aligned	Aligned for gold		
France	1865-1926				
Italy	1865-1926				
Belgium	1865-1926				
Switzerland	1865-1920				
Greece	1868-1926				
Spain		1868-1914			
Pontifical State		1866-1870			
Romania		1867-1914			
Serbia		1873-1914			
Bulgaria		1881-1914			
Poland		1926			
Finland			1878-1914		
Russia			1886-1895		
Austria-Hungary			1870-1892	1857-1867	
German States				1838-1871	
Sweden			1868-1872		1872-1926
Denmark					1872-1926
Norway					1875-1926

Table 5: Total Cumulated Issues of LMU Type Coinage in the Balkans (1865–1914)

		Greece	Romania	Serbia	Bulgaria	Austria	Hungary
In millions of francs	Gold	12.0	10.7	10.0	5.0	38.9	140.9
	Full silver écus (900/1000)	15.5	49.1	2.0	23.7	0.0	0.0
	Reduced silver (835/1000)	20.0	60.9	29.6	36.0	0.0	0.0
	Total	47.5	120.7	41.6	64.7	38.9	140.9
In % of national LMU type issue	Gold	25.3	8.9	24.0	7.7	100.0	100.0
	Full silver écus (900/1000)	32.6	40.7	4.8	36.6	0.0	0.0
	Reduced silver (835/1000)	42.1	50.4	71.2	55.7	0.0	0.0

Source: Calculated by the author from mint figures reported by Leconte, Le bréviaire des monnaies de l'Union latine.

Table 6: Ottomar Haupt's Estimate of the Real Monetary Circulation in Some Southeastern European States in 1885 (Includes Foreign Coinage)

In million (lei, drachme, florins)	Romania	Greece	Austria-Hungary
Gold coinage at the National Bank	2	28	69
Gold coinage in circulation	13	20	10
Silver coinage at the bank	32	5	130
Silver coinage in circulation	15		2
Divisionary silver coinage	30	11	35
Bronze coinage	6	4,5	12
Uncovered banknotes	78	39	
Uncovered State banknotes			338
Banknotes			165
Total in national currency	176 million lei	107.5 million drachme	779 million florins

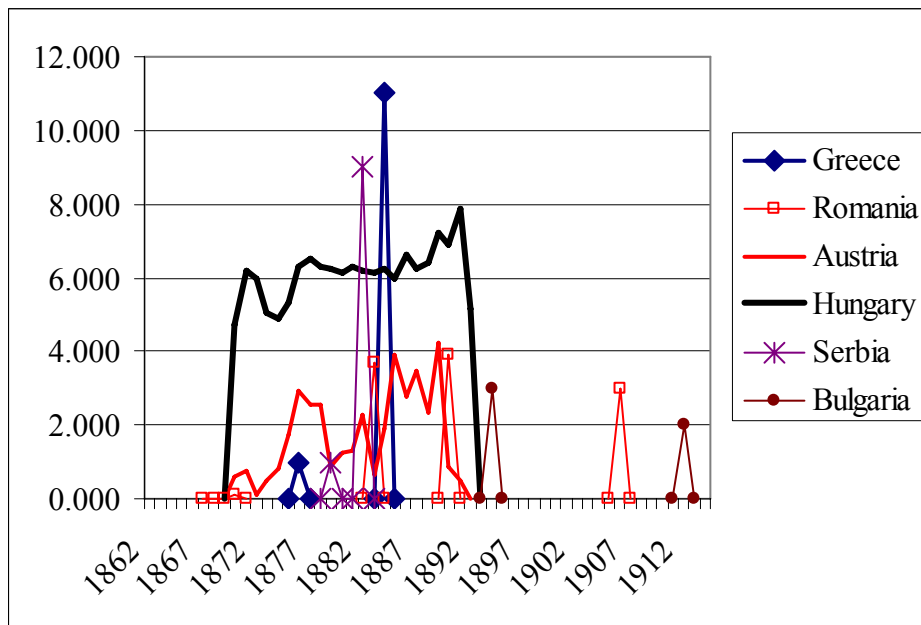
Source: Elaborated from Haupt, Ottomar, L'histoire monétaire de notre temps, Paris, Truchy, 1886. Haupt wrote to national banks of issue and local experts of the time to gather information on the monetary question, being interested especially in the bimetallism-gold standard debate.

*Table 7: Real Monetary Circulation in Francs per Capita in 1885,
According to Haupt*

Francs per capita	Romania	Greece	Austria- Hungary	Italy	UK	France
Population in millions	5.5	2.0	39.0	30.0	36.0	38.0
Gold coinage	2.9	24.4	5.0	18.5	76.6	117.2
Silver coinage	8.5	2.5	7.6	3.3	-	91.8
Divisionary silver coinage	5.5	5.6	2.0	5.7	15.0	6.5
Bronze coinage	1.1	2.3	0.7	2.5	1.0	1.6
Uncovered banknotes	14.2	19.9	26.0	28.3	8.2	17.7
Total per capita in francs	32.2	54.7	41.3	58.3	100.8	234.8

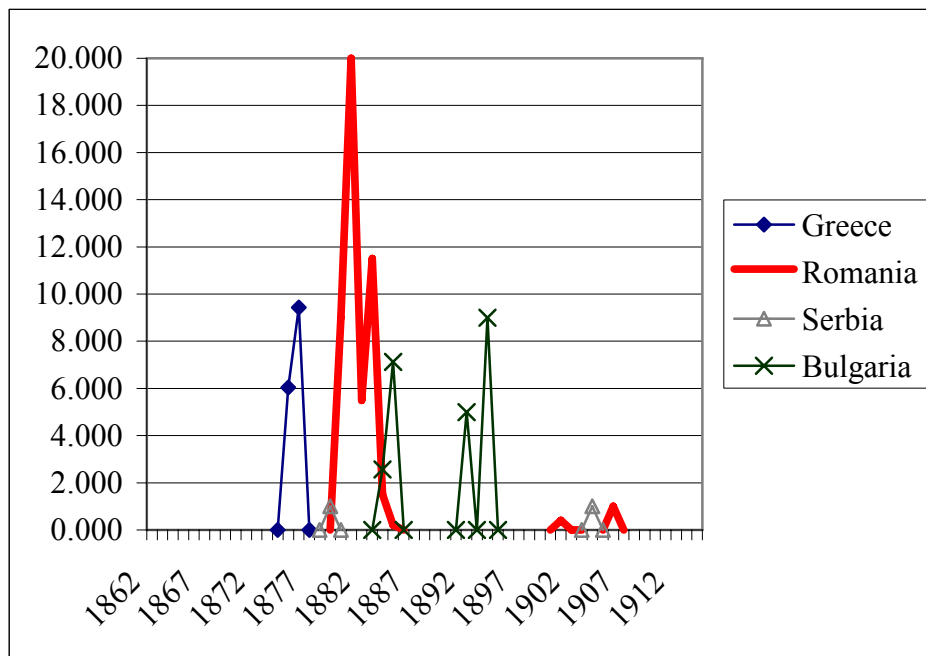
Source: Elaborated from Haupt, Ottomar, L'histoire monétaire de notre temps, Paris, Truchy, 1886.

Chart 1: Annual Gold Monetary Issues – Based on the LMU Standard in the Balkans (1862–1914)



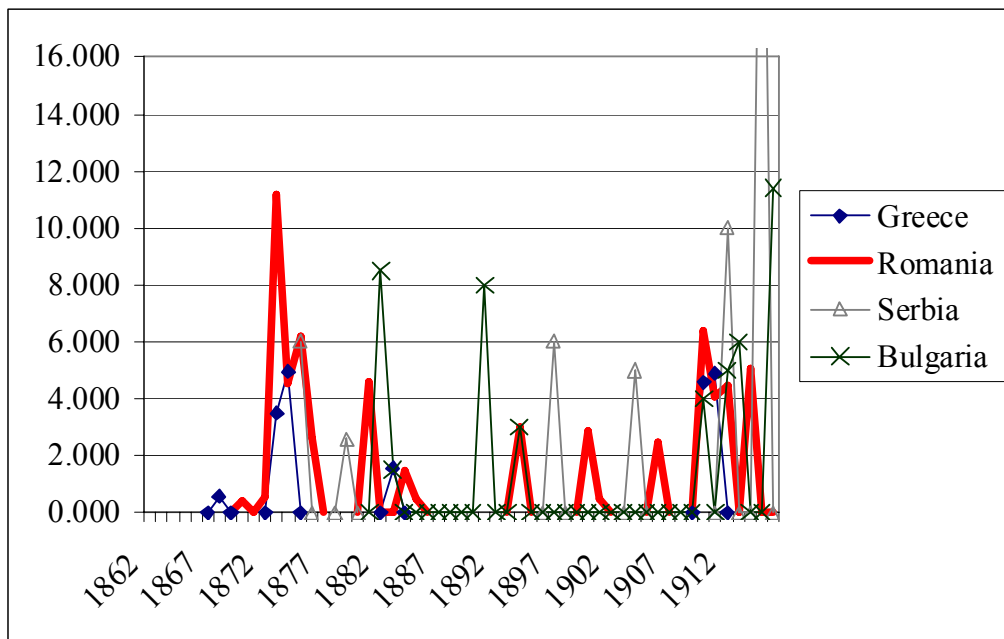
Source: Calculated by the author from mint figures reported by Leconte, Le bréviaire des monnaies de l'Union latine.

Chart 2: Annual Silver Écus Monetary Issues – Based on the LMU Standard in the Balkans (1862–1914)



Source: Calculated by the author from mint figures reported by Leconte, Le bréviaire des monnaies de l'Union latine.

Chart 3: Annual Divisionary Silver Monetary Issues Based on the LMU Standard in the Balkans (1862–1914)



Source: Calculated by the author from mint figures reported by Leconte, Le bréviaire des monnaies de l'Union latine.

Adjustment under the Classical Gold Standard (1870s–1914): How Costly Did the External Constraint Come to the European Periphery?

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Abstract

Conventional wisdom has that peripheral economies had to “play by the rules of the game” under the Classical Gold Standard (1870s–1914), while core countries could get away with frequent violations. Drawing on the experience of three core economies (England, France, Germany) and seven peripheral economies (Austria-Hungary, Bulgaria, Greece, Italy, Norway, Serbia, Sweden), this paper argues for a more nuanced perspective on the European periphery. Our findings, based on a VAR model and impulse response functions, suggest that the average gold drain differed substantially across peripheral economies, with Austria-Hungary and Italy playing in a league with Germany and France rather than with the other peripheral economies. We also show that some of the peripheral economies, most notably Austria-Hungary, always enjoyed enough “pulling power” via discount rate policy to reverse quickly any such gold outflow. In sum, while the experience of some peripheral economies under gold was poor and hence normally short-lived, the experience of other peripheral countries resembled more those of the core economies.

Keywords: gold standard, balance-of-payment adjustment, central banking, rules of the game

JEL classification: E4, E5, E6, F3, N13

1. Introduction¹

1.1 Historical Background: The Classical Gold Standard

The Classical Gold Standard (1870s–1914) has attracted the interest of economists ever since its foundation. The exchange rate stability – which was the result of countries tying their currencies domestically to gold – among most countries of the world for some forty years was unprecedented and remained an inspiration for policy-makers after the demise of the Classical Gold Standard at the outbreak of the First World War, leading to a short-lived resurrection in the interwar period and the Bretton Woods system of fixed exchange rates after the Second World War.

The literature on the Classical Gold Standard is vast and any categorisation necessarily involves some degree of simplification.² Despite this caveat, it can be said that research has focused on assessing the costs and benefits of adherence to gold. While benefits might be seen in easier and cheaper access to foreign capital³, it is less straightforward to define the ‘costs’ of adhering to gold. The gold standard as a system of (quasi) fixed exchange rates required the monetary authority to adopt measures so that the exchange rate would follow mint parity⁴ within the boundaries set by the gold points.⁵ In other words, continuous adjustment efforts were needed to maintain the gold link. In the case of a gold outflow, the necessary

¹ I wish to thank all central banks of the South-Eastern European Monetary History Network (SEEMHN) for kindly providing the data needed for this paper. I also wish to thank Anders Oegren for advice regarding the Swedish data and generously sharing some of his data.

² Extensive bibliographies can be found in: B. Eichengreen and M. Flandreau, eds., *The Gold Standard in Theory and History*, 2nd ed. (London, New York: Routledge, 1997). M. D. Bordo and A. J. Schwartz, eds., *A Retrospective on the Classical Gold Standard. 1821–1931* (Chicago: University of Chicago Press, 1984).

³ M. D. Bordo and H. Rockoff, The Gold Standard as a “Good Housekeeping Seal of Approval”, *Journal of Economic History* 56 (1996).

⁴ The “standard” exchange rate was determined by mint parity. For instance, the German gold standard legislation of 1871 stipulated that 2,790 marks would be coined out of 1 kilogram of refined gold; the corresponding Austro-Hungarian law of 1892 established that 3,280 crowns would be coined out of 1 kilogram of refined gold. This implies a mint ratio and, hence, a “standard” exchange rate of 1 mark = 3,280 / 2,790 crowns \approx 1.1756 crowns.

⁵ As a large proportion of transactions under the Classical Gold Standard were not settled by gold coins, but by bills of exchange drawn on foreign countries, the price of the bills of exchange – in short, the exchange rate – could fluctuate within certain boundaries that are known as the gold export point and the gold import point. These gold points reflect the fact that paying in specie incurred substantially higher transactions costs than settling with bills of exchange. Only if the exchange rate moved beyond the gold points, did it make sense to switch from using bills of exchange to using gold coins.

adjustment efforts would translate into raising the discount rate and/or reducing the monetary base – which is what Keynes famously called “playing by the rules of the game”.⁶ Both measures would typically reduce domestic economic activity. Thus, the gold standard carried with it the inherent policy conflict between external stability – i.e. to keep the exchange rate close to mint parity – and domestic stability. Negative repercussions of the necessary adjustment process on domestic economic activity can therefore be viewed as “costs” of the gold standard.

Conventional wisdom has that the adjustment process to balance of payments disequilibria was very different in the case of the “core countries” (UK, US, France, and Germany) as opposed to the “periphery”.⁷ Several studies have shown that the rich core countries could get away with frequent and sizeable violations of the “rules of the game”.⁸ By contrast, it is argued, peripheral countries had to play by the “rules of the game”, thereby exposing themselves to negative repercussions on domestic economic activity. In other words, the conflict between external stability and internal stability is said to have been much more pronounced in the periphery than in the core. Different authors have emphasised different factors in explaining the alleged advantages of the core countries in the adjustment process. Essentially drawing on the theory of optimum currency areas, one school of thought has argued that core countries were simply better suited for monetary integration than the periphery.⁹ Others have argued that central banks of core countries helped each other in times of crisis, but did not help peripheral economies for the lack of self-interest.¹⁰ The more recent literature has stressed the importance

⁶ K. W. Dam, *The Rules of the Game: Reform and Evolution in the International Monetary System* (Chicago: Chicago University Press, 1982).

⁷ B. Eichengreen, *Globalizing Capital: A History of the International Monetary System* (Princeton: Princeton University Press, 1996).

⁸ O. Jeanne, Monetary Policy in England 1893–1914: A Structural VAR Analysis, *Explorations in Economic History* 32 (1995). N. Davutyan and W. Parke, The Operations of the Bank of England, 1890–1908: A Dynamic Probit Approach, *Journal of Money, Credit and Banking* 27 (1995). A. Giovannini, “Rules of the Game” during the International Gold Standard: England and Germany, *Journal of International Money and Finance* 5 (1986). J. Dutton, The Bank of England and the Rules of the Game under the International Gold Standard: New Evidence, in: *A Retrospective on the Classical Gold Standard, 1821–1931*, eds. M. D. Bordo and A. J. Schwartz (Chicago: Chicago University Press, 1984). J. Pippenger, Bank of England Operations, 1893–1913, in: *A Retrospective on the Classical Gold Standard, 1821–1931*, eds. M. D. Bordo and A. J. Schwartz (Chicago: Chicago University Press, 1984).

⁹ P. Martín Aceña and J. Reis, eds., *Monetary Standards in the Periphery: Paper, Silver, and Gold. 1854–1933* (London, New York: MacMillan Press, St. Martin’s Press, 2000).

¹⁰ B. Eichengreen, Central Bank Cooperation and Exchange Rate Commitments: the Classical and Interwar Gold Standards Compared, *Financial History Review* 2 (1995).

of credibility; Svensson¹¹, building on Krugman¹², has pointed out that a credible target zone can confer on a country a degree of independence in the operation of its monetary policy, even when the exchange rates are fixed. Applying this theoretical insight to economic history, the Classical Gold Standard has recently been interpreted as a target zone the limits of which were determined by the gold points.¹³ Consequently, as long as economic agents view a country's commitment to gold as credible, such a country could violate the "rules of the game" in the short-run with a view to other policy goals.¹⁴

1.2 Hypothesis and Approach of this Paper

The literature hence portrays peripheral economies as disadvantaged in the pre-First World War monetary order. A closer examination of the literature, however, reveals that most studies rely on the core countries only. In the few cases where a specific country in the periphery was investigated on its own, the room for manoeuvre in monetary matters turned out to be much larger than the stereotype wants us to believe.¹⁵

We challenge this view and argue for a more nuanced perspective on the European periphery. Our findings, based on a VAR model and impulse response functions, suggest that the average gold drain differed substantially across peripheral economies, with Austria-Hungary and Italy playing in a league with Germany and France rather than with the other peripheral economies. We also show that some of the peripheral economies, most notably Austria-Hungary, always enjoyed enough "pulling power" via discount rate policy to reverse quickly any such gold outflow. In sum, while the experience of some peripheral economies under gold was poor and hence normally short-lived, the experience of other peripheral countries resembled more those of the core economies.

England followed the gold standard from 1821 to the First World War without interruption. France and Germany joined in 1873 and adhered to gold until 1914.

¹¹ L. E. O. Svensson, Why Exchange Rate Bands? Monetary Independence In Spite of Fixed Exchange Rates, *Journal of Monetary Economics* 33 (1994).

¹² P. Krugman, Target Zones and Exchange Rate Dynamics, *Quarterly Journal of Economics* 56 (1991).

¹³ Eichengreen and Flandreau, eds., *The Gold Standard in Theory and History*.

¹⁴ C. P. Hallwood, R. MacDonald, and I. W. Marsh, Credibility and Fundamentals: Were the Classical and Interwar Gold Standards Well-Behaved Target Zones?, in: *Modern Perspectives on the Gold Standard*, eds. T. Bayoumi, B. Eichengreen, and M. P. Taylor (Cambridge: Cambridge University Press, 1996).

¹⁵ M. Flandreau and J. Komlos, Core or Periphery? The Credibility of the Austro-Hungarian Currency, 1867–1913, in: *Auf Heller und Cent. Beiträge zur Finanz- und Währungsgeschichte*, eds. K. Bachinger and D. Stiefel (Frankfurt, Vienna: Ueberreuter, 2001).

Austria-Hungary, Italy, Sweden and Norway followed the Classical Gold Standard for different periods. Austria-Hungary passed gold standard legislation in 1892, but exchange-rate stability to other gold standard countries was achieved only in 1896; the gold link was then maintained until the outbreak of the First World War.¹⁶ Italy enacted gold convertibility in 1883, but was forced to suspend specie payment – i.e. conversion of bank notes into gold by the central bank – again in 1891. Mint parity was achieved again in 1903 and maintained until the outbreak of the First World War.¹⁷ When estimating Italy, we will therefore differentiate between Italy's earlier adherence to gold (1883 – 1891) and its later adherence (1903–1913); we will the two periods Italy 1 and Italy 2, respectively. The Swedish and the Norwegian cases are less complicated. Both countries followed the Classical Gold Standard from 1873 until the outbreak of the First World War.

The exchange rate experience of the Balkan countries before the First World War has so far been largely unknown, but the South-Eastern European Monetary History Network has produced first results on which this paper can draw (cf. the appendix to these conference proceedings). The exchange-rate performance suggests to classify Bulgaria, Greece, and Serbia as on gold from 1/1906–9/1912, 1/1910–7/1914 and 7/1905–9/1912, respectively.

The estimation period is occasionally slightly more restricted due to data availability. Table 1 summarizes the periods of adherence to gold and the estimation periods.

¹⁶ Ibid., pp. 163–169. J. Wysocki, Die österreichisch-ungarische Krone im Goldwährungsmechanismus, in: *Geld und Währung vom 16. Jahrhundert bis zur Gegenwart*, ed. E. Schremmer (Stuttgart: Franz Steiner Verlag, 1993), pp. 143–150.

¹⁷ M. Fratianni and F. Spinelli, Italy in the Gold Standard Period, 1861–1914, in: *A Retrospective on the Classical Gold Standard, 1821–1931*, eds. M. D. Bordo and A. J. Schwartz (Chicago: University of Chicago Press, 1984), pp. 408–417. G. Tattara, Was Italy Ever on Gold?, in: *Monetary Standards in the Periphery: Paper, Silver, and Gold, 1854–1933*, eds. P. Martín Acena and J. Reis (London, New York: MacMillan Press, St. Martin's Press, 2000), pp. 19–30.

Table 1: Countries Studied in this Paper

	Adherence to gold	Estimation period
Austria-Hungary	1896–1914	1/1896–12/1913
Bulgaria	1906–1912	1/1906– 9/1912
UK	1821–1914	11/1875– 6/1914
France	1873–1914	1/1889–12/1913
Germany	1873–1914	11/1875– 7/1914
Greece	1910–1914	1/1910– 6/1914
Italy I	1883– 1891	1/1883– 12/1891
Italy II	1903–1914	1/1903– 12/1913
Norway	1873–1914	1/1873–7/1914
Serbia	1905–1912	7/1905–9/1912
Sweden	1873–1914	1/1878–12/1913

Source: Cf. main text.

The remainder of this paper is organised as follows. In the second section, we will describe adjustment under the Classical Gold Standard from a theoretical perspective. This will help clarify the importance we attach to the discount rate and the monetary base in our empirical work. We will then describe the data employed (3rd section). The fourth section is devoted to the econometric estimation and the fifth section to the empirical results. Section 6 summarises and concludes.

2. Adjustment under the Classical Gold Standard

In this section we will describe adjustment under the Classical Gold Standard from a theoretical perspective. This will help clarify the importance we attach to the bank rate and the monetary base in our econometric estimation in sections 4 and 5. These two time series, coupled with the gold reserves, are the only time series being employed in this paper. In what follows, we will argue that estimating how costly the external constraint came to the European periphery can be based on these three time series alone.

Under a system, fixed exchange rates such as the Classical Gold Standard, balance of payments adjustment can principally occur through two channels¹⁸: (a) via the so-called price-specie flow mechanism, and (b) via short-term capital flows. Adjustment can be accelerated by appropriate central bank behaviour, with the adjustment via the price-specie flow mechanism giving rise to the non-sterilisation-rule and the adjustment via short-term capital flows giving rise to the discount-rate-rule. As an understanding of both forms of adjustment is required for the set-up of our econometric model (and in particular the impulse-response functions), we need to explain them in some detail.

2.1 Hume's Price-specie Flow Mechanism

The Scottish philosopher and economist David Hume (1711–1776) was the first person to reflect on how adjustment would take place under a specie standard such as the gold standard. In his “Of the Balance of Trade” (1752), Hume considers two economies operating a gold coin standard, i.e. gold coins circulate among economic agents in each country, and bank notes are unknown. Another feature of the Humean model is that there is only goods arbitrage available, but no capital arbitrage. Under such a scenario, metallic flows would increase the money supply of the country to which the metal went, and reduce the money supply of the country from which the metal came. Based on the quantity theory of money, the increased money supply would lead to higher prices in one country, while the decreased money supply would lead to lower prices in the other. The resulting price difference would give a comparative edge to the country that had lost metal in the first place, thus strengthening the balance of trade and, once again, leading to external equilibrium. For Hume, arbitrage in the goods market, because of price differentials, would cause adjustment.¹⁹

The key question in our context is how we can operate the price-specie flow mechanism under the conditions of the pre-First World War gold standard. Hume described the gold coin standard as a standard where only gold coin circulated among economic agents and where there was no monetary authority. Both these features changed over the course of the 19th century. The gold coin standard became the gold bullion standard²⁰; gold coin was still in circulation in most of the countries adhering to the gold standard, but the bulk of the monetary base came to

¹⁸ M. D. Bordo, The Gold Standard: The traditional approach, in: *A Retrospective on the Classical Gold Standard, 1821–1931*, eds. M. D. Bordo and A. J. Schwartz (Chicago: University of Chicago Press, 1984). Editors’ introduction to Eichengreen and Flandreau, eds., *The Gold Standard in Theory and History*, pp. 12–19.

¹⁹ D. Begg, S. Fischer, and R. Dornbusch, *Economics*, 6th ed. (London: McGraw-Hill, 2000), p. 574.

²⁰ R. Nurkse, *International Currency Experience. Lessons of the Interwar Period*, ed. League of Nations (Princeton: 1944), p. 66.

consist of bank notes. Bank notes were convertible against the gold coin and/or gold bullion at the central bank. We have to ask ourselves how the Humean adjustment process would look within the framework of the late 19th century central bank administered gold bullion standard.

From an economic point of view, however, there is little difference between the 18th century gold coin standard and the 19th century gold bullion standard: „Under any form of gold standard, gold is used for the settlement of discrepancies in the balance of payments. Under the “gold specie standard,” where the domestic circulation as well as the international means of settlement consisted largely of gold, the relationship between the domestic money supply and the balance of payments was direct and immediate; in fact, the very distinction between national and international currency became important only with the growing use of bank notes and deposits in circulation. Under the “gold bullion standard,” where bank notes and deposits formed the great bulk of domestic money, the relationship was less obvious but still generally operative, since any purchase of gold by the central bank could normally be expected to increase a country’s note circulation and bank deposits while any outflow of gold usually decreased them.”²¹

We conclude as follows: Hume’s price specie flow model can be operated by a comparison of the effects of a gold outflow on the monetary base. Under late 19th century conditions, the monetary base essentially consisted of bank notes in circulation (cf. section 3). If we witness a one-to-one relationship – i.e. if a gold flow of one unit translates into a one unit change in the monetary base – , then the central bank would help the balance of payments adjustment mechanism by not sterilizing gold flows. This rule became known as the non-sterilization-rule in the gold standard literature.²² By contrast, if we witness less than a one-to-one relationship – i.e. if a gold flow of one unit translates into less than a one unit change in monetary base – , the monetary authority embarked on sterilisation policies. It is generally thought that sterilisation policies are followed in order to soften the impact of a currency peg on the domestic economy. Impulse response functions allow us to estimate the impact of a gold flow on the monetary base.

2.2 Adjustment via Short-term Capital Flows

Hume’s price-specie flow mechanism was the first systematic attempt to explain the adjustment mechanism under a specie-standard. With time, economists became increasingly aware that adjustment via the goods market was not the only and perhaps not even the most important channel of adjustment. Any adjustment via price level differences is necessarily slow, while adjustment in the capital market

²¹ Ibid.

²² Dam, *The Rules of the Game: Reform and Evolution in the International Monetary System*.

tends to be much quicker. Increased financial integration in the 19th century brought the adjustment via short-term capital flows to centre-stage.²³ In modern economics, epitomised by the still influential Mundell-Fleming open-economy models, it is usually adjustment via short-term capital flows that is seen as crucial in balance of payments adjustment.

Thus, if a central bank wants to accelerate the adjustment process, we would expect a gold outflow to be followed by an increase of the bank rate. This rationale became known as the bankrate-rule in the gold standard literature.²⁴ Conversely, if a central bank attributed more importance to domestic policy goals, a central bank might leave the bank rate unchanged despite reserve drains. Again, a VAR model with impulse response functions will allow us to establish whether a central bank followed the bankrate-rule by estimating the impact of a gold flow on the bankrate.

2.3 The “Rules of the Game” Concept

The existence of these two main forms of adjustment, coupled with the 19th century belief that the central bank was responsible for maintaining the peg, culminated in the concept of the “rules of the game”: central banks were supposed to react to a gold outflow by two means: (1) raising the discount rate, and (2) reducing the monetary base.

The preceding description of the balance of payments adjustment mechanism has demonstrated that three time series are of crucial importance when determining whether a central bank played by the “rules of the game” or not: (1) the gold reserves, (2) the monetary base, and (3) the bank rate. The non-sterilisation-rule can be operated by establishing whether a one-unit gold outflow led to a monetary base reduction of similar size. The bankrate-rule can be verified by investigating whether the central bank reacted to a gold outflow by raising the bankrate.

In what follows, we want to focus solely on the relationship between gold reserves and bank rate. This focus is partly due to space constraints of this paper, but it could be justified on the grounds that 19th century observers felt that the bank rate was much more important than the monetary base in the gold standard adjustment mechanism.

3. Data Employed in this Paper

We will describe the Austro-Hungarian and the Italian data in some detail and confine ourselves to some remarks regarding the other countries due to space constraints.

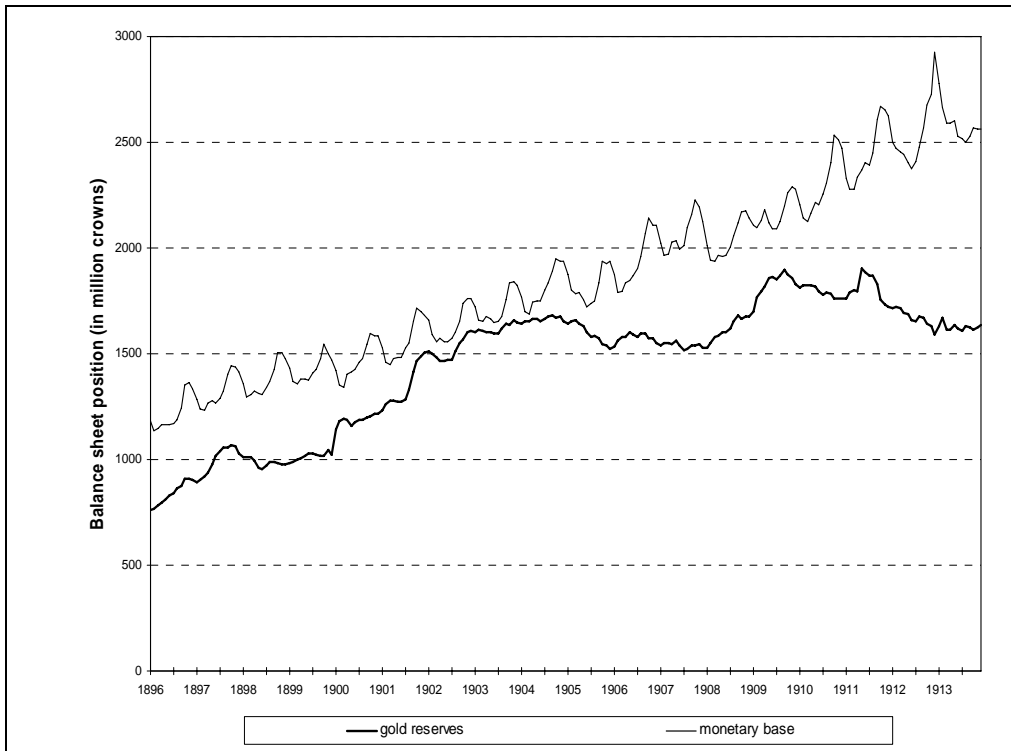
²³ Bordo, *The Gold Standard: The Traditional Approach*.

²⁴ Dam, *The Rules of the Game: Reform and Evolution in the International Monetary System*.

Austria-Hungary

Estimation was carried out for the years 1896 to 1913 (table 1). Chart 1 shows the Austro-Hungarian raw data for gold reserves and monetary base.

Chart 1: Austria-Hungary: Gold Reserves and Monetary Base, 1896–1913



Source: Cf. data description in the main text.

a. Gold Reserves

Monthly data of the gold reserves were published in the annual reports of the Austro-Hungarian bank.²⁵ Reserves consist of (1) gold bullion and gold coin, (2) silver coin, (3) gold bills, i.e. bills of exchange drawn on places located in gold standard countries (“Goldwechsel auf auswärtige Plätze”), (4) deposits on foreign banks, and (5) foreign bank notes.

b. Monetary Base

The monetary base is the primary stock of money in an economy.²⁶ As opposed to bank-created deposit money, the monetary base is the part of the money supply under the (almost) exclusive control of the monetary authority. This explains the economists’ interest in the monetary base when trying to establish a central bank’s policy. The monetary base essentially²⁷ encompasses all liquid liabilities of the monetary authority. Under pre-1914 conditions, liquid liabilities were first and foremost the banknotes (ca. 90%), followed by commercial banks’ deposits at the central bank. Data were taken from the annual reports of the Austro-Hungarian bank.

c. Bankrate

Bank rates were taken from the *Compass*²⁸, the leading financial yearbook in the dual monarchy.

²⁵ Appendix 2 (Übersicht der Geschäftsbewegung) of Jahressitzung der Generalversammlung der Österreichisch-ungarischen Bank, I (1879)–36 (1914), Vienna.

²⁶ F. H. Capie and A. Webber, *A Monetary History of the United Kingdom. 1870–1982. Volume I. Data, Sources, and Methods* (London, New York: Routledge, 1995), p. 9.

²⁷ Opinion differs as to whether coins should be counted as part of the monetary base. The question has both a theoretical and a practical dimension. On a theoretical level, two schools of thought can be distinguished: If the notion of “monetary base” is derived from the process of money creation, coins should clearly be included (cf. Begg, Fischer, and Dornbusch, *Economics*, pp. 375–385.). By contrast, if the notion of “monetary base” is developed behind the background of what a central bank can control, coins should not be included as they do not constitute the liability of a central bank (but of the treasury); accordingly, the European Central Bank does not consider coins part of the monetary base (cf. F. Kissmer, *Die Geldpolitik in der Europäischen Währungsunion* (Hagen: 2004), p. 109.). On a practical level, it is impossible to establish a time series for coin in circulation for Austria-Hungary at the frequency we are aiming for. Omitting coins, however, is unlikely to introduce any bias due the small size as opposed to the other two components of the monetary base; moreover, coin in circulation was certainly less volatile than the other two components.

²⁸ *Compass. Finanzielles Jahrbuch für Österreich-Ungarn*, 48 (1915), p. 151.

Italy

a. Gold Reserves

Monthly data of the gold reserves have been collected by R. de Mattia in his 1967 data collection on the Italian banks of note issue.²⁹ De Mattia has a very broad definition of reserves, and we felt the need not to include all of them into our study. In particular, de Mattia includes bonds of the Italian state or guaranteed by the Italian state among reserves. For the purpose of this study, it seemed more appropriate to include only holdings of gold (## 1, 4, 6), silver (## 2, 3, 5), and foreign exchange (#13).

b. Monetary Base

Monthly data of the note issue can be found in the same statistical reference work.³⁰ We could not find data for commercial banks' deposits at the bank of note issue. In the case of Austria-Hungary, we included them as they do technically constitute part of the monetary base. At the same time, they account for less than 10% of the monetary base in the case of Austria-Hungary. De Mattia's 1967 collection of data, carried out under the auspices of the Bank of Italy, is of high quality and remains the standard source. As he does not provide such data, he himself was most likely either unable to establish such numbers, or, alternatively, the numbers he found were of negligible size which is why he did not include them. Either way, our time series for the monetary base consists entirely of bank notes in circulation.

c. Bankrate Differential

Monthly data of the Italian bankrate can also be found in de Mattia 1967.³¹

Bulgaria

Data were kindly communicated by the Balgarska Narodna Banka.

United Kingdom

Data were taken from Capie&Webber (1995). Discount rate data were taken from Hawtrey (1962).

²⁹ R. de Mattia, *I bilanci degli istituti di emissione italiani dal 1845 al 1936, altre serie storiche di interesse monetario e fonti*, vol. 2, *Banca d'Italia: Studi e ricerche sulla moneta* (Rome: 1967), table 19, pp. 619–753.

³⁰ Ibid., table 5 (column 1 only), pp. 446–454.

³¹ Ibid., table 20, pp. 812–815.

France

Data were taken from the Annual Reports of the Banque de France, 1890–1914. Discount rate data were taken from Hawtrey (1962).

Germany

Data were taken from the “Verwaltungsberichte der Reichsbank”, 1876–1914.

Greece

Data were kindly communicated by the Central Bank of Greece.

Norway

Data were downloaded from www.norksebank.org

Serbia

Data were kindly communicated by the Central Bank of Serbia.

Sweden

a. Gold Reserves

Monthly data of the gold reserves were published in the “Sammandrag af Bankernas Uppgifter” (Summary of Bank Reports) which were published at the end of each month.³²

b. Monetary Base

As in the case of Italy, no information could be found on commercial banks’ deposits at the bank of note issue. We have therefore only relied on the amount of bank notes in circulation, which were taken from the same source as the gold reserves.³³

³² Sammandrag af Bankernas Uppgifter , 1878 – 1900, Stockholm.

³³ In practical terms, we are grateful to Anders Oegren for generously sharing the monetary base data which he had already collected from the sources mentioned above.

c. Bankrate Differential

Monthly data of the Swedish bankrate can be found in an official publication of the Swedish Riksbank.³⁴

4. Estimation

The choice of the appropriate econometric model is largely determined by the nature of the problem under investigation. As the discussion on the “rules of the game” in section 2 has demonstrated, the monetary authority was supposed to react to gold outflows by raising the discount rate and/or reducing the monetary base. Consequently, three time-series are important: gold reserves, monetary base, and the bank rate. It also seems appropriate to take—as an exogenous variable—the bank rates of the core countries (England, France, and Germany) into account.

Which of the three variables—gold reserves, monetary base or bank rate—can be treated as exogenous? Not the monetary base and the bank rate, for we are interested in how these two variables react to changes in gold reserves. This rationale implies that monetary base and bank rate differential are endogenous variables. The same is true for the gold reserves; a discount rate increase and/or a reduction of the monetary base aim at increasing gold holdings at the central bank. Thus, all three variables need to be treated as endogenous.

This rationale favours a vector autoregression approach (VAR). As the terminology suggests, a vector—rather than a scalar—is explained by its past values. As a VAR requires stationary time series, we tested for stationarity with the help of an ADF-test. Table 2 shows that gold reserves and monetary base show up as $I(1)$ in most cases. Only the interest rate time series come out usually as $I(0)$, even though there are some outliers even here (Bulgaria, France, Serbia).³⁵

³⁴ Sveriges Riksbank, *Sveriges Riksbank 1668–1924–1931* (Stockholm: 1931), v. 5, pp. 136–138.

³⁵ Bulgaria, France and Serbia are, incidentally, countries with relatively infrequent discount rate changes. As a result, the time series appear to have mean shifts which can give the appearance of $I(1)$ non-stationarity.

Table 2: Results of Augmented Dickey-Fuller Tests

		Time series: levels						Time series: first differences	
		ADF test with inter- cept	Levels at which H_0 of unit root can- not be rejected	ADF test with intercept and linear trend	Levels at which H_0 of unit root can- not be rejected	F-value to test $H_0: \beta$ $= \Phi^* = 0$	Levels at which H_0 cannot be rejected	ADF test with inter- cept	Level at which H_0 of unit root can be re- jected
Austria- Hungary	gold	-2.5316	10% 5% 1%	-1.3468	10% 5% 1%	3.1890	10% 5% 1%	-9.5564	1%
	mb	-1.2418	10% 5% 1%	-3.7628	10% 5% 1%	7.4445	1%	-10.6127	1%
	i	-2.2268	10% 5% 1%						
Bulgaria	gold	-0.3384	10% 5% 1%	-1.8400	10% 5% 1%	1.8346	10% 5% 1%	-7.3835	1%
	mb	0.1226	10% 5% 1%	-1.9368	10% 5% 1%	2.2750	10% 5% 1%	-8.6669	1%
	i	-0.3007	10% 5% 1%						
UK	gold	-2.5566	10% 5% 1%	-4.7310		11.193		-18.502	1%
	mb	-1.5007	10% 5% 1%	-3.7891	1%	7.1793	1%	-20.341	1%
	i	-7.6280							
France	gold	-1.4664	10% 5% 1%	-2.4895	10% 5% 1%	3.2797	10% 5% 1%	-12.120	1%
	mb	-0.0249	10% 5% 1%	-5.2680		13.929		-12.926	1%
	i	-1.1877	10% 5% 1%						
Germany	gold	-1.3983	10% 5% 1%	-3.5105	1%	6.1884	5% 1%	-9.0526	1%
	mb	1.2995	10% 5% 1%	-1.0917	10% 5% 1%	1.6050	10% 5% 1%	-16.803	1%
	i	-3.4304	1%						
Greece	gold	-1.4581	10% 5% 1%	-1.3465	10% 5% 1%	1.6347	10% 5% 1%	-8.4747	1%
	mb	-0.5487	10% 5% 1%	-1.8068	10% 5% 1%	1.6347	10% 5% 1%	-4.2483	1%
	i	not applicable, as discount rate did not change							
Italy I	gold	-1.5472	10% 5% 1%	-2.9379	10% 5% 1%	4.3254	10% 5% 1%	-3.6709	1%
	mb	-1.8064	10% 5% 1%	-1.3512	10% 5% 1%	7.2019	1%	-11.5492	1%
	i	-2.3143	10% 5% 1%						
Italy II	gold	-2.3383	10% 5% 1%	-0.7565	10% 5% 1%	2.7159	10% 5% 1%	-6.8551	1%
	mb	-2.1076	10% 5% 1%	-0.6952	10% 5% 1%	2.2032	10% 5% 1%	-7.5268	1%
	i	-2.4031	10% 5% 1%						
Norway	gold	-0.4211	10% 5% 1%	-3.3736	5% 1%	6.3037	1%	-17.900	1%
	mb	1.2299	10% 5% 1%	-2.2572	10% 5% 1%	5.0235	10% 5% 1%	-21.655	1%
	i	-3.3274	1%						
Serbia	gold	0.9480	10% 5% 1%	-1.8530	10% 5% 1%	3.4576	10% 5% 1%	-6.9708	1%
	mb	-0.1148	10% 5% 1%	-2.9354	10% 5% 1%	4.5855	10% 5% 1%	-5.9787	1%
	i	-1.7275	10% 5% 1%						
Sweden	gold	-0.6778	10% 5% 1%	-2.9955	10% 5% 1%	4.5116	10% 5% 1%	-20.856	1%
	mb	0.2875	10% 5% 1%	-1.0408	10% 5% 1%	0.7593	10% 5% 1%	-18.522	1%
	i	-3.1227	1%						

Source: Author's calculations based on data as discussed in the main text.

The presence of $I(1)$ time series raises the prospect of a vector error correction model (VEC model). A VEC model relies on $I(1)$ time series that are related to each other by a so-called cointegrating relationship.³⁶ A cointegrating relationship is a long-run relationship between different variables; this long-run relationship might be violated in the short-run, but forces inherent to the system will correct any such deviation in the long run. From an economic point of view, a system exhibiting such dynamics is an equilibrium: violations in the short-run may occur, but equilibrium will restore itself after some time.

This description fits the economic relationship between gold reserves and monetary base, which happen to be the two time series that show up as $I(1)$ in most cases in table 2. In the long-run, the monetary base needs to be backed up by a certain amount of gold reserves.

For this reason we have tested for a cointegrating relationship between gold reserves and monetary base. Two test statistics are available for the Johansen cointegration rank test, which is the most commonly used cointegration test: the trace statistic and the Max-Eigenvalue statistic. Two tests were carried out in each case, depending on the specific nature of the underlying time series (trend-stationary time series versus difference-stationary time series, cf. columns 7 and 8 in table 2). This makes for 4 different statistics in the case of each country (table 3).

Table 3 shows that in some cases (England, Germany, Norway, Sweden), a cointegrating relationship is warranted under all four assumptions. In other cases (Greece, Serbia), by contrast, all four test statistics suggest the absence of a cointegrating relationship. In the remaining cases, some test statistics suggest cointegrating relationships, while others do not. Mixed results are not unusual in cointegration analysis, and conflicting results are often settled with the help of economic theory: if there is enough reason to believe in an underlying relationship, cointegration analysis is often applied even if some of the statistics do not suggest the presence of a cointegrating relationship.

In our case, however, we have to bear in mind that for some countries none of the four test statistics suggest such a cointegrating relationship. We therefore decided against using a VEC model and to stick to the more conventional VAR approach.

³⁶ W. Enders, *Applied Econometric Time Series*, 2nd ed. (New York: 2004), pp. 320–373. J. Johnston and J. DiNardo, *Econometric Methods*, 4th ed. (New York: 1997), pp. 301–305.

Table 3: Results of Johansen Cointegration Rank Test

	Trace statistic			Max-Eigenvalue statistic		
	Trace statistic	5% critical value	Cointegrating relationship implied	Max-Eigen value statistic	5% critical value	Cointegrating relationship implied
Austria-Hungary	24.85	20.26	+	19.31	15.89	+
	13.87	15.49	–	10.22	14.26	–
Bulgaria	25.18	20.26	+	19.20	15.89	+
	6.35	15.49	–	6.33	14.26	–
UK	21.98	20.26	+	19.15	15.89	+
	20.88	15.49	+	19.00	14.26	+
France	22.61	20.26	+	13.55	15.89	–
	10.93	15.49	–	10.67	14.26	–
Germany	34.34	20.26	+	23.66	15.89	+
	23.89	15.49	+	23.23	14.26	+
Greece	16.88	20.26	–	11.00	15.89	–
	8.14	15.49	–	5.94	14.26	–
Italy I	26.87	20.26	+	18.72	15.89	+
	20.37	15.49	+	12.77	14.26	–
Italy II	43.20	20.26	+	28.59	15.89	+
	24.86	15.49	+	20.50	14.26	+
Norway	21.62	20.26	+	17.78	15.89	+
	18.30	15.49	+	16.95	14.26	+
Serbia	7.12	20.26	–	5.38	15.89	–
	2.99	15.49	–	2.92	14.26	–
Sweden	53.44	20.26	+	46.45	15.89	+
	30.79	15.49	+	30.79	14.26	+

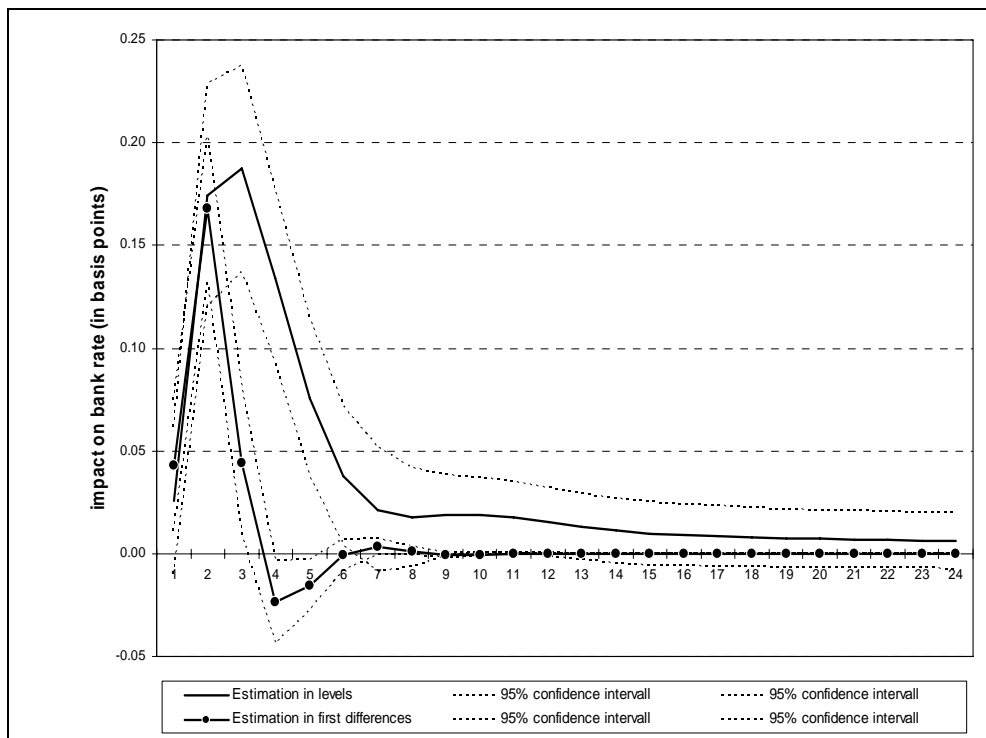
Source: Author's calculations based on data as discussed in the main text.

Returning to the results of the ADF-tests (table 2), we are confronted with a situation in which some time series are I(1) while others are I(0). Advice is conflicting in such situations: While some authors suggest estimating in first differences, others prefer running the VAR in levels despite some of the time series showing up as non-stationary.³⁷ We have tried out both options and found that, in most cases, results were surprisingly similar. Chart 2 shows, for instance, an impulse response function of the English bank rate, estimated both in levels and in first differences. While the overall shape and magnitude of the impulse response

³⁷ Cf. Enders, *Applied Econometric Time Series*, 264–310.

functions tended to be very similar in most cases, the main difference was probably that impulse response functions in differences returned quicker to 0 (as one would expect). In the following, we have calculated all VARs in levels rather than in first differences.

Chart 2: Comparison of VAR Estimation in Levels and in First Differences, Illustrated by the Response of the English Bank Rate to a (Negative) One-Standard Deviation Gold Shock (Cholesky-Decomposition)



Source: Author's calculations based on data as discussed in the main text.

As VAR estimations are widespread these days, there is no need to explain this technique in detail. Only two issues need to be addressed in this context: (a) the construction of the exogenous variable, i.e. the bank rate of the core countries (England, France, Germany); (b) the lag length of the VARs.

As for the exogenous variable, there was obviously the need to introduce some kind of “global” bank rate. As a matter of fact, the bank rate differential rather than

the bank rate itself determines the “pulling power” of a given country. We experimented with a number of options, but finally chose to adopt the arithmetic average between the discount rates in London, Paris and Berlin. The reader may rest assured that the other options we tried out led to very similar results. In the case of England, France, and Germany, the exogenous discount rate only included the other two countries.

The appropriate lag length of each VAR model was determined by the standard lag length criteria.³⁸ The most commonly used information criteria in this context—the sequential modified LR test statistic (LR), the final prediction error (FPE), the Akaike information criterion (AIC), the Schwartz criterion (SC) and the Hannan-Quinn criterion (HQ)—often suggested the same lag length, most usually one or two lags. If the information criteria suggested different lag lengths, we chose the Schwartz criterion over the others criteria for it most usually leads to shorter lag lengths.

5. Results

Space constraints prevent us from reporting the VAR estimates, but the rich interactions between the variables in the case of vector regressions (as opposed to scalar regressions) would inhibit us from attaching a straightforward interpretation to the given numbers anyway. The best way to interpret the results of a VAR model is to calculate the impulse response functions. Impulse response functions trace out how the different variables react in periods 1, 2, 3, ... n to a specific shock to one of the variables in period 1. Similar to a natural science experiment in a laboratory, one specific cause and its effects can be isolated and studied on their own. This is precisely what we are interested in our case: How does the bank rate respond in periods 1, 2, 3, ... n to a sudden gold outflow in period 1? Vice versa, it is also interesting to see how much gold a given country can attract with a 1% increase of the bank rate.

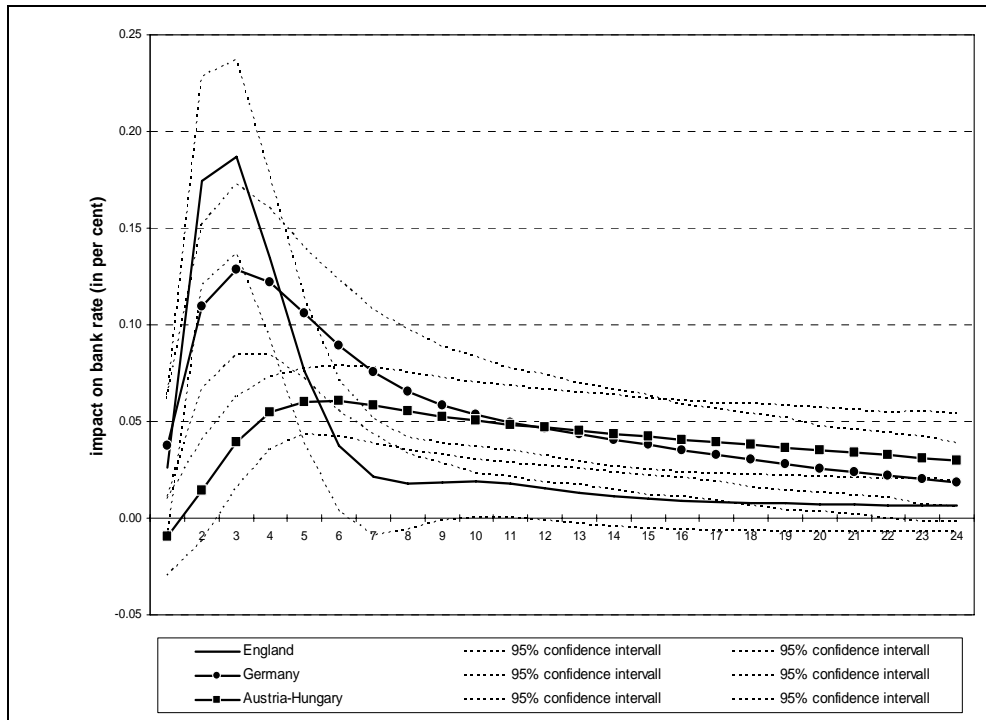
In other words, impulse response functions can be used to assess how difficult it was for a given country to maintain the gold link. As already indicated, two types of question are the most relevant in this context. First, how does the bank rate respond to a sudden gold outflow? If country A needed to react much stronger than country B, then we could argue that adherence to A came more costly than to B. If confronted with a gold outflow, it would then be important to determine the “pulling power” of country A as opposed to country B: If country A raises its discount rate by one percentage point, how many reserves will it attract? Will it attract more or less than country B?

Let us turn to the first question. Chart 3 shows the response of the English, German and Austro-Hungarian bank rates to a (negative) one-standard deviation

³⁸ Ibid., p. 363.

gold shock (based on the Cholesky-decomposition with the Cholesky ordering: gold reserves → interest rate → monetary base). Interestingly enough, we see that the English discount rate actually responds much stronger to a gold outflow than the German discount rate, and the German discount rate reacts stronger than the Austro-Hungarian discount rate; which is certainly the opposite of what we expect.

Chart 3: Response of English, German and Austro-Hungarian Bank Rates to a (Negative) One-standard Deviation Gold Shock (Cholesky-Decomposition)



Source: Author's calculations based on data as discussed in the main text.

We have to take into account, however, that the bank rate reacts to an “average gold shock” (i.e., a one-standard deviation gold shock in the words of the VAR terminology) which may obviously be very different from country to country. In other words, we need to establish the exact size of the average shock in each country; this piece of information can also be inferred from the VAR estimate. Table 4 shows the average size of the gold shocks and scales them by the amount of reserves available to a specific central bank.

Table 4: Number of Discount Rate Changes and Size of Average Gold Shock

	<i>Total number of discount rate changes during estimation period</i>	<i>Discount rate changes per year during estimation period</i>	<i>Average size of gold shock, relative to average reserve level</i>
<i>Austria-Hungary</i>	27	1.5	0.17%
<i>Bulgaria</i>	2	0.3	0.86%
<i>England</i>	226	5.8	2.38%
<i>France</i>	19	0.8	0.13%
<i>Germany</i>	137	3.6	0.40%
<i>Greece</i>	0	0.0	not applicable
<i>Italy I</i>	11	1.2	0.44%
<i>Italy II</i>	40	3.6	0.14%
<i>Norway</i>	83	2.0	0.88%
<i>Serbia</i>	4	0.6	1.50%
<i>Sweden</i>	65	1.8	1.48%

Source: Author's calculations based on sources as discussed in the main text.

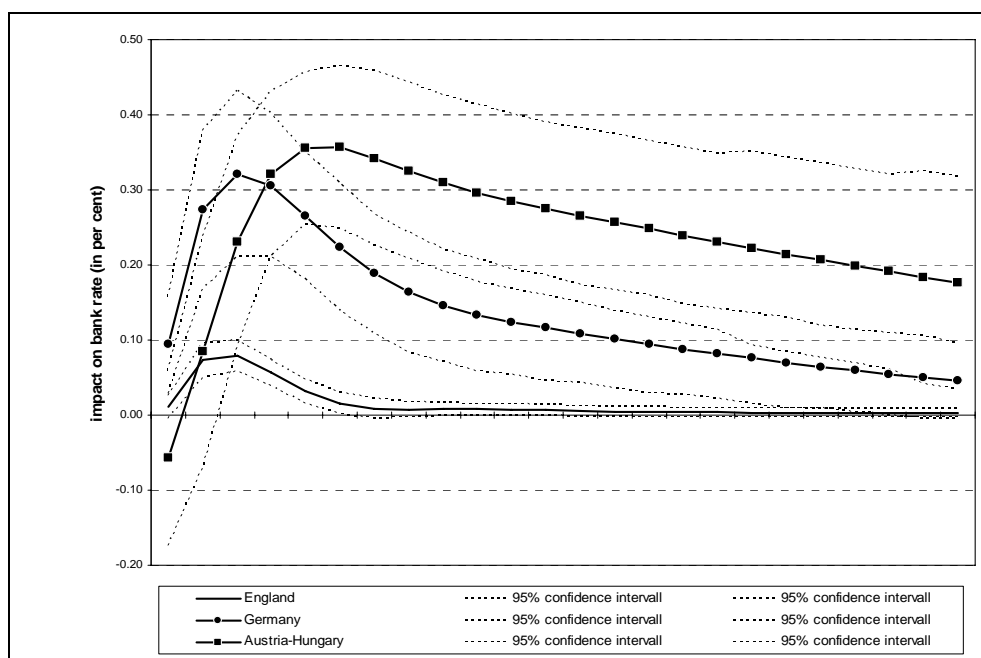
Table 4 is most illuminating in our context. In the English case, for instance, an average gold flow takes the size of 2.38% of the gold reserves of the Bank of England. By contrast, an average German shock is only 0.40% and an average shock to Austria-Hungary is even smaller (0.17%), compared to their reserves.

What explains these differences, and how important are they in assessing chart 3? If we abstract from the English case for the moment, a certain pattern emerges when we try to rank countries by the size of the average shock. Serbia, Sweden, Norway and Bulgaria were all truly peripheral economies in the pre-First World War setting; they all enjoyed substantially higher average shocks than Germany, France, Austria-Hungary and Italy. Thus, a case could be made that, *cum grano salis*, the more peripheral an economy, the higher the average shock. But what then explains that England was exposed to even higher average shocks? We admit that no easy answer is available to this question, but it might well have to do with London as the single most important financial centre and the most important money market before the First World War. As a consequence, shocks were higher

than anywhere else, as money could more easily be moved in and out of the country.

In chart 4 we have computed the response of the English, German and Austro-Hungarian bank rates to a (negative) gold shock of one percent compared to reserve levels. In other words, as opposed to chart 3, we control here for the size of the average shock. Chart 4 is much more in accordance with our expectations: London performs “best”, followed by Berlin and Vienna. Still, it is worth noting that there is little difference between Berlin and Vienna.

Chart 4: Response of English, German and Austro-Hungarian Bank Rates to a (Negative) 1% Gold Shock (Relative to Their Respective Gold Reserves, Based on Cholesky-Decomposition)

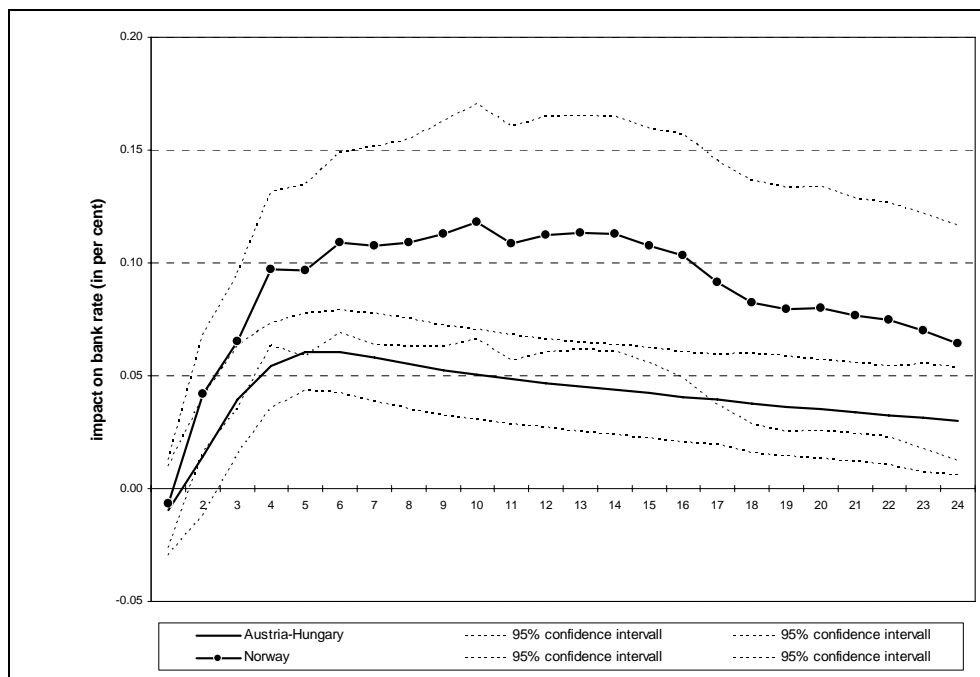


Source: Author's calculations based on data as discussed in the main text.

Is chart 3 more relevant for our question than chart 4 or vice versa? In our view, controlling for the size of the average shock (as done in chart 4) misses the point: If Serbia—a country with one of the largest gold shocks in our sample (cf. table 4)—is exposed to heavy shocks, it is little comfort to know that the country would have done better if shocks had only been on a level comparable to other countries. While the VAR technique does not allow to determine the—monetary and real-economic—factors driving the size of the average shock, VARs and impulse response functions

do allow to establish their size and their importance. As a consequence, we think that chart 3 is actually more relevant to our question than chart 4.

Chart 5: Response of Austro-Hungarian and Norwegian Bank Rates to a (Negative) One-standard Deviation Gold Shock (Cholesky-Decomposition).



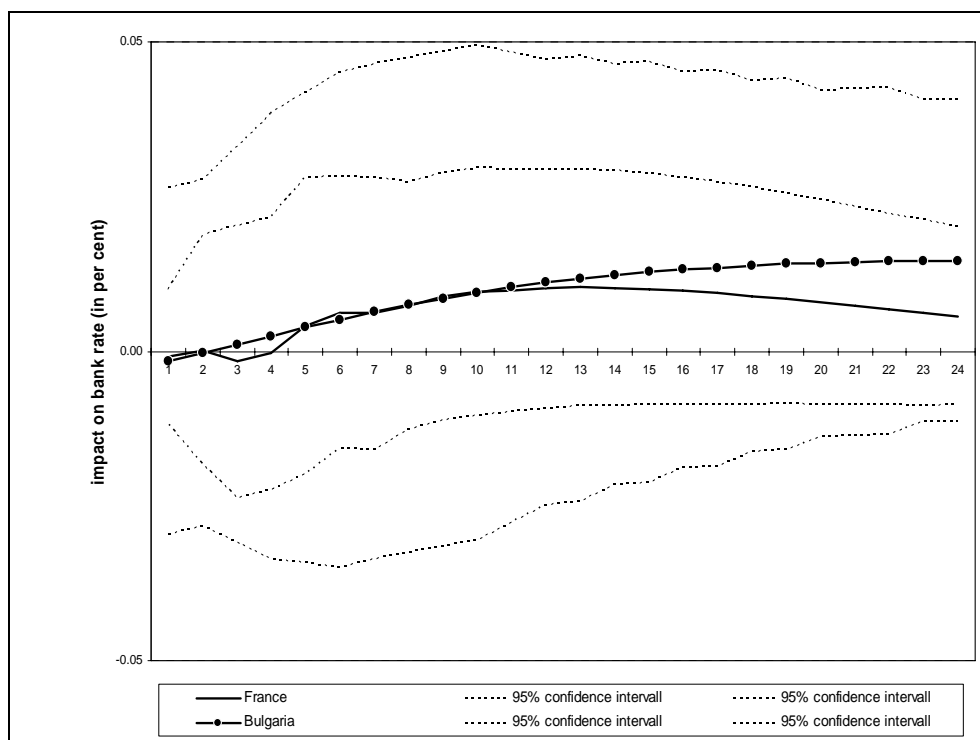
Source: Auhtor's calculations based on data as discussed in the main text.

Chart 5 compares Austria-Hungary with Norway. It shows that the Austro-Hungarian response was consistently lower than the Norwegian one. This suggests that the gold link was, at all stages of the adjustment process, harder to bear for Norway than for Austria-Hungary.

While such a finding is certainly encouraging, two problems with this approach shall not be neglected. First, how do we judge the performance of two countries if country A has a higher response initially but then falls below B's response (which is, for instance, the case for England and Germany in chart 3)? A metric would be needed to extract a single figure out of the impulse response function that would allow us to rank countries. Second, we have found it very difficult to implement this approach with countries that had infrequent discount rate changes. Chart 6

shows the cases of France and Bulgaria, both of which had, on average, less than one discount rate change per year (table 4).

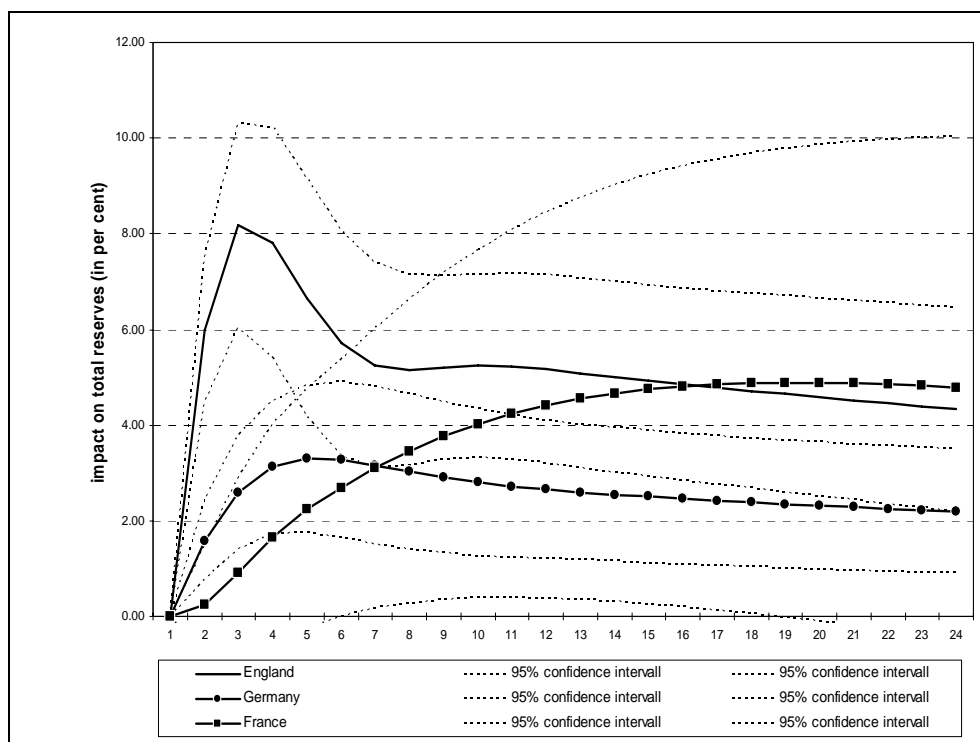
Chart 6: Response of French and Bulgarian Bank Rates to a (Negative) One-Standard Deviation Gold Shock (Cholesky-Decomposition)



Source: Author's calculations based on data as discussed in the main text.

Let us now turn to the second question: How much “pulling power” did each central bank have? This question asks for another impulse response function: How did the gold reserves react in periods 1, 2, 3 ... n to a 1% increase of the bank rate? Charts 7 and 8 show the cases of England, France, Germany, Austria-Hungary and Italy. Chart 7, for instance, shows that the Bank of England could attract 8% of additional reserves (compared to its current holdings), while the Reichsbank could only attract 3.5% of additional reserves. Taking charts 7 and 8 together, we see that England had, by far, the largest “pulling power”, almost twice as much as the second-best, the Bank of France. We believe that this finding needs to be taken into account when assessing what we said about the Bank of England earlier in this section. While England had, on average, larger gold shocks than any other country, it also had a substantially higher pulling power to reverse any gold drain.

Chart 7: Increase of Gold Reserves due to a 1% Increase of the Discount Rate, Comparison between England, France, and Germany

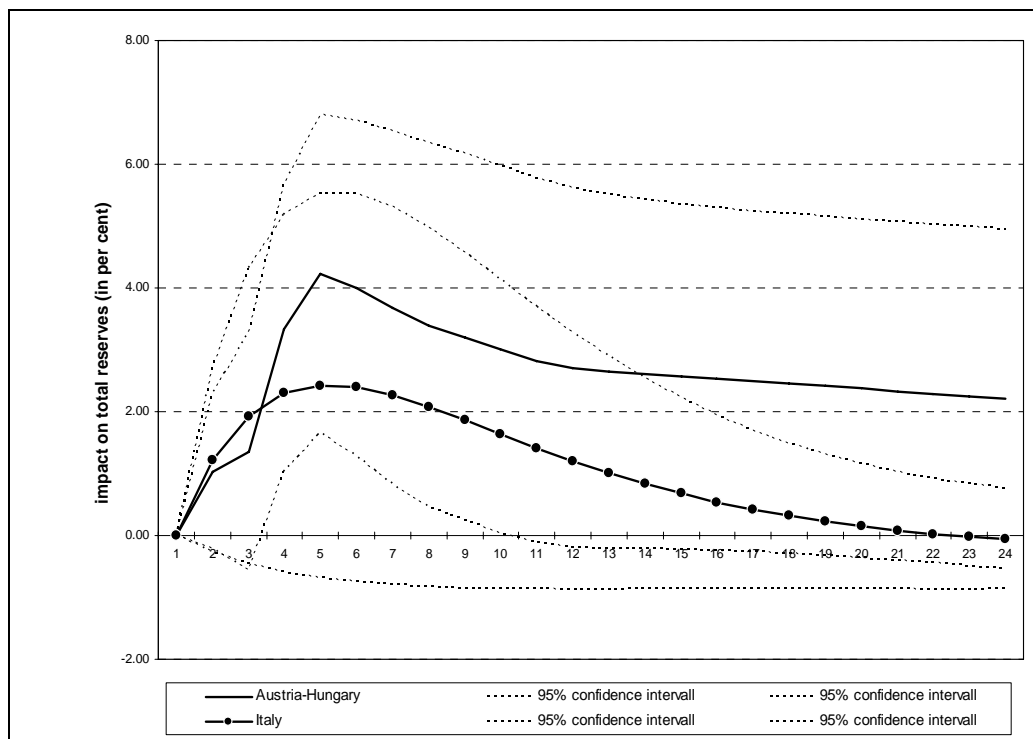


Source: Author's calculations based on data as discussed in the main text.

Again, it is interesting to see how well Austria-Hungary performs. A one-percent increase of the bank rate of the Austro-Hungarian bank would add an additional 4.2% of reserves; which is slightly more than we find for the Reichsbank. This contrasts quite significantly with Italy, another peripheral country, which had only half the pulling power.

Again, as in the case of the impulse response functions calculated above, results are not yet satisfactory for some of the other countries in our sample. The impulse response functions show virtually now – or even negative (!) – pulling power for the central banks. It does not seem to be coincidence that this problem is again more pronounced for those countries that had infrequent discount rate changes.

Chart 8: Increase of Gold Reserves Due to a 1% Increase of the Discount Rate, Comparison between Austria-Hungary and Italy I



Source: Author's calculations based on data as discussed in the main text.

6. Conclusions

This paper was concerned with one particular aspect of the literature on the Classical Gold Standard, the pre-First World War system of fixed exchange rates. Conventional wisdom has that the adjustment process to balance of payments disequilibria was very different in the case of the “core countries” (UK, US, France, and Germany) as opposed to the ‘periphery’. Several studies have shown that the rich core countries could get away with frequent and sizeable violations of the “rules of the game”. By contrast, it is alleged that peripheral countries had to play by the “rules of the game”, thereby exposing themselves to negative repercussions on domestic economic activity.

Drawing on the experience of three core economies (England, France, Germany) and seven peripheral economies (Austria-Hungary, Bulgaria, Greece, Italy, Norway Serbia, Sweden), this paper has argued for a more nuanced perspective on the European periphery. While the conventional view might be true

for some countries – most notably the Balkan economies – the experience of other peripheral countries, in particular Austria-Hungary, resembled more those of the core economies.

Three key points, all derived from a VAR model of monthly time series of gold reserves, monetary base, and interest rates for 10 European countries, stand out. First, the average gold drain (“gold shock” in VAR terminology) differed substantially across peripheral economies. We found, for instance, that shocks hitting the Serbian economy were, on average, almost ten times larger than the shocks hitting the Austro-Hungarian economy (compared to average reserve levels). As shocks differed substantially, it is little surprise that adjustment was easier for some than for others. As far as the average gold drain was concerned, we were able to show that Austria-Hungary and Italy were playing in a league with Germany and France rather than with the other peripheral economies. At the other end of the spectrum, Serbia, Sweden, Norway and Bulgaria were exposed to heavy shocks more in line with conventional wisdom regarding peripheral economies.

In a second step, we estimated the impulse response of the bank rate to an average gold outflow. This would serve as an indication of how difficult it was to maintain the gold link. Again, we saw considerable differences between peripheral economies. We were able to show that Austria-Hungary not only had the lowest bank rate response of all peripheral economies, but even remained slightly below the German response.

In a third step, we estimated the “pulling power” of the different central banks: how many additional reserves could a specific central bank attract by raising the discount rate by one percent? Not surprisingly, we found that the Bank of England had the highest pulling power, almost twice as much as the second-best, the Bank of France, which, in turn, was followed closely by the Reichsbank. Again, Austria-Hungary followed with little distance. Italy, the next placed peripheral economy, only enjoyed half as strong a reaction as Austria-Hungary.

Last but not least, it is worth pointing out that a key question remains regarding those central banks that used the discount rate tool very infrequently. Bulgaria, Greece, Serbia, but also the Bank of France, had, on average, less than one discount rate change per year. Further research is needed to establish how exactly the gold standard operated in these countries.

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Exchange Rate Control in Italy and Bulgaria in the Interwar Period: History and Perspectives¹

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Il mio sentimento d’amicizia per la Bulgaria è costante, sincero, disinteressato. Questo sentimento è condiviso della totalità del popolo italiano. Credo fermamente nell’avvenire politico, economico e morale della Bulgaria. Essa ha il suo compito nei Balcani.

Mussolini, B. in Scipcovensky, M., (1927, p. 1)

1. Introduction

On 6 September 1937, Balgarska Narodna Banka’s (BNB) governor Dobri Bozhilov sent a confidential message No. 166 to the Minister of Finance informing him that two Italians, Costantino and Camillo Vacaro had violated the Foreign Exchange Act in 1933 and had done so with the knowledge and assistance of the Italian ambassador in Sofia. Camillo Vacaro brought certain amounts of money in Bulgarian currency to the Embassy against which the Ambassador gave him cheques denominated in foreign currencies. These cheques then were sent to Italy

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by the legation itself. The Governor was asking the Minister of Finance to raise this delicate affair at the Council of Ministers before the BNB governor brought a prosecution under the Foreign Exchange Act (BNB, 2004, No 297). The background of this historical detail connecting Italy and Bulgaria² was formed by a lengthy period of restrictions on trade and foreign currency exchange between the Wars in which Bulgaria and Italy were active protagonists (the two countries were allies in the Second World War and economically belonged to the so-called Clearing Bloc).

The history of Interwar exchange controls in Europe provides us with interesting insights into the current development of the European Monetary Union and into the prospects for its enlargement, where the exchange rate and monetary policy play central roles. As in the past, albeit in a different historical context and in different forms, Europe today could be also divided into a centre, part-periphery and periphery: groups of countries at different stages of economic development. Therefore, we find it challenging to compare the evolution of exchange controls in two countries characterized by different economic conditions. Italy was representative of the semi-periphery and Bulgaria of the peripheral and then underdeveloped Balkans: both were external to the financial and industrial core of Europe.

The introduction of exchange controls typified the general collapse and fragmentation of the international monetary system after the First World War put an end to almost 40 years of considerable economic and financial stability³. The world economy suddenly split into blocs of countries with different economic and monetary behaviours. Two major attitudes towards economic policy confronted each other. The first was held by those who thought that a return to the old semi-automatic regulatory mechanisms was possible and indeed necessary, and who viewed the gold standard as an integral part of these mechanisms. The second attitude was held by those who believed that a new era of economic relationships had come and hence new rules (active government interference) were required. This was a time when the world economy was going through a transition which was extremely unstable and which ended in the Second World War. It led to the creation of the IMF and the World Bank as new supranational regulators of the world monetary system.

As predicted by several economists at that time, exchange control turned out to be an extremely distorting and discriminating form of interference in monetary relations. According to Lionel Robbins, "Tariffs, exchange restrictions, quotas, import prohibitions, barter trade agreements, central trade-clearing arrangements –

² In fact, the affair was rather a typical case of avoiding exchange restrictions. According to Charles Kindleberger the ways to circumvent exchange controls are to bribe a central bank employee, export money with the help of diplomatic offices, or to smuggle (Kindleberger, 1990, [1984], p. 531).

³ See Fromkin (2004) for a general discussion on the outbreak of the First World War.

all the fusty relics of medieval trade regulation, discredited through five hundred years of theory and hard experience, were dragged out of the lumber-rooms and hailed as the products of the latest enlightenment” (Robbins, 1935, p. 114). From a global perspective, while the different blocs managed to preserve their relative shares of world export and members of each bloc tried (and succeeded to some extent) to balance their foreign trade within the group, the emergence of isolated blocs resulted in a contraction in the amount of world trade.

Table 1: Percentage Share of Certain Groups of Countries in Gold Value of World Exports, Excluding the United States

	1929	1931	1935	1937
European exchange control countries	23.48	27.19	21.68	22.53
Gold bloc	14.53	15.86	13.41	12.01
Other countries	61.99	56.95	64.91	65.39

Note: European exchange control countries include Austria, Bulgaria, Czechoslovakia, Denmark, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Turkey and Yugoslavia. Gold bloc countries are represented by France, Belgium, Netherlands and Switzerland.

Source: League of Nations (1938, pp. 29–30).

Michael Heilperin gives a working definition of exchange control: “Exchange control,” he writes, “consists in the centralization of all dealings in foreign exchange in the hands of a public authority (treasury, central bank, or an institution created *ad hoc*)” (Heilperin, 1939, p. 238). Howard Ellis (1940, 1947) provides an extensive discussion of the instruments and forms of exchange control. He stresses the fact that exchange control “is not generally taken to include the following: tariffs, quotas, prohibitions and embargoes, subsidies, state trading and commercial agreements and treaties. It impinges upon these at point but does not include them” (Ellis, 1947, p. 877). According to Ellis, the main instruments of exchange control are: a government monopoly in foreign exchange dealing, government disposition over private holdings of foreign exchange and assets, enforcement of an overvalued or undervalued rate of exchange, multiple exchange rates, government licence to export and import, government disposition over the proceeds of exports, government allocation of exchange to imports, officially conducted bilateral clearing and officially conducted barter (Ellis, 1947, p. 877).

Various combinations of these instruments were used to achieve a mix of exchange controls either with respect to international economic matters (maintaining appreciated or depreciated exchange rates, attaining equilibrium in the balance of payments, allowing trade to go on without available foreign exchange, securing more favourable terms of trade, controlling or enforcing capital movement, and economic welfare) or to domestic economic priorities (controlling

inflation and deflation, increasing domestic employment, fostering industrialisation and other protectionist measures, preparing for war, providing revenue for the state, and discriminating for or against certain persons or classes within the domestic economy). According to Ellis classification, the most common and widely implemented exchange control instrument in Europe in the 1930s was the enforcement of overvalued rates of exchange as a device to avoid depreciation which would have ensued because of the withdrawal or flight of capital from debtor countries (Ellis, 1947, p. 878–879). Given the European experience of high inflation (hyperinflation in some countries) after the First World War, the original motive for exchange control was to defend a particular exchange rate as a counter inflationary measure. Since this exchange control instrument did not contribute to improving the balance of payments, other interference included active export encouragement and import restriction.

Given the complexity of this topic, we start with a description, drawing up a parallel chronology of events in Italy and Bulgaria supported by facts. The purpose of this paper is to analyze the motives behind governments' decisions to introduce and maintain exchange controls, the economic consequences of these decisions, the techniques adopted, and the order of events (Ellis, 1947). From a theoretical standpoint, we study exchange control in the context of economic and monetary isolation (autarchy). To describe the motivation behind policy decisions, we introduce appropriate elements of institutional and political economy. We also take into account the macro influences of exchange controls on the real economy. Our investigation considers balance of payments constraints as a main purpose.

In the first two sections of the paper we describe the history of exchange controls in Italy and Bulgaria in the interwar period, illustrating it with data. In the third section, we propose some theoretical reflections and interpretations of exchange controls. In the conclusion, we try to formulate some lessons from Thirties' exchange controls and draw parallels with today.

2. Italy: Stabilisation and Short-lived Exchange Control

Measures aimed at regulating exchange rates had been introduced in Italy in 1917, during First World War. After 1921, however, most of the restrictions were lifted and it was only in the years 1934/35 that systematic exchange rate control was enforced as a consequence of protracted balance of payments deficits, in a context characterized by the so-called “quota novanta”, the stabilization level chosen in December 1927 when the gold exchange standard was officially re-established and which the government had decided to defend at all costs. It soon became a means to promote reflationary monetary policies and to divert scarce resources towards sectors which appeared to be strategic in view of the war.

Let us briefly recapitulate the events⁴. During the First World War Italy had to face large current account deficits (from 1915 to 1918 import nearly tripled whilst export stagnated) which stemmed from huge capital disruptions caused by the conflict. As a consequence, the nominal exchange rate of the lira rapidly depreciated and this tendency was reinforced by speculative attacks following a major defeat of the Italian army in Caporetto, in November 1917. In December the government reacted by creating a new authority, the “Istituto Nazionale per i Cambi con l’Estero” (INCE, National Institute for Foreign Exchange) and by empowering it to impose a temporary monopoly of the foreign exchange market. INCE was meant to offset speculation and to ensure that foreign currencies were primarily used to import raw materials and equipment needed by the military sectors (Raitano, 1995, pp. 276–279).

The post-war period was characterized in Italy by severe monetary and financial instability; between 1919 and 1921 the nominal exchange rate further depreciated as a consequence of current account deficits and speculative capital movements⁵. On June 1921, however, the government decided to lift all restrictions in the foreign exchange market. The INCE was kept in existence but its role was restricted to a limited set of operations.

At the end of 1922, in a situation characterized by political and social turmoil, Mussolini was appointed prime minister. Before long the new government proceeded to restrict political freedom but adopted, at least initially, a laissez-faire approach in economy policy and adhered to financial orthodoxy. The Minister of Finance, Alberto De’ Stefani, severely cut public expenditure in order to reduce the budget deficit. Monetary policy, however, was too accommodating and as a consequence inflation increased, reaching 15% in the third quarter of 1925 (Fratiannei and Spinelli, 1997, p. 136). The balance of trade also worsened: the nominal exchange rate in terms of dollars fell to 27.5. In February 1925, therefore, De’ Stefani had to reintroduce some limitations in the transactions in the foreign exchange market and entrusted INCE with the task of gathering information on the

⁴ For a reconstruction of economic and institutional events in interwar Italy see Toniolo, 1980; Zamagni, 1993.

⁵ Between 1913 and 1921 the value of the lira in terms of the dollar decreased from 5.27 (lit/USD) to 23.46; in terms of the pound from 25.71 to 90.17. For most of this period, however, the nominal depreciation of the lira was insufficient to offset the loss in competitiveness caused by the differentials in inflation between Italy and its trading partners (in particular, United States and Great Britain). As a consequence of that, between 1915 and 1918 and between 1920 and 1922 the real effective exchange rate of the lira actually increased (from 101.2 to 130, base year 1900, and from 74 to 96.6, base year 1929, respectively; Ciocca and Ulizzi, 1990). In 1919 and in the first half of 1920, on the contrary, nominal depreciation was so fast that real exchange rate actually decreased signalling an increase of the competitiveness of Italy (Cotula and Spaventa, 2003, p. 216).

amount of foreign credits and debts held by financial institutions and professional brokers (Raitano, 1995, pp. 296–297). In the second half of 1925 further measures aimed at curbing speculative capital movements were introduced by the new Minister of finance, Giuseppe Volpi, as a preliminary step for the stabilization of the lira (Guarneri, 1988, p. 210; De Cecco, 2003). In November Volpi was able to reach a settlement of the war debts with the United States and UK. This move, by removing legal obstacles to international loans, was followed by large inflows of foreign capital.

In the short run, however, following the collapse of the French franc, the lira was targeted by speculative attacks: during 1926 the nominal exchange rate of the lira had fallen to 153 relative to the pound and to 31.5 relative to the dollar, raising widespread concern among small savers in Italy and financial circles abroad. In a highly publicized speech delivered in Pesaro, on August 1926, Mussolini committed his government to an outright “defence of the lira”. This statement was followed by a centralization of issuing (the Bank of Italy was to become officially the only bank of issue of the country) and by severe credit restrictions. Nominal wages and some retail prices were also cut by 20% by decree. This determined a change of expectations and, in the following months, the nominal exchange rate between the lira and the pound rapidly decreased to 88–90. On 21 December 1927 the government officially pegged the lira to gold thereby adhering, similarly to most other European countries, to a gold exchange standard system⁶. The “gold content” of the currency was put at 7.918 grams per 100 lira; this implied a nominal exchange rate at 90 lire per pound and at 19 lire per dollar.

The reasons underlying Mussolini’s decision to proceed to a sharp revaluation of the lira and the consequence of this measure on the Italian economy were debated by contemporary commentators and have also been explored at length by economic historians and historians of economic thought (see Barucci, 1981; Bini, 1981; Cohen, 1972; Falco and Storaci, 1977; Marconi, 1982). It would appear that political considerations were probably dominant. The middle class, who was the most important constituency of the regime, had been severely hit by post-war inflation and was strongly in favour of any measure aimed at increasing the internal as well as the external value of the currency. Sheer prestige also played an important role: the exchange rate adopted in 1927 was roughly the same as that which had prevailed in 1922, when Mussolini had taken the power, enabling him to declare that, contrary to previous governments, his regime had been successful in defending the currency. The industrialists, especially those operating in the export sectors, were of course against “quota 90”: indeed, they actively lobbied to stabilize the currency at a higher nominal rate (120 lire per pound). They were

⁶ R. Decreto Legge 21/12/1927 n. 2325 “Per la cessazione del corso forzoso e convertibilità in oro dei biglietti della Banca d’Italia”.

however partially compensated by cuts in wages and taxes and by the introduction of import duties.

As predictable, in spite of all the efforts made by the government to cut wages and prices, the Italian economy had to face a remarkable reduction of its competitiveness: between 1926 and 1927 the real effective exchange rate of the lira increased from 95.5 to 105.9 (Ciocca and Ulizzi, 1990, p. 367). As a consequence, export decreased from 18.170 in 1925 to 15.519 million lira in 1927; during the same year, however, import decreased even more (from 25.879 to 20.375 million) and the result was a short run reduction of the trade deficit (from 7.335 to 4.856 million)⁷. The situation therefore appeared not particularly worrying, if we consider the fact that from the very beginning of the industrial take-off, at the end of the nineteenth century, Italy had to face a structural imbalance of her net exports, which were compensated by other components of her current account, especially remittances from his emigrants and tourism (Falco, 1995)⁸. During the Twenties remittances from emigrants actually decreased, but were counterbalanced by capital inflows resulting from loans contracted in the US financial market by Italian firms and municipalities. This implied an increase of Italy's foreign debt to a level which was considered excessive by the governor of the Banca d'Italia, Bonaldo Stringher. Therefore, already in 1927 new measures were enacted which requested the government's authorization as a precondition to take out new loans abroad (Storaci, 1989, pp. 298–299).

Already by 1928/29 circumstances changed: attracted by stock market speculation and by a remarkable increase in interest rates as a result of a restrictive policy inaugurated by the Federal Reserve, American investors were more and more reluctant to subscribe new loans abroad and indeed withdrew part of the funds previously invested in Europe. Some Italian investors, on the contrary, found it profitable to buy back the bonds in dollars issued by Italian authorities. Furthermore, one has to consider the flow of sums paid by the Italian government to the US and UK Treasury as a consequence of the arrangements concerning the loans obtained during the war (Hirschman, (1939), p. 166). Therefore, capital account turned negative, whilst at the same time trade deficit worsened, following a further reduction in export and a slight increase in import⁹. As a result, between December 1927 and December 1929 the reserves of the Banca d'Italia decreased from 12,105.9 million lira (in gold and convertible currencies) to 10,795.4. In spite of that, in March 1930 the Ministry of Finance was bold enough to officially

⁷ This situation proved to be only temporary; in 1928, following a bad wheat harvest, trade deficit increased to 7.456 millions of lira.

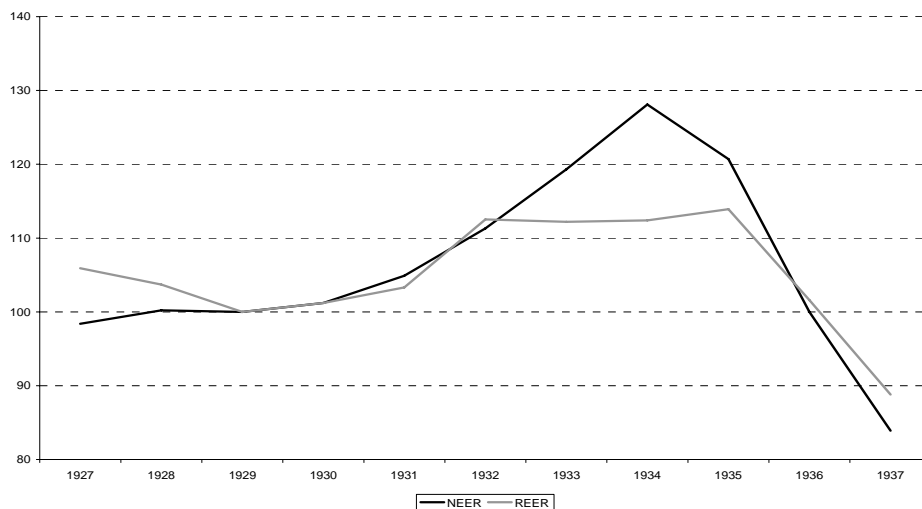
⁸ It is important to note that revaluation had serious consequences on financial stability of the firms: their debts increased in real terms and the value of their stocks decreased. As a result, their financial strength was compromised well before the onset of the Great Depression.

⁹ Net export deficit amounted to 7.476 millions in 1928 and to 6.536 in 1929.

abolish every form of control in the exchange rate market (Guarneri, 1988, pp. 262–263).

The onset of the Great Depression, together with the protectionist measures adopted by several countries, brought to a collapse the international trade; besides that, Italian competitiveness was severely compromised by the devaluation of the pound in 1931 and by that of the dollar in 1933: the real effective exchange rate of the lira went up from 101.2 in 1930 to 112.4 in 1934 (chart 1). Not surprisingly, in 1933 the nominal value of export was roughly one third of that in 1927. Import also shrank as a consequence of the recession and, as a matter of fact, between 1931 and 1933 trade deficit was lower, in nominal terms, than in the 1920s. Taking into account net transfers, current account was actually in surplus (Banca d'Italia, 1938, p. 114). However, the drain of the reserves of the Bank of Italy continued also in these years following adverse capital movements (table 2). Once more, these were mainly due to purchases of Italian bonds issued abroad: the market price of these securities had decreased remarkably and it became even more profitable for Italian investors to buy securities characterized by a very low risk of default and which guaranteed a high yield in dollars.¹⁰

Chart 1: Effective Exchange Rates of the Italian Lira (Index 1929=100)



Note: The rise of the index means appreciation, the fall means depreciation.

Source: Ciocca and Ulizzi (1990).

¹⁰ A positive side-effect of these adverse capital movements was that Italy's external debt substantially decreased (see Banca d'Italia, 1938, p. 114).

Even in this unfavourable situation the Italian government was resolute to defend the stabilization level decided in 1927. At the end of the London Conference in 1933, the Italian Ministry of Finance Guido Jung adhered to the Gold bloc by subscribing, together with the representatives of France, Switzerland, Belgium, the Netherlands and Poland, a pledge to defend the gold standard at the existing parities. Italy, declared Guido Jung on that occasion, “stabilized its currency to gold since December 1927 and (was) firm in defending the fixed exchange rate established at that time”¹¹. In order to improve competitiveness, the regime enforced two consecutive cuts in nominal wages in 1930 and 1934. In September 1931, after the devaluation of the pound, it imposed a 15% import duty.

It soon became clear, however, that further deflation had excessive economic and political costs. The fall of prices during the early 1930s had severely hit Italian economy: many firms were unable to reduce their production costs in the same proportion of their revenues and had to face serious losses, whilst the burden of their debt increased in real terms, threatening their stability. Already in 1933, Banca d’Italia had to increase circulation in order to bail out some leading banks (among them, Banca Commerciale and Credito Italiano) which in the previous decades had invested heavily in the industrial sector. The drop in prices had been particularly severe in agriculture, squeezing the incomes of the farmers. In 1934, furthermore, the balance of trade abruptly worsened as a consequence of an increase in imports and a further reduction of exports. The ensuing deficit (2.6 billion lira) had to be cleared utilizing the already depleted reserves of the Central Bank (table 2). Since foreign exchange holdings had been exhausted, its governor, Vincenzo Azzolini, had to mobilize for the first time the stock of gold kept in the vaults of the bank (Hirschman, 1939, p. 167). This proved to be a turning point and the government quickly reacted by imposing both systematic exchange rate control and quantitative import restrictions.

On 26 May 1934, a decree by the Ministry of Finance prohibited any transaction in foreign exchange except for the purpose of financing effective trade and industry requirements or for travelling abroad. Any purchase by Italian investors of stocks and bonds issued abroad, as well as export of banknotes and cheques, were also prohibited. In December, a further decree prescribed that foreign exchange obtained in payment for goods and services previously exported had to be sold to the Istituto Nazionale Cambi con l’Estero. Besides that, banks and firms had to offer to INCE and, once requested, sell to it, all foreign credits and assets in their possession. In the following months other measures were enacted, which enabled the government to take complete control of the exchange market. In particular, on 20 May 1935 a new department was created to coordinate and

¹¹ Quoted in Cotula–Spaventa, 2003, p. 300. “The Italian government”, added Jung in his speech, “maintains that wages and savings are sacred and that these are the only sound means to ensure economic growth”.

regulate, under the direct supervision of the Prime minister, the distribution of foreign exchange between firms (“Sovrintendenza allo scambio delle valute”). The new institution was directed by Felice Guarneri, former head of the economic research department of the Italian manufacturers association (Banca d’Italia, 1938; Assonime, 1940; Raitano, 1995).

Table 2: Reserves of the Bank of Italy and Reserve Ratios (million of lira)

Years	Reserves in gold	Foreign exchange	Total	Coverage ratio (%)
1927	4,547.1	7,558.8	12,105.9	55.5
1928	5,051.9	6,018.9	11,070.8	55.8
1929	5,190.1	5,151.2	10,341.3	55.1
1930	5,296.8	4,327.5	9,624.3	53.2
1931	5,626.3	2,170.2	7,796.5	47.6
1932	5,839.5	1,304.5	7,144.0	46.7
1933	7,091.7	305.0	7,396.7	49.9
1934	5,811.5	71.7	5,883.2	41.2
1935	3,027.2	367.4	3,394.6	19.5
1936a	2,338.5	37.1	2,375.6	x
1936b	3,958.8	62.8	4,021.6	22.4

Note: 1936a: lira 1927; 1936b: lira 1936, after devaluation.

Source: Banca d’Italia, Relazioni del Governatore, Tipografia della Banca d’Italia, Roma, 1927–1937.

In the years 1935 and 1936, these measures were confirmed and even reinforced in the face of an international policy decision whose ultimate result was the disruption of the financial stability Italy had reached during the 1920s. In October 1935, after several months of preparation, Mussolini attacked Ethiopia. For the Italian economy this meant at first a considerable increase in public expenditure and in internal demand which led to a considerable reduction of unemployment, whilst the reserves of the Bank of Italy were subjected to a further drain. Shortly after the war began, Italy was declared an aggressor country by the League of Nations and was subjected to sanctions which restricted substantially its ability to export and to import goods. This implied a further tightening of exchange control. On 29 December 1935, the Department directed by Guarneri, now denominated “Sottosegretariato di Stato per gli Scambi e le Valute”, took control of the INCE and of the “Istituto Nazionale Fascista per il Commercio Estero” (an authority whose aim was to promote Italian export) becoming *de facto* the leading centre for economic policy decisions. In 1937, it was transformed into a Ministry. Exchange rate control, writes Paolo Baffi, “became one of the main tools in the mobilisation

of resources to which the Italian economy was subjected for a whole decade (October 1935 to April 1945) by virtue of almost continuous involvement in military activities of greater or lesser importance” (Baffi, 1958, pp. 399–400).

As mentioned, starting from 1934/35, the government also introduced severe limitations on import (in the form of licenses, quotas etc.). Similarly to other countries, furthermore, it increasingly utilized bilateral clearing agreements as a device for circumventing the restrictive effects on international trade of quotas and exchange rate controls. The technique was the following: in each country, importers of goods made payments in local currency to an agency (in Italy the INCE). These sums were used to pay, again in local currency, the exporters (Assonime, 1942; Renzi, 1943). A key aspect was the choice of the exchange rate to be used in computing the value of trade in each country.). The first agreements were stipulated by the Italian authorities in 1932 and included countries which had imposed a strict exchange control: Austria, Germany, Bulgaria, Hungary, Yugoslavia, Romania, Chile, Argentina (Guarneri, 1988, p. 355). At the beginning their aim was quite a limited one: to defreeze the credits accumulated in the previous years by Italian exporters. In the second half of the 1930s, however, when the external constraint became more binding, an increasing proportion of international trade started to be regulated by bilateral clearing: in 1939 over 50% of Italy’s import and export was settled in this way (Tattara, 1991, p. 463). The most important agreement was that with Germany. Already at the end of the nineteenth century this country was a key trading partner for Italy, providing 12,2% of the latter’s total import and absorbing 16% of total export; Italy, on the contrary, played only a secondary role for Germany (the data are in this case 3,2 and 2,5 respectively; Tattara, 1991, p. 461). Furthermore, the trade balance was mainly against Italy¹². On October 1934, two years after the initial agreement mentioned earlier, a new and more comprehensive agreement was signed by the representatives of the two countries. It presented two innovative points: i) invisible items, particularly tourism and workers’ remittances, were included in the clearing as a measure to balance the structural deficit of Italy’s net export of goods; ii) 10% of the total value of German export to Italy had to be settled in hard currency paid to the Reichsbank. Similarly to other deals concluded by Italy in this period, the 1934 agreement was based on the principle of “delayed payment (waiting principle)¹³”: Italian exporters obtained the payment of the goods sold to Germany “within the availability of the remittances [...] arriving from the sale of German goods in Italy” (Tattara, 1991, p. 474).

After the 1934 agreement, Germany became quickly by large the most important export and import market for Italy. In the years from 1935 to 1939 it

¹² From the beginning of the century to 1930, the ratio of German imports to German exports had varied from 0,65 to 0,80 (Tattara, 1991, p. 475).

¹³ See part 3.

supplied nearly a quarter of the goods imported by Italy and bought 17,7% of the latter's export. During and after the Ethiopian war Germany became a key source of coal (30% of total import) and other raw materials¹⁴. In the same years, conversely, Italy continued to play only a secondary role for Germany, providing only 2,5% of its imports and acquiring only 4,9% of its exports. This disparity had serious consequences: as observed by several economists, when the trading partners in a clearing agreement are characterized by different economic strength and bargaining power, economic dependence and exploitation could ensue (Demaria, 1939; Assonime, 1942; Tattara, 1991). Indeed, after 1936/37, Germany, whose economy was the strongest in continental Europe, managed successfully to buy from the latter more than it exported to it. In this way German authorities were able to obtain two results: i) they borrowed precious resources which they needed for the war: "clearing balances claims", observes Yeager, "as long as they went unspent, represented forced loans to Germany from countries poorer than itself" (Yeager, 1966, p. 325); ii) by diverting Italy's purchases towards Germany's products, they increased the economic and political dependence of the former country. In order to help the Italian exporters who otherwise had to wait several months before getting their payments, INCE was authorized to emit warrants for the amounts due which could circulate as credit instruments. Therefore the principle of "immediate payment" (financing principle) was introduced, which had positive effects on internal economic conditions.

On 5 October 1936, following the collapse of the Gold bloc, the government devalued the lira by 40,93%, the same percentage adopted in 1933 by the US authorities. As a result, export increased substantially relaxing, albeit only in the short run, Italy's external constraint (Pavanelli, 1990). To check inflation some measures were adopted to put under control prices and rents and a 15% duty on import, introduced in 1931, was abolished.

Any hope of restoring the external and internal stability was however compromised by the increasingly aggressive international stance adopted by the regime between 1937 and 1939; this included participation in the Spanish civil war, the annexation of Albania, heavy rearmament. Predictably, this resulted in huge budget deficits, which were financed partly by issuing Treasury bonds and partly by an increase in monetary base.

From a macroeconomic point of view, the logical consequence of the increase in public expenditure and in private investments in the military sectors was a substantial worsening of the deficit in net exports. Given the political and military situation, however, no foreign country or international institution was ready to lend the resources Italy needed. Italy, furthermore, lacked the bargaining power

¹⁴ The import of manufactured goods from Germany, on the contrary, declined partly as a consequence of the "autarky", the program of national self-sufficiency promoted by Mussolini.

necessary to exploit clearing agreements in its own interest. At the same time the reserves of the Central Bank had already been depleted in the first part of the 1930s and during the Ethiopian war. Even if all available foreign currency was diverted, through exchange rate control, to buy the raw materials and goods needed to fight the war, external constraint posed an ultimate check on the military and political ambitions of the fascist regime and paved the way for its defeat.

3. Bulgaria: Stabilization and Long-lasting Exchange Control

The Balkan Wars and the First World War put a severe strain on Bulgarian economy and finance. Under the Treaty of Neuilly, Bulgaria had to pay a huge foreign debt and above all reparations which came to a quarter of the national income¹⁵.

Inflation (“expensiveness” – the term used by the Bulgarian economists at that time to describe price increases) was very high and also devalued the national currency. The trade balance between 1919 and 1929 was at a deficit except for three years, with the surpluses far too small to make up for the negative balance in the rest of the period (Svrakoff, 1941, [1936], p. 300). The stages of Bulgarian stabilisation followed the stabilisation processes in other countries logically and chronologically, featuring the peculiarities of the periphery and of developing countries in general (for details, see Koszul, 1932 and Ivanov, 2001). As in other European countries financial stabilisation was conducted in the context of orthodox monetary ideology which saw a stable currency and balanced public finances as the bases of economic development.

From its very beginning Bulgarian stabilisation was accompanied by a number of exchange controls and restrictions¹⁶. The Foreign Currency, Foreign Currency Receivables and Credit Trading Act was enacted on 12 December 1918. A week later, on 19 December, the Foreign Exchange Institute (*Kambialen institut*) was established with the main purpose of concentrating foreign currency inflows into the country and smoothing the very volatile exchange rate. The *Kambialen institut* having failed to improve the foreign exchange market (the exchange rate was subject to speculation and induced overall economic uncertainty), new exchange controls were put into practice. On 12 December 1923 the Foreign Exchange Act gave the BNB a foreign exchange monopoly. The foreign exchange market in Sofia closed and all bids and offers were directed at the BNB. The direct reason for this early form of exchange control was the depletion of foreign reserves, mostly denominated in Reichsmarks, by German hyperinflation in 1923.

¹⁵ For an extensive discussion on Bulgarian economic development in the 20th century, see Avramov, 2001.

¹⁶ A detailed overview of the various foreign trade restrictions and exchange controls in Bulgaria is provided by Ivanov, 2001, chapter 2.

Despite signing new trade agreements in August 1925 and introducing more protectionist tariffs in 1926, Bulgaria's balance of payments and foreign currency balances did not improve. The conventional methods of restricting imports and promoting exports were no longer efficient.

New measures enforcing the exchange control¹⁷ were introduced in May 1924, logically related with the *de facto* stabilisation of the Bulgarian lev. A 1926 law fixed the exchange rate at 139 leva to the U.S. dollar (the BNB bought a dollar for 137.20 leva¹⁸) and banknote cover was set at a third. In this case, exchange control genuinely fostered stabilisation which demanded foreign reserves (obtained in the form of a League of Nations' Stabilisation Loan) and balanced public finances with customs revenue a major item. A law of 22 November 1928 designated the BNB an independent monetary institution in the spirit of the international agreements.

Direct exchange market control invariably accompanied manipulation of the other two basic macro markets: imports and exports. Thus followed the 1928 Wine Export Promotion Act, the 1932 Grape Export Promotion Act and the 1935 Meat Export Promotion Act. In 1931, an Export Institute was set up, transformed in 1940 into the Foreign Trade Institute (*Institut za vunshna turgovia*)¹⁹. Alongside export encouragement, import restrictions were more often and more effectively used. It is interesting to point out that customs tariffs between 1918 and 1930 always involved administrative exchange rate manipulations. The customs exchange coefficient (the rate at which paper leva were converted into gold leva for the purposes of customs duties) was significantly different from the market rate. According to Toshev government managed to increase tariffs by 80% over just two years (1926 and 1927) through such manipulation.

¹⁷ A sharp speculative doubling of the lev was recorded in June (Nenovsky, 2006) which hit Bulgarian tobacco sales abroad. Two type of lev were introduced – home and foreign – with the home lev becoming foreign (and usable to pay for imports) only with BNB leave. This dual national currency was not a Bulgarian invention as can be seen from the example of Romania (Royal Institute of International Affairs, 1933, p.115).

¹⁸ On 24 March 1926 the bid rate became 138.80, falling to 138.50 on 24 September 1926 as the BNB tried to attract foreign capital by cutting margins.

¹⁹ In 1930 the Hranoiznos (Food export agency) was established and vested with monopoly powers to buy and trade cereals as a specific tool against deflation. Because of the negative price scissors between buying and selling prices, losses were accumulated and transferred to the budget. Initially half and then a quarter of the payments to farmers were in treasury bonds representing domestic government debt, which amounted to around 400 million gold leva (Berov, 1989, p. 465).

Table 3: Bulgaria: Customs (Import) Coefficients and Official Exchange Rate of the Paper Lev (1918–1930)

1918	1919			1920		1921		1922		1928	1930
15 XI	1 VII	15 VIII	1 XI	1 I	1 VII	1 I	12 X	1 VII	30 X	26 VII	3 VI
Customs coefficient											
2	2.5	3	5	6	7	9	12	14	15	20	27
Exchange rate of the paper lev											
1.66	4.22	4.22	6.05	8.2	8.96	13.5	28.2	29.94	32.3	27	27
Exchange rate of the paper lev/ customs coefficient											
1.2	0.59	0.71	0.83	0.7	0.78	0.67	0.43	0.47	0.46	0.74	1

Source: Toshev (1943, p. 67).

Exchange premia, introduced for a limited number of private deals in 1933 and broadening considerably by 1935, acted in the same direction of depreciating the lev, ‘circumventing the fixed exchange rate,’ loosening deflation, and enhancing the inflow of convertible gold exchange. By performing a ‘market-determined’ depreciation of the official BNB rate, exchange premia gave exporters the stimulus to export more at lower prices²⁰ (see box 1).

Box 1: Import Tariffs, Exchange Rate Premia and the Real Exchange Rate

Let us consider trade and exchange controls together, taking into account import tariffs and currency premia. If t is the tariff and φ is the currency premium (usually $\varphi \geq 0$, but it could be $\varphi < 0$, in the case of the Sperrmark in the Bulgarian private compensation market after 1935, for example), and considering the tariff as an addition to the foreign price level P^* (P is domestic price level), and the currency premium as an addition to the nominal exchange rate level e , the well-known formula for the real exchange rate e_r becomes:

$$e_r = \frac{e(1 + \varphi) / P}{1 / P^* (1 + t)} = \frac{eP^* (1 + \varphi)(1 + t)}{P}$$

The condition for real depreciation of the national currency (competitiveness gain) is:

$$(1 + \varphi)(1 + t) > 1 \quad \text{or} \quad t > \frac{-\varphi}{1 + \varphi}.$$

²⁰ Christophoroff (1939, 1947) provides a thorough description of the mechanism and role of the exchange premia. At the beginning they differed across currencies which put them closer to Ellis’ definition of multiple exchange rates as an exchange control instrument.

Returning to the international scene, efforts at monetary and financial stabilisation quickly yielded to the Great Depression which started in the USA and quickly reached Europe (first Austria, then Hungary, Germany and other countries). At that time countries used independent strategies to adapt to the crisis (Eichengreen, 1997, [1996]; Eichengreen and Sachs, 1985)²¹. Three blocks were formed: i) countries devaluating their currencies (United Kingdom (1931), the USA (1933), and Greece (1932)²²; ii) countries maintaining the gold standard, with France in the lead, and conducting strict deflationary policy to limit wages and prices growth; and iii) countries preserving parity and exercising exchange control (Germany, Italy, Hungary, Austria).

Bulgaria joined the third group, being sceptical of the foreign trade liberalisation measures recommended by the 1927 Geneva Conference²³. It is our general assumption that the reasons for Bulgaria's introducing exchange control and opposing devaluation and deflation²⁴ were as set out below:

First, Bulgaria was a debtor country which considered debt service a key priority (Leonidoff, 1966, 1969). In fact Bulgaria was an extremely diligent payer who pursued to preserve its reputation through debt service (Ivanov, 2004). Due to its political isolation after the First World War, however, its endeavours as a good payer were not recognised and it had to shoulder its liabilities with almost no relief (Ivanov, 2001, 2004)²⁵. In his speech marking the BNB's 50th anniversary, then-prime minister Andrey Lyapchev said, "one would be hard put to find quite such a young nation in quite such exacerbated circumstances as ours these past fifty years, yet one which can boast that it has ever occupied the position of an exemplary payer to its foreign creditors" (BNB, 2001, p. 135).

With respect to structure, Bulgaria's debt was denominated in gold backed leva and was mostly owed to non-devaluing countries²⁶. According to the Royal Institute of International Affairs (RIIA), "in Bulgaria it is almost certain that the

²¹ Many Bulgarian authors speak of a *collapse* of the world economy (Svrakoff, 1941, [1936], p. 310). A similar overview of the mechanisms of adaptation is given by Einzig: "Countries who do not resort to inflation ...do not put themselves in a position where it might appear advisable to have recourse to those measures comprised under the term Foreign Exchange Control" (Einzig, 1934, p. 9).

²² In late 1931, 16 countries preserved the gold standard, 12 had currency parity, and another 11 kept gold parity by restrictions on trading foreign exchange (Svrakoff, 1941, [1936], p. 312).

²³ In 1926, however, there was a partial reduction of restrictions. In spite of much comment on the decrease of trade and exchange restrictions, the Andrey Lyapchev government did not have the political will to act.

²⁴ Christophoroff also points out that exchange control is a way of "fighting deflation" (Christophoroff, 1939, p.12)

²⁵ Bulgaria continued to pay reparations in 1933.

²⁶ French claims on Bulgaria were about 26% of overall Bulgarian debt. Next in the creditors' list were Italy at 25%, Greece at 12.7%, and Romania at 10.55%.

transfer question has predominated” (1936, p.98) and the purpose of maintaining the currency on a gold basis “has presumably been to avoid an increase in the costs of the foreign debt service” (RIIA, 1936, p.129). Even before reparation payments began in October 1923, foreign debt service reached the amount of 112 million gold francs in 1918 to 1922: 16.3% of budget expenditure. Reparations under the 27 November 1919 Treaty of Neuilly were added to this, coming to 2,250 million gold francs at 5% annual interest over 37 years, plus occupation expenses. This represented a quarter of the national wealth. Sterling devaluation offered some relief to Bulgaria since its debt was predominantly in pounds. Debt service now accounted for 11% of budget expenditure; there was no great BNB asset loss since a comparably small amount of assets was denominated in Sterling (the Royal Institute of International Affairs, 1936). Summarising the opinions of many economists at the time, a hypothetical devaluation would certainly increase national debt burden, while any possible advantages would be marginal (Sarailiev, 1937, p. 27).

Second, the balance of payments constraints were particularly tight, and not only as regards foreign debt service. The prices of agricultural products, which accounted for the major part of Bulgarian exports²⁷, fell sharply on international markets and aggravated terms of trade. The September 1932 Stresa Conference which focused on possible assistance to Southern European countries (a major part of the so-called Agrarian Bloc) noted that the price drop reached 70% (Bonnet, 1933, p.21). A fund concentrating revenue from the sale of agricultural products to developed countries was proposed to be used as partial debt service (the United Kingdom vetoed it).

Third, systematic exchange control could be interpreted as a defence against restrictions introduced by Bulgaria’s trading partners. The farming price drop was combined with a number of restrictions on the import of agrarian products to Germany and France with a view to protecting indigenous farmers through economic and political means (Raupach, 1969). Turkey, an important Bulgarian trading neighbour, also introduced some limitations on Bulgarian imports. In April 1932 the drachma joined the devaluers’ club (Lazaretou, 2005) and Bulgaria lost its competitive and long-standing positions on the Greek market.

The fourth and direct cause of exchange control was the intensification of capital outflow from Bulgaria at the end of 1931. This followed the collapse of the fragile monetary and financial stabilisation of the late 1920s and Sterling devaluation. In addition to this global imbalance, Boshulkov (1927) provides a list of long-term domestic factors like the purge and confiscation of capital claimed to be illegally accumulated during the Wars, and political instability, which certainly contributed to decrease Bulgarian capital accumulation and foreign reserves.

²⁷ Romania faces similar problems: Madgearu (1939). For an overview of the economic situation for the Balkans in 1930s, see Royal Institute of International Affairs (1936).

Table 4: Selected Bulgarian Macroeconomic Indicators, 1927–1939

Years	Total reserves (mill of leva)	Coverage ratio (%)	Trade balance (mill of leva)	Budget balance (mill of leva) ¹	Years
1927	13,078	28.3	489		
1928	12,897	31.2	-810	347	1928/9
1929	8,984	42.2	-1,928	185	1929/30
1930	9,249	37	1,601	1143	1930/1
1931	8,620	36.6	1,274	-891	1931/2
1932	7,519	35.8	-88	-746	1932/3
1933	7,442	36	644	-233	1933/4
1934	7,278	35.3	287	-246	1934 (9 months)
1935	6,549	34.4	244	-278	1935
1936	7,158	33.8	729	283	1936
1937	8,196	31.9	34	642	1937
1938	8,250	31.8	644	510	1938
1939	11,677	29.9	868		

Note: ¹ Christophoroff (1939), p. 139.

Source: Statistical Yearbooks of the Kingdom of Bulgaria, (1934, 1937, 1941).

Systematic exchange control came into force in Bulgaria²⁸ with the 15 October 1931 Foreign Exchange Trading Act and BNB Ordinance No. 1 of 20 October²⁹. These instruments gave the BNB a strict foreign exchange monopoly, defining in great detail how foreign exchange was to be submitted to the BNB and how it could be dispensed for imports. Lists of luxuries whose import was limited began to be compiled and amended. To keep foreign capital in Bulgaria and halt depletion of foreign reserves, the BNB raised interest rates, in 1933 imposing further import restrictions. As other countries (including major trade partners Greece and Turkey) imposed exchange and trade constraints, the only reasonable way of letting foreign trade ‘go on’ was through bilateral clearing and even officially conducted barter (Ellis, 1947)³⁰. In a sense, exchange control was *unilateral*, while clearing – an instrument to overcome the disadvantages of exchange control – was *bilateral* with

²⁸ In June 1931 the Naroden Blok government came into office after the Demokratischen Sgovor.

²⁹ Also followed by Ordinance 4.

³⁰ A similar *going on* argument is stressed by Jacque Rueff (1966, p. 79).

some prospects of becoming *multilateral*³¹. Thus clearing followed exchange control as the latter inevitably hampered international finance and trade.

Bulgaria signed clearing agreements with Austria (October 1931), Switzerland (April 1932), Germany (June 1932), and Italy (1933). At first clearing covered a small share of foreign trade but soon became widespread and according to Michaely (1962) and Friedman (1976) occupied two thirds of trade turnover in the Thirties. Benham (1939) and Neal (1979) argue that Bulgaria, together with Hungary, was the country which used bilateral forms of international trade to their utmost, while being the sole country managing a fixed clearing exchange rate for the entire period of restrictions. In Michaely's calculations (Michaely, 1962, p. 691) Bulgaria ranked last in a sample of 60 countries, with bilateralism representing some 87% of its foreign trade in 1938 compared with an average of 70%. It is interesting to note that in successive rankings for 1948, 1954, and 1958, Bulgaria kept the last position, this time in the context of the Eastern bloc³².

Many authors like Friedman (1976, p. 117) shared the opinion that Germany was the logical clearing and bilateral partner for Central and Southern European countries (table 4) as a natural reaction against British and French tariff and non-tariff restrictions under which trade with Bulgaria was bound with foreign debt service³³. Moreover, Britain and France did not extend credit lines as did Germany and did not have similar markets and domestic demand. It was natural for the contraction of trade with France and Britain to be compensated partially by expanding trade with Germany and Austria.

Under clearing importers pay in their national currencies, depositing money with their central banks, while exporters get paid in their national currencies by their central banks. Settlement is at an exchange rate agreed in advance. At first glance, the country with a stronger or appreciating currency loses out by accumulating positive clearing balances which cannot be settled (for details see Neal, 1979) and thus attempts to increase trade outside clearing agreements.

The difficulties of clearing and the need for more flexibility prompted the appearance of a new institutional form of international trade: bilateral private trading with exchange rate premia; in 1933 compensation offices were established at chambers of trade. Bilateral private compensations were paid directly to importers in their national currencies.

³¹ This Nazi wartime project (1940–1942) was never put systematically into practice. In the case of Bulgaria trilateral agreements were used more after 1935 (see Christophoroff, 1939, p. 36).

³² Christophoroff (1939) provides his own calculations of this indicator.

³³ See for example the Royal Institute of International Affairs (1936, p.131). Heinrich Hunke, chairman of the Council for German Economic Encouragement underlined the differences between French/British and German Southern European policy in a 1942 Sofia speech which stated that trading with Germany had saved Southern Europe and the Balkans (Hunke, 1942, p. 16–17).

Table 5: Bulgarian Clearing and Non-Clearing Trade

Years	Export (shares, %)				Import (shares, %)			
	Clearing in total export	Germany in total export	Germany in total clearing	Non- clearing in total export	Clearing in total import	Germany in total import	Germany in total clearing	Non- clearing in total import
1934	78.97	48.05	60.84	21.03	78.3	48.87	62.43	21.7
1935	77.25	49.48	68.09	22.75	80.19	59.82	75.11	19.81
1936	69.44	50.53	72.78	30.56	81.7	66.67	81.58	18.3
1937	65.52	47.11	71.91	34.48	79.9	58.22	72.82	20.1
1938	77.24	58.86	76.21	22.76	74.02	51.43	70.22	25.98
1938a	71.68	51.49	71.78	21.4	74.74	54.1	72.38	25.32
1939a	72.81	59.43	81.63	27.19	80.89	61.04	75.46	19.05

Note: a – export/import data refer to the first five/four months of the year.

Source: Christophoroff (1939, p. 46., p.48).

Studying the clearing mechanism in more technical detail, however, reveals two forms of payment. The first implies that the foreign bank (the BNB in this case, providing there was a clearing surplus for Bulgaria) had Reichsmarks (Sperrmarks) at its disposal and paid to the importer in leva (*i. e.*, it bought Reichsmarks, called ‘blocked marks’), thus increasing Bulgarian money supply and income and hence driving up import demand. In this case the BNB supported the Reichsmark by not allowing it to depreciate. The clearing foreign exchange obtained from clearing here was on the asset side of BNB books. This was *the principle of immediate payment*.

The second form, described as the *principle of delayed payment* implied that Bulgarian exporters waited for the sale of German goods and then bought Reichsmarks with their blocked leva³⁴. In this case the BNB refused to buy blocked marks until they had been requested by importers of German goods. Until such request the Reichsmark depreciated on the Bulgarian market. In this case the holding of blocked Reichsmarks did not create money, being off-balance sheet.

According to the literature dedicated to the subject, the principle of immediate payment was advantageous to depressed Southern Europe because it was widely believed that expanding money supply would cut unemployment rather than lead to sharp price rises. According to Neal (Neal, 1979, p. 393) the bigger the clearing surplus and the higher the mark rate under the principle of immediate payment, the stronger the expansionary effect for Central and South European central banks. Thus Hungary, which adhered to the principle of immediate payment, experienced economic growth and an improving balance of trade. Romania, in contrast,

³⁴ For more details see Lindert and Kindleberger (1983, [1982]) and Kindleberger (1988, [1973]). Sometimes the two methods are termed the financing and waiting principles.

exercised the principle of delayed payment which impacted its economic development (Neal, 1979)³⁵. Bulgaria, as Hungary, applied the principle of immediate payment in clearing, and the effects on money supply expansion can be studied in balance sheet data (table 6). The increasing value of Other Foreign Currencies on the asset side of BNB books closely followed receipts of non-gold bloc foreign exchange from clearing and other agreements (BNB, 1999). The growth of this item was much faster after 1938 when huge positive balances in German clearing were recorded.

Table 6: BNB Balance Sheets 1928–1938 (Leva Millions)

Assets	1928	1930	1932	1934	1936	1938	1940
Gold and silver holdings ¹	1598	1879	1874	1900	2049	2586	2301
Receivables in gold foreign currencies (article 10 of BNB Law)	2736	481	92	26	0	0	4
Other foreign currencies	534	152	116	174	772	1279	2336
Domestic credit ²	5362	4267	3913	3724	4336	4829	8021
Treasury bonds	0	0	130	310	0	0	0
Other items ³	164	375	247	252	215	146	557
Total assets	10394	7154	6373	6386	7372	8839	13219
Liabilities							
Capital	500	500	500	500	500	500	500
Reserve funds	1149	1169	1191	1240	1241	1188	1207
Banknotes in circulation	4173	3296	2635	2449	2571	2800	6518
Deposits ⁴	3862	1817	1813	1872	2382	3707	3785
Other liabilities ⁵	637	287	203	277	546	443	937
Profit	71	83	32	48	133	202	272
Total liabilities	10393	7154	6373	6386	7372	8839	13219

Note: ¹ Gold and silver holdings including coins. ² Domestic credit comprises receivables from government, banks, commercial paper, and effects ³ Property and other assets. ⁴ Demand, time and other deposits by government and banks. ⁵ Liabilities in gold and other foreign currencies.

Source: Original balance sheet data from BNB (1999) 120 Years Bulgarian National Bank, p. 130.

In late 1939 exchange control was transformed from an instrument of stabilisation into a lever for marshalling war resources. The military logic of exchange control was apparent much earlier in Germany and Italy which in the late 1930s subordinated foreign trade to war needs. The final point in the relationships with Bulgaria for instance (and before that with Romania) was the 1940 clearing agreement (the BNB did not participate in negotiations because of its specific position) which was extremely slanted in favour of Germany (the Reichsmark rate was unfavourable, for one thing) allowing it to transfer resources from Bulgaria.

³⁵ As mentioned above, Italy later altered the delayed payment principle by immediate payment.

Since 1934, Bulgaria had scored positive clearing balances which were not covered either by import of machines and goods, nor by capital inflow from Germany. In principle Bulgaria exported agricultural products and imported commodities and industrial materials (table 7)³⁶.

Table 7: Share of Good Categories in Total Import (%)

Goods' categories	1921	1923	1927	1929	1931	1933	1935	1936
Commodities and raw materials (incl. fuels)	38.5	50.2	54.3	56.4	58.9	70.2	63.4	63.8
Final manufactured goods	59.6	48.1	43.3	41.1	39.2	28	34.9	34.4
Food and drinks	1.9	1.7	2.4	2.5	1.9	1.8	1.7	1.8

Source: Toshev (1943, p. 90).

In Bulgaria, as elsewhere, exchange control performed another function alongside monetary and financial stabilisation and balance of payments restrictions³⁷. Though considered only implicitly, this function was growing in importance. It entailed using exchange control to stimulate or restrict sectors and branches of the economy; according to Paul Einzig exchange control became a “weapon of commercial policy” (Einzig, 1934). Moreover, the League of Nations’ report on exchange control noted:

“... the control is now applied as an active instrument of commercial policy and for the further purpose of placing a barrier between world and domestic prices, so that monetary and general economic policies could be chosen and executed without regard to their effects on the balance of payments” (League of Nations, 1938, p. 22)

Though the initial reason for this kind of industrial policy was to limit expensive imports (thus the BNB argued in favour of importing commodities and materials rather than machines because the former were cheaper; BNB, 2004, p. 91), the necessity of protecting indigenous industry and cutting unemployment in time moved to the fore³⁸. In other words, exchange control and foreign trade restrictions in general (quotas and tariffs) obtained predominantly domestic functions. Economists often argued that “encouraged industry” (*nasarchena industria*) and overprotection hit consumers and general entrepreneurship since protecting

³⁶ Some economists criticise increased dependence on imported materials.

³⁷ Ellis (1947) describes the purposes (domestic and external) and instruments of exchange control in detail.

³⁸ The 1928 National Industrial Promotion Act provided various encouragements and duty waivers before losing effect partly due to exchange control in 1931. A new 1936 Act made customs regulations particularly important for protecting industry (for details see Toshev, 1943).

domestic production hampered competition and led to the rise of monopolistic domestic industries³⁹. In Toshev's opinion "the importance of international trade agreements was diminishing after 1932 with respect to domestic industry since another very effective instrument compensated for trade concessions, and namely BNB exchange rate policy" (Toshev, 1943, p. 85).

As a result of exchange control maintained throughout the Thirties, and of intensified trade with Germany, the lev rate appreciated gradually during the 1930s reaching 18.5% in 1937 in nominal effective terms with respect to the base year 1929 (Ivanov *et al.*, 2007) (chart 2)⁴⁰. The nominal effective exchange rate (NEER) calculated with exchange rate premia illustrates the path of an alternative devaluation or the market determined path of exchange rate development. Bulgarian exporters however, faced stimulating development of the real effective exchange rate which starts to devalue since 1930 due to the diverging inflation differential of the lower price level in Bulgaria with respect to the weighted price level of its main trading partners. Nevertheless, Bulgaria was unable to benefit from this competitive position due to universal foreign trade restrictions. Moreover, the agricultural price drop was so sharp and sudden that the increasing volume of export did not result in an increase of the value of total export. Therefore, the exchange rate premia applied to a limited number of private deals and estimated at a quarter depreciation of the officially maintained nominal exchange rate on average between 1935 and 1939⁴¹ had a smaller real effect (5.7%) and a very marginal effect on total exports⁴² development, if any.

³⁹ It is often said that increasing discrepancy between industrial and agricultural development translate into price scissors, different income levels, and hence wealth redistribution.

⁴⁰ Interestingly, arbitration calculations (across the Romanian leu) of Christophoroff generated some 20% appreciation of the Reichsmark against the Bulgarian lev after 1934, *i.e.* a mark was worth 25 leva while the official exchange rate was 33 leva (Christophoroff, 1939, p. 20).

⁴¹ Data available in the Statistical Yearbooks of the Kingdom of Bulgaria.

⁴² As a result general and particularly exchange restrictions became a focus of conflict between interest groups (industrialists, merchants, farmers). The course of the debate shows that little attention was paid to consumers. Simple evidence of this is the lists of goods subject to import restrictions, among which cobbling leather, sugar, cotton, wool, and others of definite interest to consumers. Charles Kindleberger (see textbook by Lindert and Kindleberger, 1983 [1982]), develops the idea of the redistributing effect of trade and exchange restrictions in detail.

Chart 2: *Effective Exchange Rates of the Bulgarian Lev (Index 1929=100)*



Source: Authors' estimates. For more details see Ivanov et al., 2007.

4. Theoretical Reflections and Discussion: the Macroeconomics of Exchange Control

Before proceeding with the analysis, it is important to point out that the theoretically postulated relationships we study are questionable in themselves due to the complexity of exchange controls. Moreover, empirical estimates are often far from conclusive, not only because of the lack of consistent disaggregated data, but also due to government interference at the micro level (estimates of centrally planned economies are similarly inconclusive). The complexity of exchange controls requires simplification; therefore the reasoning below addresses an 'idealised' exchange control model.

The studies of how exchange control was introduced and practiced in Italy and Bulgaria are eloquent examples of how serious the *balance of payments constraint* was at the time and how difficult it was to circumvent it.

Before the First World War the balance of payments constraint was overcome by the relatively automatic mechanism of the gold standard and the so-called *rules of the game*. Even when these rules were violated, the London financial centre and the Bank of England with other major central banks, allowed for the functioning of the Lender of Last Resort (LLR) on an international scale. The War, however,

destroyed this institutional framework and led to the formation of different political and economic blocs and the spread of political and economic nationalism. As pointed out, despite attempts to restore the pre-war situation, during the 1920s many European countries had severe current account and budget deficits and followed diverging political and economic objectives, independently or within a bloc. Under these new circumstances, exchange control can be interpreted as an example of the new economic paradigm which attributed an active role to government in the economy. We should remind the reader that before the War governments' and central banks' discretionary powers with respect to the exchange rate were rather limited and used under set extreme conditions, like wars.

Exchange control in Bulgaria and Italy, as well as in countries like Germany, Austria, and Hungary, was a specific alternative both to devaluation and to deflation, which for various reasons were much more economically and politically costly. In this context exchange control was a form of isolationism which protected domestic capital markets from international capital flows. Devaluation was unacceptable to countries which had experienced inflation and financial crisis, and which had just stabilised their currencies. What is more, most countries with exchange control (except Italy) had been defeated in the War and had considerable external liabilities. They were debtors who not only wanted to preserve their reputation as good payers but most probably also tried to extract maximum profit from their appreciated currencies. As currencies in which foreign liabilities were denominated (the pound Sterling, dollar, and French or Swiss franc) devalued, they decreased debt burden directly by automatic recalculation of foreign liabilities⁴³. Debtor nations wanted to preserve their reputation as good payers (Bulgaria) or among the electorate (Italy).

The balance of payments constraint was of course more binding in Bulgaria than in Italy. In Bulgaria the burden of foreign debt and the constraint of weak foreign reserves⁴⁴ were more intense⁴⁵. Its government, therefore, had to introduce

⁴³ In Heuser (1939, p. 26–27) “Although in general import restrictions are determined by necessity to defend the stabilized national currencies, the reasons slightly differ between debtor and creditor countries. For instance for debtor countries like Bulgaria, Greece, Romania and Estonia the constraint on the balance of payment is dominating, while there are also other reasons as important as the deterioration of the foreign trade balance in creditor countries”.

⁴⁴ According to Royal Institute of International Affairs Bulgaria was the country with the most extreme lack of capital and investment in Europe (Royal Institute of International Affaires 1936, p. 120).

⁴⁵ The choice of exchange control methods depended on other factors like contracts, political, and purely ideological reasons (Heuser, 1939, p. 48).

foreign exchange restrictions considerably earlier⁴⁶ and stabilized the level administratively: an early form of exchange control.

There is no doubt that the basic question is, to what extent exchange control as a form of government interference helps or harms macroeconomic stability and economic growth⁴⁷. Before answering it, however, let us first address some technical details of the exchange control mechanism which would help us to explain the main macroeconomic interrelations, and particularly the forms of control over the balance of payments and different types of clearing.

The methods of foreign reserve accumulation and exchange rate pegging could be classified into two types of balance of payments control. The first, trade control, involves indirect influence on the forex market through the basic markets determining foreign currency supply and demand, *i. e.* import and export markets for goods, services, and capital. The second, exchange control, involves direct control of the foreign exchange market by determining the volume of traded foreign currencies⁴⁸. In the first type, the volume of foreign currencies depends on import and export flows which are limited or enforced. In the second type we have the opposite: there is an *a priori* determined amount of foreign currency, once that necessary for debt servicing has been earmarked, and imports are constrained by this amount. The government further interferes directly on import and export markets to accomplish its goal of foreign reserve accumulation. Despite the fact that both mechanisms give similar long run results (both interfere with the efficient allocation of resources), we have to consider that direct control of the foreign exchange market is considerably more complex to enforce and has remarkably adverse overall effects⁴⁹.

Under trade control, *de facto* import control, two types of restrictions can be identified: price discrimination (tariffs and customs duties) and volume discrimination (quotas and barter). The former type fixes import prices above their equilibrium level by adding customs duties and tariffs and the volume becomes a function of this fixed price level. The latter fixes the volume (usually at a level

⁴⁶ As pointed out in Heuser (1939, p. 41) "... in the case of Bulgaria the chief control of imports has from the beginning been part of the general system of exchange control."

⁴⁷ Ellis (1940) provides an interesting exposition of exchange control theory and macroeconomic consequences.

⁴⁸ Technically, exchange control is a logical continuation of import tariffs and quotas which have failed to fulfil their purpose of improving the balance of trade (Kulicher, 2002, [1929] and Kindleberger, 1988, [1973]). Diminishing foreign reserves threaten stabilised national currencies and regular foreign debt service. Consequently, trade difficulties lead to the evolution of exchange controls from unilateral to bilateral clearing and on to private exchange barter and exchange premium (in the case of Bulgaria in 1935) in order to direct trade towards free currency countries.

⁴⁹ See international trade textbooks (for example Vanek, 1962; Lindert and Kindleberger, 1983, [1982]).

lower than equilibrium) and the price follows accordingly. The historical record proves that exchange control of the first type has not always accomplished its foreign exchange market aims because of the decentralized behaviour of importers and exporters.

Under exchange control the central bank can fix the supply of foreign currency directly. Thereafter, if the goal is to boost foreign exchange supply, exchange premiums are an appropriate instrument. A violation of the static foreign exchange monopoly, they allow for some very limited flexibility of the legally fixed exchange rate with the sole purpose of stimulating export. In principle, once the volume of foreign exchange and the exchange rate are given, the next logical step is to control imports and exports totally through leaves and licenses; hence goods markets become a function of a predetermined foreign exchange market equilibrium. There is little doubt that this form of exchange control is considerably stronger and entails a more substantial violation of the market mechanisms for the efficient distribution of scarce resources. It is also more difficult to maintain, as evidenced by the black market in currency, smuggling, corruption, and other forms of lawbreaking exemplified by the case of the two Italians in Bulgaria.

The other technical detail concerns clearing. We shall take the example of Interwar Bulgaria and try to narrow things down to the role of clearing with Germany in the development of the Bulgarian economy after 1932⁵⁰. There are different opinions about the German impact on Southern Europe, from unqualified support of clearing to the opposite extreme of its total denigration alongside accusations of German exploitation.

Here we would like to remind the reader the scheme of clearing (chart 2) which we discussed in section 2 (the immediate payment or financing principle, and the delayed payment or waiting principle). G stands for the German central bank, B is the BNB, X_B is Bulgarian export to Germany, X_G is German export to Bulgaria or Bulgarian import from Germany, and M is additional monetary flow created by the Bulgarian central bank due to the clearing surplus (in our case 90). In the case of immediate payment (the financing principle) applied in Bulgaria (the same as in Hungary and later in Italy) as a result of the positive clearing surplus [X_B (100) > X_G (10)], domestic money supply automatically expands (the clearing surplus is multiplied by the clearing exchange rate (assumed at unity⁵¹).

Under this financing principle the central bank bought the receivables from its exporters at the fixed clearing exchange rate. Under the other postponed payments principle (as employed in Romania)⁵² the central bank waited for the counterparty to settle the clearing balance, hence the positive surplus was not immediately

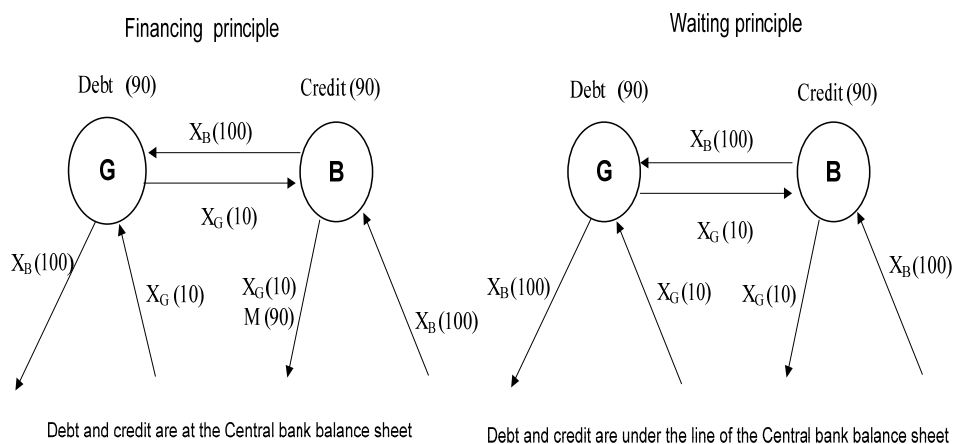
⁵⁰ Details about the interrelations between the dynamics of the Bulgarian and German economies see Christophoroff (1939) and also Fisher (1939, p. 154).

⁵¹ In the real Bulgarian case the rate was 1RM = 33 leva).

⁵² See for instance Neal (1979).

monetised and there was no monetary expansion at home. In the first case, the positive surplus appeared as debt/credit respectively on the books of the German central bank and the BNB. In the second case there was no additional monetary creation and the clearing debt/credit position was not on the books but below the line (off-balance sheet). In this waiting principle the clearing surplus (90) had a depreciating effect on the mark (as mentioned by Larry Neal)⁵³.

Chart 3: Two Methods of Clearing



First, we note that clearing substantially impacted money supply and price levels. As noted above, due to the specific method of clearing with Germany (in contrast with, say, Romania)⁵⁴, Bulgaria maintained a flat clearing rate of 33 leva to the mark. The positive clearing balance Bulgaria accumulated led to the expansion of money supply and inevitably to price and income increases, and consequently to economic expansion. This scenario has positive features given the fact that the 1930s deflation had severely hurt agriculture⁵⁵. This expansion through the

⁵³ In this case we could assume the clearing rate to move from 1 to around 0.1, *ceteris paribus*.

⁵⁴ Romania tried several times to renegotiate its clearing rate with Germany.

⁵⁵ Interestingly, in the financing principle adjustments are realised by price levels, whereas in the delay principle by the fluctuating Sperrmark rate. Thus in Bulgaria domestic price rises due to monetary expansion cut Bulgarian competitiveness in Germany, *i. e.* they reduced mark appreciation. In Romania there were no price rises but the Sperrmark depreciated in the Romanian market. When the waiting period ended the Sperrmark rose

immediate payment method can be accommodated within the overall German *contagion* of the Bulgarian economic cycle as described by Christophoroff (1939).

As the National Socialists came to power in Germany in 1933, the economy was experiencing credit growth and expansion of government spending. This logically followed the 1932 clearing agreement between Bulgaria and Germany and the consequent BNB departure from strict deflationary policy and the introduction of exchange premia in mid-1933.

The actual development of the Bulgarian cycle (see Christophoroff, 1939) confirms the above logic of exchange control development. In a comparative perspective, Larry Neal (1979)⁵⁶ argues that the different methods of payment explain higher Hungarian growth in contrast with the difficulties faced by Romania. Paul Einzig (1955) describes the different mechanisms by which Germany first exported inflation to Southeastern Europe and then pursued deflation at home. Germany accumulated positive clearing balances and used the financing principle nations (Bulgaria and Hungary) to finance German economy by inflation or devaluation. Therefore it was against the German interest to introduce the mark into Southeastern Europe as this would deny it the inflation/devaluation levers. (Interesting parallels could be drawn with the present refusal of older eurozone countries to put the euro into circulation in new accession states.)

Second, we note that exchange control in clearing influenced the real exchange rate and overall national terms of trade. Despite the many difficulties in calculating terms of trade in the framework of clearing and exchange control (see Neal, 1979, Friedman, 1976, and Tattara, 1991), there is consensus among researchers that German terms of trade developed unfavourably for Southern Europe (*i. e.*, the ratio of export prices to import prices fell). This is supported by the overvaluation of the Reichsmark in clearing exchange rates⁵⁷. Under these circumstances immediate payment and hence money expansion in clearing creditor countries (*e. g.* Bulgaria) postponed real Reichsmark appreciation against the lev and boosted lev appreciation against the Reichsmark. In a sense, this was a compensating

to approach its previous level. We could also assume that the financing principle affected Bulgarian competitiveness not only in Germany but also elsewhere, prompting exchange premia to stimulate trade with free currency countries. Neal (1979, p. 400) saw financing principle countries as being politically closer to Germany.

⁵⁶ Friedman (1976) tries to measure the welfare benefits and the losses for Hungary clearing with Germany, comparing the term of trade in the clearing area and outside the clearing area and comparing the deferent export elasticity for the two areas.

⁵⁷ The problem of the overvalued Reichsmark was solved by private clearing agreements within Germany through the flexible exchange rate of the ASKI marks and through the mechanism of Sperrmarks (see Neal, 1979).

mechanism in the context of trade flows between Bulgaria and Germany given the fact that both sides opposed devaluation⁵⁸.

As a whole we dare argue that exchange control and clearing in particular stimulated the Bulgarian economy under the circumstances of global deflation and international trade restrictions. Importantly, exchange control was also significant for national industrial development which falls outside the scope of this paper.

Third, we note that Italian and Bulgarian balance of payments restrictions could be interpreted in the light of the well known saving/investment equilibrium in an open economy. If we assume that private saving is constant, an increase in the budget deficit and/or private investment has to worsen the balance of trade. Naturally, the aggregate approach presents some methodological and analytical problems. However, it is correct to point out that both countries' trade deficits were caused not only by the price drop of agricultural products in the early 1930s (more for Bulgaria than Italy) but also by the considerable increase of public expenditures later in the decade in preparation for war (more for Italy than for Bulgaria). Mussolini's ambitious imperialism has been studied at length (cf. among others De Felice, 1981; Miller and Kagan, 1997); Bulgaria also had its Balkan ambitions as a prospective German ally. Increasing public expenditures since 1934, however, were counterbalanced by great efforts to attain surpluses from 1936 (Christophoroff, 1939, pp. 100–105). This line of reasoning shows Italian and Bulgarian exchange control as an instrument of government interference, nationalisation, militarisation, and economic isolation.

Fourth, we note interesting parallels between the 1930s and today's Italian and Bulgarian economies and that of the European Union.

The First World War caused a sudden collapse of the world economy. Money supply, relative prices, and the structure of the balance of payments irreversibly changed. New social and political subjects appeared whose interests were related to those of the debtors and those who opposed deflation. Money became fiduciary, while capital movements dominated the balance of payments. Failure to revive the pre-war situation and the Great Depression accelerated national isolation and war preparations. This line of reasoning shows exchange control as an organic element of the closed economy. At the beginning it was viewed as an alternative to

⁵⁸ It is interesting to note that the main principles of proposed clearing system as a general form of building the international financial relations is later on again put forward by Keynes (even if not explicitly stressed by him) as a part of his plan for reforming the international financial system after the Second World War (Dam, 1982, Triffin, 1969, [1968]). In his plan Keynes explicitly shares his conviction that a balancing mechanism is feasible in the frameworks of a global clearing, and his wish for this mechanism to be relatively symmetric (in contrast to the Gold standard). This means part of the burden to be spread among the creditor. In a sense, Keynes proposal is confirmed that the exchange control is a weapon used by debtors, regardless of whether they are producers, consumers or whole countries.

devaluation and deflation and a way of overcoming the balance of payments constraint; in time it became an instrument for mobilising war resources. In this aspect Italy and Bulgaria followed similar trajectories: both were forced to opt for isolation and exchange control as an alternative to devaluation and deflation.

Today Italy and Bulgaria are members of the EU which, at least (theoretically), is a framework for avoiding economic isolation and war in Europe. In a sense, the balance of payments constraint, which was felt at the national level, is now partly transferred to the European scale. By adopting the common currency Italy cannot any longer improve its competitiveness through devaluation, while the currency board in Bulgaria (which is not a euro area member yet) commits it to low inflation and restrictive fiscal policy. Today as in the Interwar, European economies can prosper in the long run only by adopting healthy fiscal and monetary policies and increasing productivity. Yet, unlikely as economic isolation and autarchy may appear, we should remember that these pathologies were also unlikely at the beginning of the twentieth century.⁵⁹

5. Conclusions

We can summarise the main results of our study: first, the Interwar exchange control resulted from balance of payments constraints which were particularly severe for peripheral and semi-peripheral countries given the collapse of the world economic and monetary equilibrium. During the 1930s the relatively automatic mechanism of the gold standard and the LLR functions performed by the Bank of England and central banks in the financial core no longer existed, while ideas of a global LLR like today's IMF were nascent. The League of Nations lacked the authority to restore pre-war financial relations and implement a new system.

Second, peripheral and semi peripheral countries like Bulgaria and Italy, which had a long record of poor discipline and lacked good monetary management traditions, preferred fixed exchange rates which symbolised monetary stability and enhanced credibility. For this they needed foreign reserves which, however, rapidly decreased through balance of payments deficits. The latter were caused mainly by dramatic drops in farming prices, capital outflows, and later by costly rearmament (in particular in Italy). Moreover, most countries opting for exchange control (Italy was an exception), had been defeated in the War and laboured under a heavy debt burden.

Third, the exchange control bloc included countries with similar problems, similar preferences and characteristics. Together with the Sterling bloc (which included Great Britain and its colonial system) and the Gold bloc (with France at the head), the exchange control bloc, with Germany at the centre, had its own basic equalizing mechanism. From a technical point of view the exchange control can be

⁵⁹ See Fromkin (2004), Frieden (2006).

seen as an alternative strategy to devaluation (pursued by the Sterling bloc) and to deflation and wage decreases (pursued by the Gold bloc). At a more disaggregate level, when we study the techniques of the exchange control, we find several details (like exchange premiums for example) which are *de facto* in conflict with the fixed exchange rate principles.

Fourth, our study of exchange control reveals interesting macro interrelations. While there is some obvious macroeconomic asymmetry within exchange control countries (in fact there was a similar asymmetry during the pre-war classical gold standard), we observe certain equilibrating processes with respect to the main macroeconomic parameters and in foreign trade. Of course, such processes could only be regarded as secondary. There is no doubt that exchange control was a serious interference in market mechanisms. Furthermore, history shows that exchange control was characterized by corruption and political favouritism and had strong distorting redistribution effects: it tended to favour certain groups which were connected to the authorities in one way or another. These microeconomics and sociological aspects, however, constitute a new chapter of this complex story.

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Central Banking in 19th Century Belgium: Was the NBB a Lender of Last Resort?¹

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Abstract

The creation of the National Bank of Belgium (NBB), in 1850, marked a fundamental reform of the Belgian financial system. It clearly aimed at rendering the financial system more crisis resistant, especially by restricting the leverage of the banking sector. The NBB, which received the privilege to issue banknotes, was subject to strict rules to grant only short-term credit against collateral. The NBB took up a key role in maintaining monetary stability, especially by safeguarding the convertibility of banknotes. The NBB also took part in certain rescue operations of financial institutions. However, this was mostly on explicit demand from the Finance Minister and for crises concerning discount banks. It would then be an exaggeration to consider it as a Lender of Last Resort, in the sense of taking responsibility for the stability of the financial system. This should be no surprise, given the limitations imposed by its statutes, especially the limitation to short-term credits and the strict rules on collateral, the role of the profit motive in its commercial activities and the priority for safeguarding the convertibility of banknotes.

Key words: National Bank of Belgium, financial stability, financial crisis, lender of last resort

JEL codes: E50, G28, N23

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1. Introduction

It is now commonly accepted that modern central banks have two main objectives: monetary stability and financial stability. There is further a broad consensus that the objective of monetary stability is better defined than the objective of financial stability. Moreover, also our historical knowledge, at least with regard to Belgium, is much better concerning the history of monetary stability and the role of the National Bank of Belgium hereby. So remarked Capie (1999, p. 130) on the creation of the NBB: *"The principal objective was the maintenance of convertibility, but of almost equal importance was its role as banker to banks, and it seems that an intention from an early point was that it should act as a lender of last resort. Evidence on how this worked remains limited"*. It is the aim of this paper to explore the role of the NBB in the financial crises of 19th century Belgium.

The paper starts with some observations on the notion of financial stability and 19th century Belgium. Thereafter, the analysis is strongly chronological, going through the different financial crises. It starts with the crises of 1838 and 1848, which led to the creation of the NBB, a fundamental reform of the Belgian financial system. The next section then analyses the role of the NBB in monetary stability, while the two following sections discuss the role of the issue bank in financial stability.

2. Some Observations on the Notion of Financial Stability and 19th Century Belgium

There is a broad consensus that financial stability is one of the more difficult and elusive concepts in economics². The general impression is that the literature does not provide an unambiguous definition of financial stability (Oosterloo and de Haan, 2004). However, there is also a large consensus that there are reasons for caring more about stability in the financial sector, especially banking, than in any other industry (Lamfalussy, 1988). First, banks are highly leveraged institutions, with long-term assets and short-term liabilities. So they are more vulnerable institutions. Second, the failure of individual financial institutions can lead to chain reactions within the system because of the strong links tying institutions to each other. The speed at which funds can be shifted and the role of expectations are important elements hereby. Third, as a result of the central place of financial institutions in the mechanism of credit allocation and in the payments system, whatever happens within the banking world can have far-reaching consequences

² Houben, Kakes and Schinasi, 2004, provide an overview of definitions of financial stability.

for the real economy. In this section, we would further like to highlight certain elements of financial stability which were relevant for 19th century Belgium.

It is generally accepted that monetary stability is a necessary condition for financial stability. Indeed, it is important that money fulfils its key functions, as disturbances on the monetary front generally lead to problems in the financial system. During most of the 19th century Belgium adhered to bimetallism. However, an assessment of the functioning (or disfunctioning) of the metallic monetary system falls outside the scope of this paper³. From our perspective it is important to point out that banknotes gradually became more and more accepted. The convertibility of banknotes became so an important element of monetary stability. In the 1830s and 1840s several banks obtained the right of issue. However, there were several banking crises whereby the convertibility of the banknotes was suspended. In 1850, the Finance Minister, Walthère Frère-Orban, succeeded in pushing through a major reform. The note issue was unified and it became the responsibility of the newly founded National Bank of Belgium. Also, in 1873, the notes of the NBB became legal tender. Safeguarding the convertibility of banknotes into specie was a key function of the NBB in 19th century Belgium. With the exception of one major crisis in July 1870, caused by the threat of war between France and Prussia, the NBB always accomplished this mission.

While monetary stability is generally considered to be a necessary condition for financial stability, it is certainly not a sufficient condition. Financial crises can occur also in periods when money is stable. Especially important hereby are banking crises. Banks can run into trouble both because of liquidity and of solvency problems. Liquidity shocks have typically their origin in the withdrawal of deposits by customers, while solvency shocks arise from losses on (long-term) investment of the banks.

Naturally, financial stability is an important concern for policy-makers (Maes and Périlleux, 1993). In the modern day literature, one distinguishes two main objectives: the protection of small depositors and the avoidance of a systemic crisis. However, defining a systemic crisis is not simple. Broadly speaking, one could characterize it as a situation whereby a crisis in the financial sector has a large scale impact on the real economy (Lamfalussy, 2004).

For safeguarding financial stability, typically, two types of activities are distinguished: (a) *ex ante* preventive actions, especially regulation and supervision, which make it less likely that crises will occur, and (b) crisis management, especially the identification and resolution of crises (EFC, 2001, Eichengreen, 2002, Mayes, 2004, Vaillant and Amouriaux, 1998). Naturally, 19th century Belgium did not know anything like the present-day regulatory and supervisory framework. However, Frère-Orban's reform of 1850, whereby the NBB was created, clearly aimed at rendering the financial system more crisis resistant,

³ For more details, see e.g. Kauch, 1950 or Janssens, 1976.

especially by restricting the leverage of the banking sector. The NBB, which received the privilege to issue banknotes, had strict rules to give only short-term credit against collateral. Also, the financing of the government was strictly limited. The Société Générale, the Banque de Belgique and other banks continued to have participations in industry, but their financing became less short-term based as they lost the privilege to issue banknotes. However, in the following decades, the investment banks developed new forms of short-term financing, increasing so again the leverage in the financial system.

Managing a crisis in a financial institution raises many issues. Crucial questions are: Who takes the lead in the crisis operations? Should the bank be saved or can it go bankrupt? What will be the role of bank mergers and restructurings in a long-term viable solution to the crisis? What kind of (temporary) construction will be set up? Who will be financing the rescue operations and paying for the losses? In this paper we will focus on the different institutions involved in dealing with banking crises in 19th century Belgium, especially the role which the NBB played in crisis management.

So, several institutions can have a role in dealing with banking crises: the government, the central bank, prudential authorities and private banks. Firstly, the government will be involved. Indeed, the government has the ultimate political responsibility for financial stability in a country. Moreover, many financial crises are solvability crises and only the government (the taxpayer) has the “deep pockets” which are often necessary to solve solvability problems. We will see that in 19th century Belgium, the government, especially the Finance Minister, often played a leading role in dealing with banking crises. Like in many other countries, specific prudential authorities were only created in Belgium in the 1930s, after the severe financial crises of the Great Depression.

Also private banks were often involved in the resolution of banking crises. This is especially so in so-called “lifeboat arrangements”, whereby a group of banks come to the rescue of a specific institution.⁴ In 19th century Belgium, several times, consortia were created to help an ailing bank. In several instances the Société Générale, the biggest bank in Belgium, played an important role in these. Sometimes the NBB was a member of the consortia, but on several occasions it did not participate.

In the academic literature a lot of attention has been given to the “Lender of Last Resort” role of a central bank. According to the “classical” view, associated with Thornton and Bagehot, a central bank should be ready to supply credit to banks to stop a banking panic⁵. The so-called “Bagehot principle” has become

⁴ This becomes more difficult now, as competition is increasing and shareholders become more assertive.

⁵ Following Goodhart (2002, p. 231), we consider a general liquidity shock as a monetary disturbance (cf. *supra*). It can be countered by the central bank by providing more (or less) liquidity to the market as a whole, presently typically by open market operations.

famous: *"lend freely at a high rate of interest against good collateral"*. In the present day literature one refers often to "emergency liquidity assistance (ELA)", which a central bank can give to a financial institution in difficulty.

Capie (1999, p. 118) defines the lender of last resort role of a central bank as *"the preservation of financial market stability"*. Taking this view, giving priority to the long-term interests of the financial system as a whole, implies also that the central bank cannot aim any more at the short-run maximization of its profits and has to stop being a rival of the commercial banks (Capie and Goodhart, 1995, Goodhart, 1988). Indeed, if a commercial bank would get into difficulty, a conflict of interest would arise for the central bank, as allowing the commercial bank to fail (or at least to suffer), would make it possible to capture more business for itself.

Naturally, in the academic literature, there have been many discussions on the concept of a Lender of Last Resort (see e.g. the contributions in Goodhart and Illing, 2002 or Humphrey, 1992). Many of these discussions centre on the problem of "moral hazard", which lending of last resort might entail, as banks might be induced to take more risks. An important issue is then how one should weigh the benefits of preventing a banking panic against the costs of inducing riskier activities. Another important problem is that the distinction between solvency and liquidity problems is less than clear-cut. This distinction between solvency and liquidity problems, is especially relevant for 19th century Belgium. Given the dominance of mixed (or universal) banks, with participations in industry, solvability problems were a typical source of banking crises in 19th century Belgium.

3. The Creation of the National Bank of Belgium as a Cornerstone of Financial Reform

3.1. The Crisis of 1838: the Government Comes to the Rescue

In the early 1830s the Belgian Société Générale⁶ became the first mixed (or universal) bank in Europe. It not only issued paper money, provided discount credit for commercial purposes and operated a savings bank, but it also participated intensively in the share capital of manufacturing corporations (Laureyssens, 1975; Kindleberger, 1993). Soon the Société Générale completely dominated the banking landscape in Belgium. This created a lot of animosity, the more so as the institution was suspected of favouring a return of the Dutch House of Orange. So, in 1835, Belgian patriots set up a rival institution the Banque de Belgique, which was

⁶ The official name was 'Société Générale pour favoriser l'industrie nationale'. It should not be confused with its French namesake. The Société Générale was founded in 1822 by King William I of the United Kingdom of the Netherlands, in 1830 Belgium became independent.

granted a range of functions comparable to that of the Société Générale, including the right of issue.

In the following years both universal banks competed fiercely and tried to gain as much control as possible over Belgian industry. Money poured abundantly into heavy manufacturing which gave the industrial revolution in the Walloon provinces a powerful impetus. But by doing so the two banks ran serious risks as their working capital became rapidly tied up in claims that were difficult to realize in crisis periods, such as shares and camouflaged long-term loans. Moreover, their liabilities – mainly banknotes and savings deposits – could be converted or withdrawn at short notice (see table 1).

By the end of 1838 military tensions between Belgium and the Netherlands flared up again. Panic broke out and the public demanded repayment of deposits and the conversion of banknotes into gold and silver coins. Both the Société Générale and the Banque de Belgique soon faced serious liquidity problems because of their imprudent investment policies. Share prices for instance plummeted, thereby slashing the value of the banks' participations in industrial corporations.

On 17 December 1838 the Banque de Belgique, the second largest financial institution of the country, was no longer able to redeem its banknotes. The bank called the government for financial aid, but in vain, and had to close its doors. Troops had to be deployed around the Banque de Belgique to prevent it from being plundered by angry depositors (Brion and Moreau, 1998). Of course, these dramatic events increased the pressure on the Société Générale. But the Société Générale managed to meet its obligations, as it was able – with the help of the Paris Rothschilds – to sell foreign assets on the French capital market (Gille, 1961).

Gradually it became clear that the suspension of payments by the Banque de Belgique would provoke a wave of bankruptcies among the manufacturing firms it controlled. Fear for social unrest in the industrial areas prompted the government to grant a loan of 4 million Belgian francs to the Banque de Belgique (*Moniteur belge*, 28 December 1838 and 2 January 1839). The government acted thus *de facto* as lender of last resort. In return, the manufacturing corporations controlled by the Banque de Belgique had to take up mortgages, which were handed over to the government as collateral. On 4 January 1839 the Banque de Belgique resumed its operations.

*Table 1: Balance Sheet of the Société Générale and the Banque de Belgique
(end of 1838, in millions of Belgian francs)*

Main items	Société Générale	Banque de Belgique
<i>Assets</i>		
1. Cash on hand ^a	24	1.2
2. Discounts	8	3
3. Loans and overdrafts	58	20
4. Government bonds	24	-
5. Loans on securities ^b	63	11
6. Corporate securities	40 ^c	3
<i>Liabilities</i>		
7. Bank notes ^d	27	3.5
8. Current accounts	30	12
9. Savings deposits	46	1
10. Bonds and notes	20	2
11. Capital	65 ^e	20
12. Surplus	24	-

- Notes: a Includes some bank notes issued by the banks themselves. See note d.
b Collateral consisted almost exclusively of shares of industrial corporations promoted by the banks and, in what concerns the Société Générale, in shares of the bank itself.
c Includes some shares of the Société Générale itself.
d This item does not represent the notes in circulation; a part of the notes were held by the banks themselves and is included in "cash on hand". The actual circulation was less than 20 millions.
e A part of the shares, included in the assets under item 6, has not been actually issued.

Source: Chlepner, 1943, p. 12.

The whole affair produced a shockwave through Belgium. What the Société Générale was concerned, the value of banknotes in circulation fell by more than 50 percent and the amount of savings deposits dropped by almost 40 percent (*Compte rendu de la Société Générale. Année 1838*). For obvious reasons the Banque de Belgique suffered even worse. At a certain moment its banknotes virtually disappeared from circulation.

But the effects of the crisis did not remain confined to the big banks and their depositors. The most dramatic event was undoubtedly the bankruptcy of John Cockerill's vast industrial empire (Lebrun et al., 1981). Moreover, in previous years many small bankers had become accustomed to rediscount bills of exchange at the Banque de Belgique or the Société Générale. At the peak of the crisis however this source of liquidity dried up. When the Banque de Belgique had to close its doors, the Société Générale also suspended its (re)discount operations. As a result, several local banks went bankrupt and a severe credit crunch paralyzed the

economy. Therefore the business community demanded the establishment of a specialist discount house, supervised by the government that would maintain (re)discount facilities in periods of financial turmoil (Chlepner, 1926).

Despite the catastrophic impact of the 1838 financial crisis few structural measures were taken. The government did not set up a specialist discount house and the system of universal banking was not changed dramatically. Probably the close ties between some top bankers and the Belgian political elite blocked serious reforms. Despite continuous lip service the Société Générale did not improve its liquidity position in a substantial way. The bank, for example, still used savings deposits to finance capital injections in industrial corporations. The battered Banque de Belgique drew some lessons from the crisis and stopped adding new firms to its investment portfolio. It decided to focus more on short-term operations.

3.2 The Crisis of 1848

The February Revolution in Paris provoked a new wave of panic in Belgium. To the great anger of the business community the (re)discount activities of the two big banks once again came to a halt. This time however it was the Société Générale that faced the most severe liquidity problems. In a few weeks time the value of its banknotes in circulation fell by more than one third (*Compte rendu de la Société Générale. Année 1848*).

When the French government suspended the conversion of banknotes in coins, the Société Générale requested the Belgian authorities to do the same⁷. But the bank realized that parliament would only approve such a drastic measure if action was taken to revitalize the (re)discount market. Therefore the Société Générale proposed the establishment of a specialist discount house, supervised by the government⁸. The bank's request did not mention that such a measure would also be beneficial to the Société Générale itself by giving it the opportunity to mobilize part of its illiquid assets.

By law of 20 March 1848 parliament accepted these proposals, but important restrictions were imposed. The State guaranteed the issue of paper money up to a maximum of 20 million Belgian francs for the Société Générale and up to 10 million Belgian francs for the Banque de Belgique. In return, both institutions had to pledge real estate, state bonds and other securities of at least the same value to the government as collateral. Moreover, the two banks had to publish at least every 15 days or *quinzaine* the total amount of banknotes in circulation.

⁷ Belgium and France *de facto* formed a monetary union. So there was indeed a serious danger that Belgian specie would be drained massively towards France (Janssens, 1976). In 1865 Belgium joined the Latin monetary union (Flandreau, 2004).

⁸ Letter of 18 April 1848 from the Société Générale to the government (printed in *Annales parlementaires de Belgique*, 20 March 1848).

The law of 20 March 1848 also authorized each of the big banks to issue up to 2 million Belgian francs of supplementary notes for providing assistance to other financial institutions (*Moniteur belge*, 21 March 1848). Using these funds the Banque de Belgique and the Société Générale jointly granted loans to the Banque de Flandre and to the Banque Liégeoise, the two smaller Belgian issue banks. So, the government used the big banks as financial intermediary to assist the other ones.

Imposing the compulsory rate stopped the conversion of banknotes in coins, but the population increasingly withdrew savings deposits (see table 2). In contrast to the 1838 crisis the Paris Rothschilds were unable to help the bank as the French capital market was also paralyzed. In these circumstances the Société Générale once again had to call the Belgian authorities for help. But the government showed little enthusiasm to set up a new rescue operation only a few weeks after the first one. Moreover, a parliamentary inquiry clearly demonstrated that the bank's financial difficulties were primarily due to its imprudent investment policies. Finally, the raging financial crisis also hit the government badly as it was unable to sell treasury bills on the market (Houtman-De Smedt, 1997).

*Table 2: Amount of Savings Deposits at the Société Générale, 1847–1848
 (end of month, in thousands of Belgian francs)*

		Stock	Received	Paid
1847	Marche	39 676		
	June	38 722		
	September	38 181		
	December	37 149	475	654
1848	January	36 853	649	945
	February	36 392	489	950
	March	34 896	98	1 594
	April	33 205	569	2 260
	May	25 790	98	7 514
	June	21 800	64	4 054
	July	17 634	88	4 253
	August	15 915	137	1 856
	September	15 151	172	936

Notes: Deposits on public authorities excluded.

Source: Compte rendu de la Société Générale. Année 1848, pp. 44–45.

The financial chaos also deepened the industrial slump – iron production, for instance, fell by 35 percent (Pluymers, 1992) – which again fuelled the fear for a social revolt. After sometimes passionate debates and pressure from King Leopold I, a shareholder of the Société Générale, Parliament voted the law of 22 May 1848 (Luyten, 1986). The bank was authorized to issue an additional quantity of notes with compulsory rate and state guarantee up to a limit of 20 million Belgian francs. In return, the Société Générale had to give extra securities in pledge, had to pay

4 percent interest on the notes issued, and was prohibited to pay out interest or dividends to shareholders as long as the extra paper money issued had not been redeemed. Finally, the bank was placed under supervision of three government auditors (*Moniteur belge*, 23 May 1848).

It is clear that the reimbursement of savings deposits was simply financed by printing more inconvertible paper money. Normally the value of such notes would have depreciated vis-à-vis coins, but this did not happen. The strict limitation of the amount of issue authorized played an important role. In addition, the penalties imposed gave the Société Générale a strong incentive to restrict the issue of extra notes as much as possible. So the bank never exhausted its quota. Besides that, the transparency of the rescue operation helped to maintain confidence in paper money. The big banks had to publish every *quinzaine* the total amount of notes in circulation for the time the compulsory rate was in effect.

The government was able to remedy both the banknote and the savings deposits crises, but what happened to the discount activities? The law of 20 March 1848, mentioned earlier, also created a specialist discount house in Brussels, supervised by the government. The Société Générale and the Banque de Belgique had to bring in the capital, 8 million Belgian francs, on a 50/50 basis. The discount house quickly started its operations and certainly helped to alleviate the crisis, but it never became a real success. After a rapid initial rise, its credit operations fell back again as the Société Générale and the Banque de Belgique resumed their (re)discount activities. Nevertheless, the operations of the Brussels discount house pinpointed to a structural weakness of the Belgian commercial credit market. The discount office mainly served small and medium-sized firms which were neglected by the big banks (Chlepner, 1926).

3.3 The Creation of the NBB

Two severe financial crises in a decade left deep scars. Public opinion and many politicians demanded substantial reforms of Belgium's shaky financial system. In July 1848 the young, dynamic Walthère Frère-Orban became Minister of Finance. He was the main leader of the "progressive liberals" in Belgium⁹. He was convinced of the merits of free trade, but, very much in line with French thinking, he also saw a role for the state in economic life, especially in the financial sector¹⁰.

Frère-Orban severely criticized the Belgian system of universal banking for several reasons. First, it was unacceptable that saving deposits were used to acquire shares of corporations. Such operations not only exposed savers to very high risks,

⁹ Walthère Frère-Orban was Finance Minister from 1848 to 1852 and from 1857 to 1867. He combined the positions of 'Prime' Minister and Finance in the years 1868–1870. In the period 1878–1884 he was again prime minister.

¹⁰ Frère-Orban had also studied in Paris.

but also jeopardized the liquidity position of the financial institutions. Second, the Société Générale and the Banque de Belgique focused strongly on obtaining controlling participations in companies and therefore did very little to promote discount credit (see also table 1). The universal banks even distorted the normal functioning of the discount market as they gave preferential treatment to the companies they controlled. Therefore other firms often faced difficulties to find commercial credit. To solve this market failure Frère-Orban favoured the establishment of an institution that would grant discount facilities to any firm that provided the necessary guarantees. Third, the universal banks neglected the issuing of notes. On the eve of the 1848 crisis the amount of paper money in circulation was about 20 million Belgian francs, barely a quarter of the Dutch figure (Vanthoor, 2004). The fact that the Société Générale and the Banque de Belgique refused to accept one another's paper money certainly contributed to this striking difference. It also explains the increasing calls for unification of banknote circulation in Belgium.

What was Frère-Orban's alternative? Also inspired by the English financial system, he wanted to split up the various activities of the universal banks and assign them to specialized institutions. In several of them the state would have an important role. His project included the establishment of a separate discounting and issue institute, a separate savings bank (which would later become the Caisse Générale d'Epargne et de Retraite), a mortgage loan institution, etc. In this structure the Société Générale and the Banque de Belgique would confine themselves to industrial investment activities and become pure *banques d'affaires* or investment banks. In the Finance Minister's view such a segmented financial system would be less prone to liquidity crises, more transparent, and more amenable to effective government supervision (Van der Wee and Verbreyt, 1997; Brion and Moreau, 1998).

Of course, Frère-Orban realized that the big banks would fiercely resist his ambitious plans and therefore he decided to follow a gradual approach. His priority was to set up a national discounting and issue institute on the lines of the Banque de France. Circumstances were favourable as the 1848 financial crisis had made the big banks heavily dependent on the government. After tough negotiations the Société Générale and the Banque de Belgique renounced their right of issue and most of their discount activities to a new institution, named *Banque Nationale*¹¹.

The law of 5 May 1850 and the statutes (confirmed by royal decree of 4 September 1850) define the principal tasks and structure of the National Bank of Belgium (NBB). Being a private joint-stock company the profit motive was present

¹¹ Agreements of 15 and 18 December 1849 between the Finance Minister and respectively the Banque de Belgique and the Société Générale (printed in *Lois organiques, statuts...*, pp. 131–141). In 1900 the name was officially changed into Banque Nationale de Belgique/Nationale Bank van België. As the institution today still carries that name, we use the term National Bank of Belgium or NBB also for the 19th century.

in the NBB's commercial activities. At the same time however the NBB performed tasks in the public interest, i.e. issuing banknotes and being Government Cashier. Therefore it was not more than reasonable that the state supervised the NBB's activities. So the government appointed the governor and there was a government commissioner, something exceptional in those days.

In view of the 1838 and 1848 crises it comes as no surprise that the NBB's main objective was to maintain convertibility. In line with the theories of the Banking School the legal framework was fairly liberal concerning the amount of banknotes to be issued. The statutes only imposed that the NBB's metal stock had to represent at least one-third of its demand liabilities – the total value of banknotes in circulation plus the NBB's current account deposits. With the government's consent, the stock of gold and silver could even fall to one quarter of the NBB's demand liabilities.

However, the law of 5 May 1850 was very strict on the kind of activities the NBB could pursue. Heavily influenced by the so-called classical theory of banking – which was popularized by the writings of Adam Smith, Jean-Baptiste Say, and Count Mollien (Napoleon's Finance Minister) – the NBB's founders put particular stress on the limitation of banking assets to short-term self-liquidating bills. Therefore the law formally mentioned that the NBB could develop no other operations than those explicitly stipulated in the law. To ensure that banknotes always could be converted in coins, the NBB's activities were largely confined to discount operations linked to commercial operations. The bills of exchange normally had to bear three solvent signatures and reach maturity within 100 days.

The NBB was authorized to discount foreign bills of exchange. Officially Frère-Orban's intention was to stimulate the emergence of an international money market in Belgium (Kauch, 1950). But probably the experience of the 1838 crisis also played a role. In those days the Société Générale resisted successfully a domestic financial crisis because it could mobilize foreign assets.

The legislator clearly feared that the government could use the NBB to finance public spending¹². Therefore the NBB was allowed to invest in government bonds but only to an amount not exceeding its own capital and reserves. In addition the amount of treasury notes to be discounted was strictly limited. Government securities were admitted as collateral but only for an amount not exceeding 80 percent of their market value. Finally the NBB was not permitted to grant loans against the collateral of shares or backed by mortgages. Nor could it acquire

¹² Discussion du projet de loi relatif à l'institution d'une Banque Nationale. Chambre des Représentants, Session of 28 February 1850 (*Lois organiques, statuts...*, p. 198). The experience of the Société Générale in the 1820s also played a role. In that period the Société Générale became heavily involved in the public finances of the United Kingdom of the Netherlands which undermined confidence in its banknotes (Houtman-De Smedt, 1997).

property – except for its own use – or invest in industrial corporations (*Moniteur belge*, 16 May 1850 and 5 September 1850).

From the debates in Parliament it is clear that Frère-Orban aimed at a financial system with a pyramid structure, headed by the NBB¹³. Nevertheless neither the law nor the statutes refer to the NBB as *banker to banks* or contain articles that can be read as such. Similarly the Finance Minister nurtured the hope that, in times of financial turmoil, the NBB would maintain its discount activities in order to alleviate the impact of the crisis: “Elles [discounting and issue institutes] doivent enfin être organisées de manière à pouvoir venir au secours du pays dans les moments difficiles, atténuer les effets des crises, en escomptant à des taux raisonnables quand les capitaux deviennent rares. Loin d’être une cause d’embarras, elles doivent contribuer à diminuer l’intensité des crises”¹⁴. This pointed to the concept of *lender of last resort*. But again these ideas were in no way reflected in the law or statutes.

4. The NBB and Monetary Stability

The NBB’s discount operations took off at a dazzling speed¹⁵. Already in 1852 the NBB provided more discount credit than the previous record set by the Banque de Belgique and the Société Générale combined. This success encouraged the NBB to set up a network of discount agencies across the country. Parallel with the expansion of the discount activities the value of banknotes in circulation rose rapidly. So, the NBB remedied several defects of the Belgian money market. However, the formation of deposits at the NBB remained rather negligible. The commercial banks were rapidly accustomed to rediscount freely with the issue bank, whose rediscount policy was very liberal. Consequently they did not feel any need to maintain important deposits at the NBB¹⁶.

But did the NBB meet expectations what the conversion of banknotes in specie was concerned? The NBB indeed managed to maintain convertibility during most

¹³ Exposé des motifs du projet de loi concernant l’institution d’une Banque Nationale (*Lois organiques, statuts...*, p. 78).

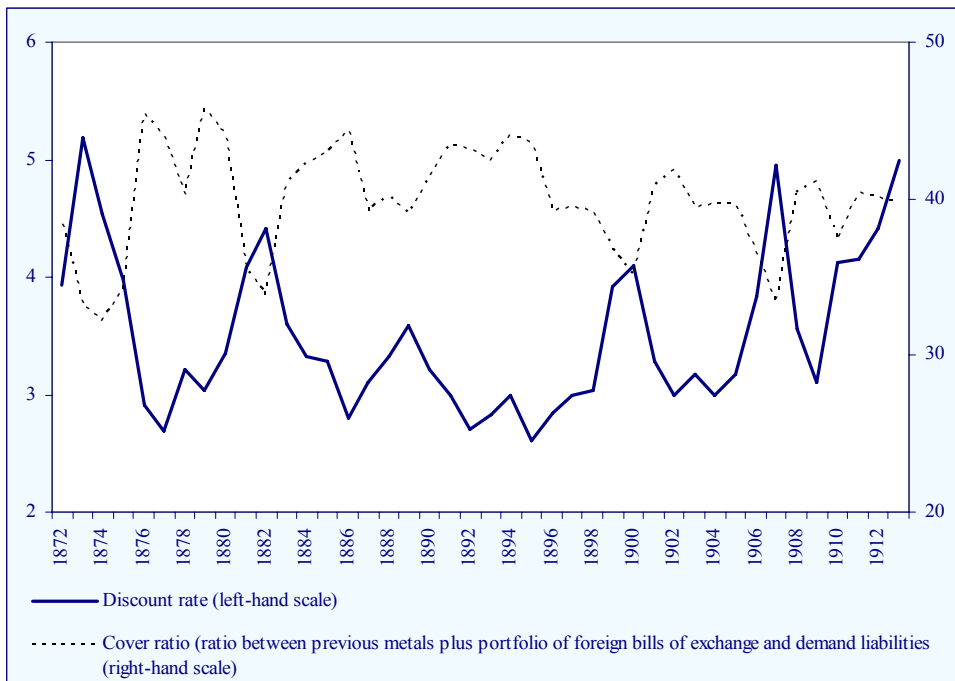
¹⁴ Exposé des motifs... (*Lois organiques, statuts...*, p. 51).

¹⁵ When the NBB opened its doors on 2 January 1851 the discount houses of Brussels, Tournai and Verviers stopped their activities.

¹⁶ A clear difference with the Anglo Saxon countries. The Banking Act of 1844 in England created an inelastic system of note issue. As a result deposit currency became the principal medium of circulation. In Belgium, on the contrary, banknotes became the main medium of circulation. Few persons had deposit accounts, especially before the First World War. Even important commercial and industrial companies effected most of their payments by means of banknotes. Also operations between brokers on the Stock Exchange were liquidated through banknotes and not by the use of checks (Chlepnier, 1943).

international monetary-financial crises of the 19th century (1857, 1863–64, etc.). A deterioration of the cover ratio – the ratio between reserves and demand liabilities – was always fended off by using two instruments. The NBB sold its portfolio of foreign bills of exchange, and, if that did not help, it raised the discount rate (see figure 1).

*Chart 1: Discount Rate and Cover Ratio of the National Bank, 1872–1913
 (annual averages, percentages)*



Source: NBB, *Bulletin d'information et de documentation*, vol. 25, n° II-3 (1950), pp. 126 and 160–164.

Only in the middle of July 1870 things went wrong. Frightened by the threat of war between France and Prussia the Belgian Finance Minister and the governor of the NBB lost their nerves. They ordered to evacuate immediately the metal reserves out of the capital. The removal happened with so much commotion that it sparked panic among the population. People besieged the NBB's head office to demand the conversion of notes in coins. To the population's outrage, the NBB simply decided

to close its counters, except for one. At the same time, the volume of discount transactions was reduced drastically¹⁷.

In order to resolve the confidence crisis, the government set up an emergency committee chaired by Jules Malou, director of the Société Générale. It urged the NBB to resume the conversion of notes as usual. By doing so, Malou took a calculated risk. In the meantime he had mobilized sterling assets, held by the Société Générale, to fetch gold from London to Belgium. Malou's tactics proved successful: as soon as convertibility seemed assured again, the panic faded away (Kauch, 1950; Kurgan-van Hentenryk, 1997). The NBB discount transactions also resumed. At first priority was given to the financing of commercial operations by industrial companies, but soon thereafter the NBB also revived its rediscount facilities¹⁸.

5. The NBB and the Financial Stability

5.1 The Period 1851–1870

By 1870 Frère-Orban's idea of a financial system with specialized financial institutions had largely been realized. With a market share of 68 percent the NBB dominated the discount market (Kauch, 1950). Moreover, in 1865 the government had set up the Caisse Générale d'Epargne et de Retraite which soon played a leading role on the savings market. Finally, the other two large financial institutions – the Banque de Belgique and the Société Générale – more than ever concentrated their activities on investment banking. Nevertheless several smaller institutions continued to operate as universal banks.

In the generally prosperous 1850s and 1860s (see chart 2) few banks of a certain size got into difficulties. Of course the relative absence of convertibility crises contributed to financial stability. But did the NBB take up a more active role during periods of financial turmoil as promised by Frère-Orban? From the annual reports and archival documents it is clear that the NBB never formally accepted such a responsibility¹⁹. This comes as no surprise: neither the law of 1850 nor the NBB's statutes refer to such a role.

Nevertheless the NBB sometimes operated *de facto* as a supplier of liquidity in case of financial distress. During the 1857 crisis several merchant houses in Antwerp were badly hit by the international collapse in commodity prices, such as coffee, sugar, etc. (Van Schoubroeck, 1951). In order to contain the crisis the main trading houses of the city temporarily set up a *Comptoir de prêts sur marchandises*, which discounted promissory notes and warrants guaranteed by commodities. The

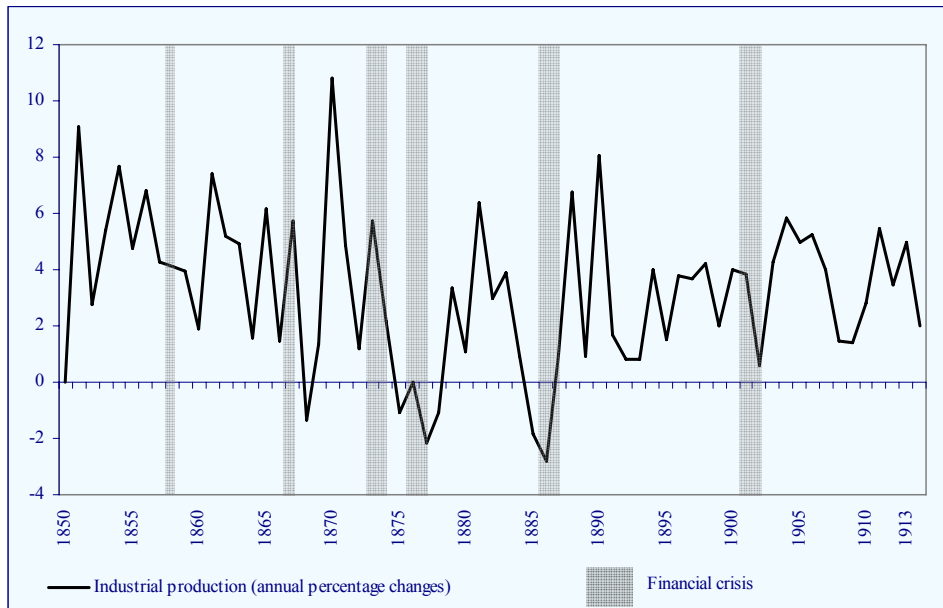
¹⁷ Archives of the NBB, A589/14, Circulaire du 14 juillet 1870 aux comptoirs.

¹⁸ Archives of the NBB, A589/14: Circulaires du 19 et du 29 juillet 1870 aux comptoirs.

¹⁹ This was also true for the Bank of England until about 1870 (Collins, 1992).

NBB provided rediscount facilities (*Moniteur belge*, 14 December 1857). Moreover, the Antwerp branch of the NBB backed the operation by raising its advances on gold deposits to 1 million Belgian francs²⁰. The total amounts involved in the effort were probably not very large and the NBB, as requested by its bylaws, always demanded sound collateral. Nevertheless, the very fact that the issue institute actively supported the rescue operation probably helped to alleviate the crisis.

Chart 2: Economic Slumps and Financial Crises, 1850–1913



Source: *Annual percentage change in industrial production: Gadisseur, 1973.*
Financial crises: Chlepner, 1930; Durviaux, 1947; Van Schoubroeck, 1951.

In 1866 the collapse of Overden, Gurney and Co. in Britain sent a shockwave through the European commodity and financial markets (Kindleberger, 2000). As in 1857 the main trading houses in Antwerp established a *Caisse d'avances sur marchandises*, but this time the NBB was not involved in the operation (*Moniteur belge*, 1 August 1866). However when the Banque de Cr dit commerciale d'Anvers went bankrupt Jonathan Bischoffsheim, director of the NBB, feared that the merchant house crisis would spill over to the Belgian financial sector²¹. Therefore he called a meeting of top bankers to investigate whether it was

²⁰ Archives of the NBB, Conseil d'administration, 12 December 1857.

²¹ Echoes of the crisis are found in the archives of the NBB, see e.g. Conseil g n ral, 25 August and 29 September 1866.

necessary to establish a temporary discount house, similar to the 1848 initiative. Most financiers were convinced however that the crisis could be handled without emergency measures and they proved to be right (Chlepner, 1930).

5.2 Economic Malaise and the Resurgence of the Société Générale

The Société Générale had never really accepted Frère-Orban's aim that it should confine its activities to investment banking. In the late 1860s and early 1870s Belgium's largest financial institution found a way out of this straitjacket. Inspired by the English example, it introduced interest-bearing current accounts to stimulate the use of demand deposits, giro payment systems and cheques. Next, the Société Générale decided to set up a network of provincial joint-stock banks. From a legal perspective these provincial banks were separate entities but the Société Générale controlled a majority of their share capital. The controlled banks had two main tasks within the Générale Group: to attract deposits and to provide direct discount and other credit facilities, e.g. advances in current account, to small and medium-sized firms²². Soon the controlled banks became serious competitors for the discount agencies of the NBB (Buyst, Maes and Pluym, 2005).

Although the NBB lost market share in the direct discount business during the late 19th century, that was more than offset by the rapid growth of its rediscount activities (Kauch, 1950). In this capacity the NBB increasingly acquired the status of *banker to banks*. The availability of ample rediscount facilities changed the financial structure of most Belgian banks. They maintained minimal cash reserves, so that the NBB's interest rate policy became far more effective. Financial institutions usually passed on immediately a change in the official discount rate to their customers. Again the Générale Group was an important exception. The controlled banks usually went to the Société Générale for rediscounting purposes. So the Générale Group was able to adopt a more independent stance.

The rivalry between the NBB and the Générale Group went beyond the issue of discounting bills of exchange. As mentioned earlier, the Société Générale had played a crucial role in solving the 1870 convertibility crisis. The whole affaire increased the Société Générale's ambition to take up the leading role again in the Belgian banking world. Probably some nostalgia to the institution's prominent position in the pre-1848 period also played a role. Moreover, the year 1870 marked an important shift of power in the Belgian political landscape. The liberals – with Frère-Orban as the dominating figure – that had shaped Belgian politics for about twenty years lost the elections and were banished to the opposition benches. The

²² As the controlled banks were separate legal entities, the agreement of 18 December 1849 did not apply. For more information about the emergence and development of the system of controlled banks, see e.g. Kurgan-van Hentenryk, 1997; Van der Wee and Verbreyt, 1997. See also annex 1 for an overview of the Belgian financial system in 1913.

catholic party came into office and soon afterwards Jules Malou²³ was appointed Minister of Finance. Malou resigned as vice-governor of the Société Générale, but maintained good contacts with the institution.

The early 1870s were also an important turning point in Belgium's general economic climate. A long period of malaise ushered in which lasted until the early 1890s (see chart 2). This unfavourable context²⁴ together with the speculative investment policies of some Belgian banks were a breeding ground for financial storms. In 1875–1876 for instance, the collapse of Simon Philippart's railway empire plunged the Belgian banking system in its third major crisis since independence (Durviaux, 1947; Kurgan-van Hentenryk, 1982).²⁵

Finance Minister Malou, an experienced banker, tried to tackle the crises of the 1870s actively and he gave the Société Générale an important role in the rescue operations (see table 3). Why did Malou favour the Société Générale over the NBB? Personal and political elements certainly played a role as many catholic politicians viewed the NBB as a club of Frère-Orban sympathizers (Kauch, 1950). But pragmatic considerations were probably more important. The NBB's statutes seriously constrained the issue bank in providing financial assistance during a crisis. Indeed, from the 1870s universal banking had become a typical feature again of Belgium's financial landscape. Most collateral of the universal banks consisted of shares and industrial loans, while bills of exchange and government securities made up only a modest part of their total assets (Durviaux, 1947). But the NBB was only allowed to provide liquidity against the last category of collateral. Moreover, the NBB's first duty was to maintain the convertibility of notes. So its financial capacity to participate in rescue operations was relatively limited, especially in cases where a banking crisis coincided with monetary unrest.

²³ Jules Malou was Finance Minister from 1845 to 1847 and from 1871 to 1874. He combined the position of 'Prime' Minister and Finance Minister from 1874 to 1878 and in 1884. Between 1848 and 1870 he was director and in 1871 vice-governor of the Société Générale. In that capacity he was the driving force behind a broadening of the Société Générale's activities e.g. into the construction and exploitation of railways both in Belgium and abroad (Brion and Moreau, 1998; Kurgan-van Hentenryk, 1999).

²⁴ For the causes of these prolonged economic difficulties, see e.g. Buyst and van Meerten, 1997.

²⁵ As indicated earlier, the other crises of the banking system occurred in 1838–1839 and 1848.

Table 3: Financial Crises in Belgium, 1851–1914

Year	Institution in difficulty	Financial rescue operation?	NBB involved?	Société Générale involved?
1857	Several Antwerp merchant houses	Yes	X	
1866	Several Antwerp merchant houses	Yes		X
	Banque de Crédit commerciale d'Anvers	No	(X)	
1872-1873	Banque de l'Union	Yes	X	X
1875-1876	Banque de Belgique	Yes		X
	Banque Centrale Anversoise	Yes		X
	Union du Crédit de Bruxelles	Yes	X	X
1885-1886	Several banks (among which Banque de Belgique and Banque des Travaux Publics)	No		
1900-1901	Several banks	No		
1914	Banque de Reports, de Fonds Publiques et de Dépôts d'Anvers	Yes	?	X

Notes: Major crises of the banking system are in bold.

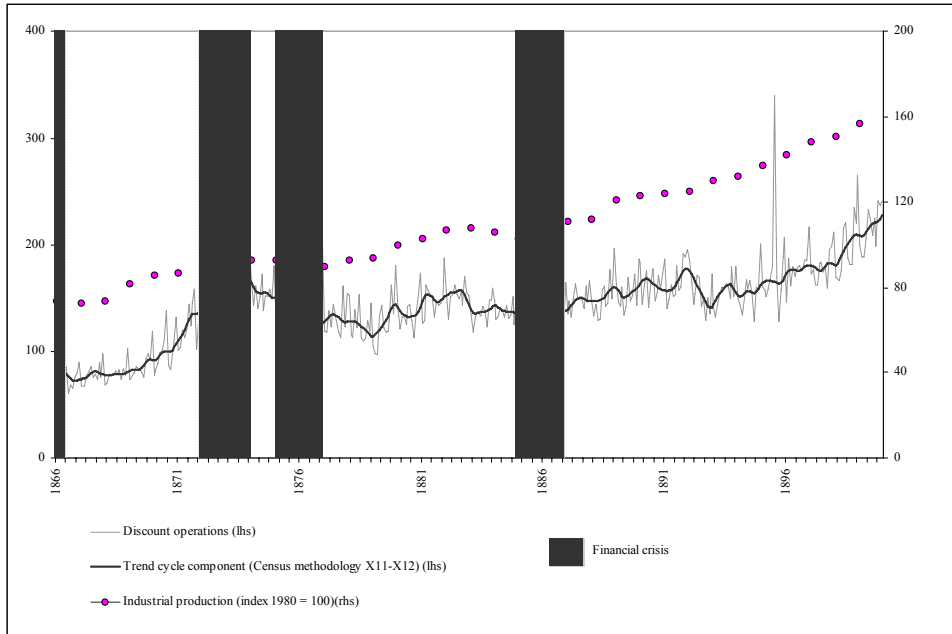
In 1875–1876 also several smaller banks got into difficulties that were not helped out.

Sources: See in the text.

During the crises of 1872–1873 and 1875–1876 Malou set up several consortia. When the bank in difficulty was specialized in supplying discount credit the Finance Minister asked the NBB to join the effort. The specific role of the NBB however varied considerably from case to case. In 1872 the Banque de l'Union, the country's third largest provider of discount credit, ran into difficulties. During the crisis the Société Générale and the Banque de Belgique, together with eleven other financial institutions participated in a temporary discount house. The NBB was not among them, but the issue institute pledged to pay 20 percent of the discount house's potential losses²⁶. Moreover, chart 3 shows a substantial increase in the NBB's (re)discount operations in 1872 and 1873 which suggests that the issue institute also provided emergency liquidity assistance.

²⁶ Archives of the NBB, Conseil d'administration, 17 October 1872; Archives of the NBB, C827 "Banque de l'Union": agreement between the NBB and the Comptoir Spécial d'Escompte of 21 December 1872. For more details about the Société Générale's role, see Crombois, 1994–1995.

Chart 3: Discount Operations of the National Bank and Financial Crises, 1866–1899



Note: The peak in July 1895 is due to massive discount operations for the Belgian branches of the *Banque de Paris et des Pays-Bas* and *Crédit Lyonnais* on 19 July 1895 (Archives of the NBB, Conseil d'administration, 21 July 1895).

Sources: Discount operations: NBB, *Rapports annuels*, 1867–1899.
Industrial production: Gadisseur, 1973.

In December 1876 the NBB provided expertise for the rescue of the *Union du Crédit de Bruxelles*, but in contrast to e.g. the *Société Générale*, it was not involved in specific financial arrangements²⁷. Of course, the NBB rediscounted the bills guaranteed by the temporary discount house, but the amounts involved were probably not very substantial. Chart 3 illustrates that in 1876 the NBB's total discount operations even declined due to the general slump in the economy.

When a crisis hit universal or investment banks the Finance Minister did not ask the NBB for assistance²⁸. A clear case in point was the debacle of the *Banque de Belgique*, the country's second largest financial institution, in March 1876, due to the bankruptcy of the Philippart empire. To make matters worse, large-scale fraud

²⁷ Archives of the NBB, Conseil d'administration, 14 and 21 December 1876.

²⁸ Kauch (1950, p. 159) makes a comparison between Malou and Bagehot, criticizing also the old fashioned orthodoxy of the NBB.

by an employee of the bank came to the surface which immersed the affair in a tense atmosphere of scandal²⁹. Therefore Malou feared that the collapse would trigger off a run on the banks. So he formed a consortium of Belgian and French financiers to keep the Banque de Belgique afloat. The NBB was not officially involved in this massive operation nor did it provide large amounts of additional liquidity to the market in a discrete way. In any case it is impossible to find traces of a sudden increase in the NBB's discount activities (see chart 3). Similarly, the NBB did not join the efforts to rescue the Banque Centrale Anversoise in April 1876.

In all rescue operations set up by Malou the Société Générale was clearly present (table 3). Nevertheless it would be too rash to state that Belgium's largest financial institution acted systematically as a kind of lender of last resort. Much depended on the personality of the Finance Minister. Malou's successors took a far less active stance when banks got into trouble. During the 1885–1886 and 1900–1901 financial crises no rescue operations were set up and several banks went bankrupt (see also chart 3). Especially in 1885–1886 the absence of a lender of last resort of some kind was felt in a painful way. The first banks hit were those already weakened by the turmoil of the 1870s. Most of them, among which the Banque de Belgique, definitively disappeared from the financial scene. But the crisis was allowed to rage on and to swallow other institutions such as the Banque des Travaux Publics, Belgium's third largest bank. It is estimated that more than 20 percent of total paid-up capital in the Belgian banking sector went up in smoke (Durviaux, 1947). Moreover, chart 2 illustrates that the 1885–1886 financial crises coincided with a deep industrial slump. Both phenomena have a clear tendency to reinforce each other, but even this danger could not convince the authorities to intervene.

How can we explain the rather passive attitude of the NBB during financial crises? We already emphasized that the bylaws of the issue institute seriously constrained the range of assets it could accept as collateral. Furthermore the NBB gave clear priority to safeguarding the convertibility of its banknotes. This objective is not always easy to reconcile with pumping substantial amounts of emergency liquidity into the banking system. Another element was undoubtedly the profit motive in the NBB's commercial transactions. In that context rescuing a (potential) competitor was not a straightforward action (see also Goodhart, 1985; Plessis, 2003). Finally, from the 1880s the NBB became a bureaucratic, inward looking institution with little attention for the new responsibilities in the public interest that an issue bank could take up (Kauch, 1950).

²⁹ The estimated losses linked to fraud alone amounted to 24 million Belgian francs. This came on top of the huge losses incurred with the bankruptcy of the Philippart empire (Kurgan-van Henrenryk, 1982).

A somewhat particular case is the financial turmoil during the spring of 1914. The Banque de Reports, de Fonds Publiques et de Dépôts d'Anvers could no longer meet its commitments. In order to prevent a panic the Société Générale intervened: the bank was simply split up and integrated in the Générale Group. Archival documents of the Société Générale suggest that the NBB somehow assisted the operation³⁰. It is however impossible to find confirmation of such an action in the NBB archives. In any case it seems rather unlikely that the NBB would have backed an operation, not integrated in a broader consortium, and that only reinforced the position of its main rival.

6. Conclusion

The creation of the NBB in 1850 marked a fundamental transformation of the Belgian financial system. Frère-Orban's reform clearly aimed at rendering the financial system more crisis resistant, especially by restricting the leverage of the banking sector. The NBB, which received the privilege to issue banknotes, could only grant short-term credit and had strict rules concerning collateral. Also, the financing of the government was strictly limited. The other banks, the Société Générale and the Banque de Belgique, continued to have participations in industry, but their financing became less short-term based as they lost the privilege to issue banknotes. It was all part of Frère-Orban's vision of a financial system with specialized financial institutions.

The NBB clearly took up a key role in maintaining monetary stability, especially by safeguarding the convertibility of banknotes. But did it also become a Lender of last resort, in the sense of taking on the responsibility for financial stability? This was certainly part of Frère-Orban's grand design. However, there seems to be a certain ambiguity in Frère-Orban's vision. On the one hand he wanted a special role for the NBB, at the top of a hierarchical financial system, but on the other hand he also envisaged a segmented and strongly specialized financial system. In this view the NBB had as its first objective to safeguard the convertibility of banknotes. It was this element which pervaded the statutes of the NBB, severely restricting the activities of the issue bank to short-term operations. Moreover, the NBB was set up as a limited liability company and was a rival for private banks in the discount market, even if it was clearly a bank with tasks in the public interest and the government had a special role in it.

In the second half of the 19th century the NBB, at certain moments, took part in rescue operations of financial institutions. However, this was mostly on explicit demand from the Finance Minister and concerned usually crises in which discount banks were in problems. So, it would be an exaggeration to consider it as a Lender of Last Resort, in the sense of taking responsibility for the stability of the financial

³⁰ For more details see Crombois, 1994–1995 and Kurgan-van Hentenryk, 1997.

system. This should be no surprise, given the limitations imposed by its statutes, especially that it could grant only short-term credit and the strict rules on collateral, the role of the profit motive in its commercial operations and the priority for safeguarding the convertibility of banknotes. In 19th century Belgium, the government and the Société Générale played mostly a more important role in the resolution of financial crises. This can be explained by the leading role of the Société Générale in the Belgian economy and society and by the fundamental political responsibilities of the government, especially if a banking crisis could lead to bankruptcies and social unrest.

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Annex 1: The Belgian Banking System in 1913

	Resources (million francs)
<i>Société Générale group</i>	
Société Générale	482
Banque d'Anvers	157
Subsidiaries of the Société Générale	535
Banque Belge pour l'Etranger	166
Banque Italo-Belge	89
Total	1429
<i>Universal banks</i>	
Crédit Général Liégeois	149
Banque Générale Belge	104
Banque de Bruxelles	101
Banque Internationale de Bruxelles	100
Banque d'Outremer	100
Banque Liégeoise	56
Comptoir d'Escompte de Bruxelles	22
Crédit Général de Belgique	20
Crédit National Industriel	17
Total	669
<i>Antwerp commercial and universal banks</i>	
Banque de Reports, de Fonds publics et de Dépôts	199
Crédit Anversoïis	140
Banque Centrale Anversoise	110
Banque de Crédit Commercial	66
Banque de Commerce	47
Total	563
<i>Deposit Bank</i>	
Caisse Générale de Reports et de Dépôts	423
<i>Grand total</i>	3084

Source: Durviaux, 1947, pp. 82–83.

Episodes in German Monetary History – Lessons for Transition Countries?¹

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1. Introduction

“History repeats itself!” This statement highlights that historical events can have parallels, even though a part of them certainly remains idiosyncratic. This paper presents three episodes in German monetary history, which have some parallels to monetary developments in transition and emerging market countries over the more recent past. The first episode describes the idea of a “German” pound, that German authorities considered to introduce after the hyperinflation in the early 1920s. The consideration to introduce a new currency, which was firmly linked to a stable international currency (at this time, the British pound), were based on similar motivations as the decision for a new currency in Bosnia or Bulgaria during the 1990s. Both countries introduced currency boards after monetary disruptions and linked their national currencies to a stable international currency, in this cases the Deutsche mark. The Bosnian currency (the Convertible mark) serves as a clear reminder of interesting links and developments in currency history. The second episode describes the restructuring of the German banking system after the Second World War with equalisation claims. In fact, German banks during this period were in a similar situation to banks in a number of emerging market countries over the more recent past. Large-scale bank restructuring, for example, took place in the Czech Republic in the middle of the 1990s or in Russia in 1998. The choice of equalisation claims, however, has some interesting and unique features, that are worth re-considering. The last episode deals with German monetary policy during the Bretton Woods period. The viability of the fixed exchange rate system was not only challenged by expansionary policies in the anchor currency country, but also by the catch-up process in Germany. Eventually, German monetary policy faced

¹ The views expressed are those of the authors and do not necessarily reflect the view of the Deutsche Bundesbank

the so called impossible trinity similarly to many emerging market economies nowadays.

2. Stabilization after Hyperinflation: The Idea of a “German” Pound

The proposal to introduce the British pound as legal tender in Germany was first voiced in 1923 during the hyperinflation. According to this proposal the new currency of Germany should be based on gold and currency reserves, printed out in British pounds and governed by a central bank (see Schacht, 1953, p. 254–257, Vossische Zeitung November 1923 and Pontzen 1998, p. 96, 97).

The driving force behind this idea was Hjalmar Schacht, a banker, who in autumn 1923 became the banknote commissioner and later president of the Reichsbank.

After succeeding Reichsbank President Havenstein who died on November 23, 1923, the key action plan of Reichsbank President Schacht was to establish the Golddiskontbank as a new Central Bank and to print pound notes according to the available gold and currency reserves. This new banknote issue was earmarked for circulation throughout Germany; the majority of which was to be covered by a pound sterling loan from the Bank of England.

During his first year of tenure as Reichsbank President, Schacht ordered the printing of a few five and ten pound banknotes from the official issuing institute – The German Golddiskontbank (see picture 1). Although a test production was ordered in April 1924, with the aim of large-scale reproduction, President Schacht’s idea was never fully realized.

In retrospect, the scenario of introducing a German pound could have been a critical catalyst responsible for transforming the German Golddiskontbank into a quasi-subsidary of the Bank of England which would have easily bound German monetary policy to that of the Bank of England.

Apart from these political concerns, there were several practical reasons to introduce the pound in Germany. The authorities hoped to win credibility quickly on the international stage and to avoid the risk of a new hyperinflation. Furthermore, the reduction of exchange rate risk towards the British pound would have allowed easier access to the largest money and capital market at that time. The use of securitized instruments would have become more widespread and the existence of benchmarks would have made it more attractive and easier for foreign investors to invest in Germany.

Picture 1: Five and Ten Pound Banknote, issued by the German Golddiskontbank, 1924



Although the proposal was never realized throughout Germany, a pilot project was launched in Danzig. The Danzig region was under the control of the Völkerbund (the predecessor of the United Nations). In the 1920s and 1930s, this region of Germany had pegged its currency to the British pound (Jaeger 2005, p. 778–792).

3. Restructuring Banks with Equalisation Claims

Following the currency reform in Western Germany in 1948, the majority of commercial banks were severely undercapitalised. Unlike asset management corporations or the direct take-over of bad loans by the central bank, the German banks were recapitalised using “equalisation claims” – artificial assets – that were financed over many years from central bank profits.

Nowadays, asset management corporations or similar institutions are often the last resort source of funds for undercapitalised financial institutions. For example, resolving the banking crisis in the Czech Republic during the 1990s was assisted by founding Konsolidacni Banka. It was a special institution, to which the main part of non-performing loans from major banks were transferred. Therewith, the banks’ loan portfolio was “cleansed”, which helped their privatisation efforts.² Whereas some asset management corporations are certainly very successful, the initial success of others is mostly due to these corporations’ tactic of selling only the very last profitable assets from the ailing institution’s portfolio. The general preconditions for an asset management corporation – sustainable assets, an efficient secondary market and its effective control – are hardly met in these cases.

Alternatively, cleaning up the banking system often involves central banks. Non-performing loans etc. end up as “junk assets” in their balance sheets. In this form, they are the main responsibility of the central bank and not of the government. Furthermore, because they earn low or no return, they can put the central bank under financial pressure, lead to never-ending discussions with the Ministry of Finance and they can ultimately even threaten central bank independence.³ Equalisation claims are different in this respect. It is clear from the outset, how the burden is to be shared between the Ministry of Finance and the central bank.

² A detailed description of banking sector development in the Czech Republic during transition is given in Tůma (2003).

³ The Central Bank of the Republic of Turkey, for example, is heavily burdened with junk assets comprising government debt that was accumulated during the restructuring of the banking system after the financial crisis in 2000/01 (see Binay, 2003, p. 253, other examples are given in Schobert (2006)).

3.1. Review of the German Experience

Let us now look at the situation in which the Western German commercial banks found themselves in 1948 in order to understand why the need for equalisation claims arose. The war, the devaluation of the currency and the currency reform were not the only reasons for undercapitalisation. The requisition of all properties that had belonged to the National Socialist Party Organisation as well as the cessation of territories in the East placed an additional strain on the financial sector.

The currency reform had an unequal impact on the assets and liabilities of banks and other financial institutions. The asymmetry was a result of the diverse treatment of balance sheet positions and was further increased by the cancellation of the claims on the Third Reich.

3.1.1 Silent War Financing

The Third Reich's policy of "silent war financing" originally created the banking problems. By giving commercial banks no real alternative but to finance the Reich, the government did not have to ask the public to invest in "war bonds". Simultaneously, commercial banks experienced excess liquidity paired with a decline in private demand for credit. This combination almost forced them to buy public loans and bonds. Indeed, at the end of the war, the state was almost the sole investment option that was left.

During the currency reform in Western Germany and West Berlin in 1948, the Reichsmark, which had been all but destroyed by so called pent-up inflation in the National Socialist war economy, was replaced by the Deutsche Mark (DM). Regularly recurring payments (such as wages, rents, leases, and social security pensions) were converted at the ratio of 1:1. Assets and liabilities arising from debt were to be converted, in theory, at a rate of 10:1. In practice, however, credit balances in Reichsmark were converted at the ratio of only 100: 6.5. In stark contrast, assets and liabilities, such as for instance claims against the Reich and the National Socialist German Workers' Party (*Nationalsozialistische Deutsche Arbeiterpartei*), as well as interbank claims were not converted at all but simply cancelled – as were the credit balances in Reichsmark of the above-mentioned institutions (Deutsche Bundesbank 1995). Thus, after the currency reform, there were very few banks which required no equalisation claims at all. In most of the commercial banks equalisation claims represented at least 50% of their opening balance sheet (Bank deutscher Länder 1951, p. 37).

Even though the situation of financial institutions in emerging market countries is not fully comparable to that of Germany in 1948, there are certain similarities, such as for instance underdeveloped financial markets and an imbalance in assets and liabilities.

3.1.2 Equalisation Claims

“Equalisation claims” are an artificial financial instrument allocated to banks (and other financial institutions) in order to cover the liabilities resulting from the currency reform and to restore an adequate level of equity capital. In Germany, the debtor of equalisation claims was the government. They were created to recapitalise and restructure Germany’s insolvent financial system. One important advantage of equalisation claims is that they can be used to spread the cost of the restructuring over many years. This was especially important for the post-war German government which lacked any immediate source of revenue. A so-called “purchase Fund” was conceived to gradually purchase all equalisation claims from the credit institutions. Because equalization claims were non-negotiable and bore a return below market rates, the fund’s gradual purchases substantially relieved the credit institutions of their burden. The central bank played a special role in this agreement. It was not the owner, but it administered the purchase fund merely on a trust basis – a solution that helped minimize transaction costs and kept administrative costs low. In 1956, the purchase fund was created as a legal entity with status of an agency of the Deutsche Bundesbank.⁴

The stylized functioning of equalisation claims can be explained in two steps: the allocation and the re-purchase. First, equalisation claims were allocated to commercial banks and substituted a certain share of their non-performing loan portfolio in order to stabilize the banking system. At the same time, the Fund received equalisation “liabilities” covered by a claim on future central bank profit plus a public guarantee. Thus, the central bank shared the responsibility for the equalisation claims together with the government. The equalisation claims were interest-bearing and later on became even tradable. In the next step, the central bank distributed its profit to the equalisation fund, which used the cash in order to service interest payments on equalisation claims and eventually, to repurchase equalisation claims from banks.

The transfer of central bank profit to the Fund was clearly defined. Each year, the central bank had to transfer DM 40 million from its net profit. After 1980 this sum was reduced to DM 30 million.⁵ This meant, that there would be less profit to be transferred to the Federal government at the end of each year. Thus, the Fund was financed by the government not the central bank – an important advantage of equalisation claims.

The fund eventually acquired equalisation claims for the last time in 1995 and was wound up thereafter.

⁴ Before 1957, the Bank deutscher Länder.

⁵ When the central bank had made no profit, this transfer was waived. This occurred as often as nine times due to valuation losses as a result of appreciations of the German mark, and delayed the winding-up of the purchase fund.

3.1.3 An Often Forgotten Factor in Success

An often forgotten factor in the success of the currency reform was section 3 of the Currency Act. This section linked the use of foreign currency to an index and made it subject to the approval of the central bank. In other words, Germans had to use the new domestic currency, which implied dollarization was not an option. Later on, the DM's good track record, additionally contributed to a constant and relatively high demand for DM. High demand for its currency was, of course, a pillar, of the Bundesbank's high and stable profits. The success of the equalization claims depended on this high and stable profit, because effectively, the only true inflow to the repurchase fund came from Bundesbank's profits.

3. 2. Practical Issues for Using Equalisation Claims

3.2.1 Difficulties in Correctly Allocating Claims

The aim of allocating equalisation claims to German banks was to ensure their survival, not to increase their profitability. Therefore, the amount of allocated equalisation claims should neither be too high nor too low. This issue eventually depends on the value of the non-performing loan portfolio and the capital base of the bank. In the German case it was relatively easy to allocate equalisation claims to each bank, because they had convertible balance sheets and valuation principles for convertible balance sheets were part of the new currency laws. Thereby, the value of assets, i.e. their quantities and prices, and the value of the equity were already known before equalisation claims were allocated. In a lot of emerging market countries, however, the valuation criteria are less clear-cut. One possibility is to use the definition of a non-performing loan as a guideline. But in practice, this guideline is not so helpful since the definition of a non-performing loan varies from country to country.⁶

Clear guidelines for allocating equalisation claims are central. Without them, it will be very difficult to judge whether sufficient resources are provided to financial institutions or to estimate their profitability. Because circumstances vary and there exists no universal rule, emerging market countries will probably have to find their own way to allocate claims.

3.2.2 Increasing the Motivation for Economic Restructuring

The success of the 1948 currency reform was to a large extent based on the liberalisation of prices and – slightly later – of wages, too. The return to a market

⁶ For instance, some countries allow the use of roll-over credits, whereas other do not.

based economy – after 12 years of an administrative economic system – gave the crucial impulse for the economic revival.

Most emerging markets, however, might not have found themselves in such a favourable economic position when they undertook banking restructuring. Thus, some emerging market governments had to find other, market-oriented ways to stimulate economic growth, for example, debt-equity swaps or share ownership schemes and management buyouts.

3.2.3 The Interest Rate Question

There are four main factors to be assessed when deciding the interest rate paid on the equalisation claims: First, the financial burden on the budget; second, the importance of commercial bank profitability; third, the implications for liquidity and the creation of a benchmark on the capital market; fourth, the fact that a relatively low interest rate may be justified because the equalisation claims constitute national aid – or a bailout – for the commercial banks. In principle, a low interest rate may also be justified by the credit quality of the debtors. Assessing the credit quality, however, can be difficult in these extraordinary situations. In such a situation, the best possible form of credit guarantee is a state-guaranteed bond in conjunction with central bank profits.

3.2.4 Risks of Moral Hazard

In Germany, it was clear to all participants that the allocation of equalisation claims in 1948 was a historic exemption. It aimed to save the banking system as a whole, and therefore, its repetition was never considered in crisis situation of individual banks – not even during the Herstatt Bank crisis in 1974 or the crash of investment bank Schröder, Münchmeyer, Hengst & Co Bank in 1983. It was only during German reunification in 1990 that this instrument was used again, albeit in a different context.

There are concerns that, in certain countries, the use of equalisation claims will be construed as a kind of lender of last resort activity. This could easily be interpreted as an open invitation to go on making the same mistakes that have already been made in the past. And the risk of creating moral hazard should by no means be underestimated. It is therefore crucial to place strict conditions and tight controls on credit institutions before equalisation claims may be purchased in later periods.

3.2.5 Limiting Risks for the Central Bank

Using equalisation claims limits risks for the central bank. Because the central bank does not directly acquire non-performing loans from the banking system,

these non-performing loans do not put a burden on its balance sheet. Clear guidelines for the distribution of central bank profits to the Fund and the state guarantee for the equalisation claims preserve the financial independence of the central bank. Furthermore, the transaction does not lead to a direct injection of liquidity to the banking system as it would be the case, if the central bank bought the non-performing loans directly from banks. This limits inflationary risks.

3.2.6 Reasons for Using Central Bank Profits

One can rightly ask the question why a central bank should bear the burden of the banking systems' non-performing loans. One could argue in response that it is in the interests of all parties, including the central bank, to maintain the stability of the financial system. The central bank cannot maintain monetary stability without financial stability.

Central bank profit usually arises mainly from seigniorage, i.e. net revenues from the central banks monopoly power in base money. Base money consists of currency in circulation and banks' deposits at the central bank. Both parts of base money can generate monopoly revenues. Most obviously, currency in circulation is a non-interest bearing claim of money holders on the central bank. The central bank receives a return on assets that it holds as counterparts of currency in circulation. Thus, it could be argued that using these monopoly revenues to maintain an efficient and well functioning banking system is legitimate, at least in extreme events. Additionally, banks' deposit can also generate monopoly revenues, especially if required reserve and excess reserve holdings bear no or below market interest rates. Under normal conditions, banks' deposits at the central bank function as a buffer against unforeseen liquidity shortages of banks. The central bank should therefore use the resulting monopoly revenues in extreme events, i.e. to rebuild a financial system after monetary disruptions. However, it should be kept in mind that using central bank profits should not be thought of lightly, last but not least, because it includes the risks of moral hazard.

3.2.7 Developing Financial Markets

The experience of Western Germany in 1948 is an example of how the banking sector can be stabilised by means of equalisation claims. Certainly, a long-term repurchase system paid from the central bank's profit provides a possible way of solving indebtedness without having to dip into the state budget. Applying this approach elsewhere, however, should be scrutinized carefully. Nevertheless, it offers an opportunity – particularly for smaller countries which do not yet have a sufficiently developed secondary market – for solving bank restructuring problems. At the same time using equalization claims can help to develop a country's financial markets, because, for example, interest rates on equalisation claims

become a first benchmark and tradable equalisation claims foster financial market development.

4. Fixed Exchange Rates and High Productivity Growth in Post-War Germany

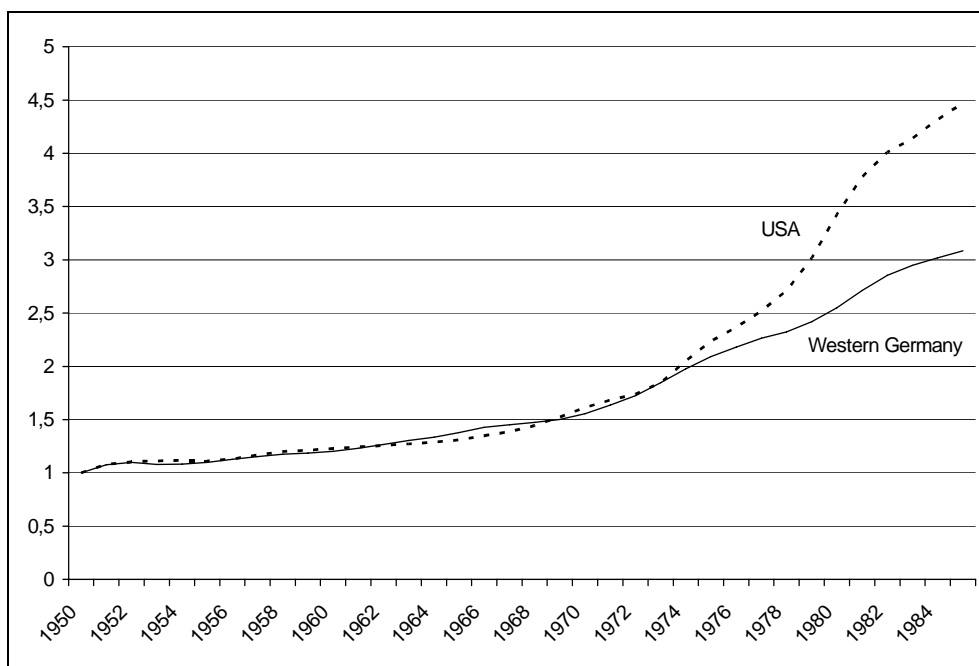
During the early decades of the Deutsche mark, the Bundesbank conducted monetary policy under the exchange rate restriction of the Bretton Woods system. The final collapse of the Bretton Woods system in the early 1970s often highlights that the more stability-oriented monetary policy in Germany was in fact incompatible with the more expansive monetary and fiscal policies in the anchor currency country, the United States. As for example summarized by Krugman and Obstfeld (1994, p. 547), many economists view the expansionary US macroeconomic policy package of 1965–1968 as a major blunder that helped unravel the system of fixed exchange rates. US government spending increased in order to finance the Vietnam military build-up and programs such as the “Great Society”⁷. As these increases in government expenditure were not sufficiently matched by a prompt increase in taxes or restrictive monetary policy, substantial fiscal expansion contributed to US price increases that were inconsistent with the viability of the fixed exchange rate system.

However, this explanation concentrates on price developments in the anchor currency country and overlooks real economic developments of other Bretton Woods member countries during this period. Abramovic (1986), for example, extends the simple catch-up hypothesis in order to explain the rapid growth rates of many industrial countries in Europe after the Second World War. Emminger (1976, p. 548) stresses the undue emphasis on inflation differential and points towards the large income differentials between Germany and the US in the post-war period which pressured exchange rate relations: Average industrial wages in Germany were only about 20% of the US industrial wage in 1950 and only about 40% in 1965. Real income per capita in Germany in the early 1950s was no more than about a third of that in the US and in 1960 it was just under 45 %. But by the end of the 1970s nominal and real levels reached the US level. A catching-up process of such truly historical dimensions was bound to affect monetary relations as well. Attempting to bring German and US income levels in line without adjusting the US dollar-Deutsche mark exchange rate would have meant pushing up the price level in Germany. An appreciation of the Deutsche mark against the US dollar of almost 70% over the period from 1961 to 1975 was apparently necessary to bring about this adjustment without undue inflation in Germany. In other words, the German economy was on a pronounced “transition path” during this time period as it recovered from its downturn after the Second World War. As shown in chart 1 and

⁷ The Great Society Program included funds for public education and urban redevelopment

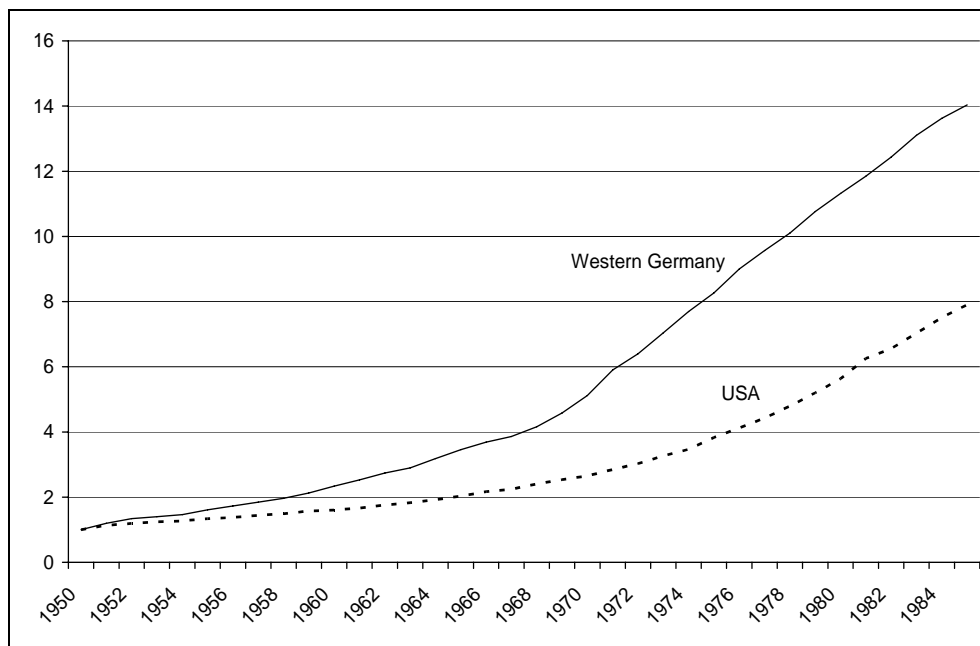
2, until 1973 large differentials in productivity growth rather than inflation differentials arose between Germany and the US during the Bretton Woods system and thereby complicated the viability of a fixed exchange rate regime.

Chart 1: Development of Consumer Prices, 1950–1985
Index (1950=1)



Source: International Financial Statistics, IMF.

Chart 2: Gross Domestic Product per Employed, 1950–1985
Index (1950=1)



Source: *International Financial Statistics, IMF*.

On the one hand, the pressures on the US dollar/Deutsche mark exchange rate were only occasionally and insufficiently counteracted by revaluations (for example, the revaluation of the Deutsche mark in 1961 by 5%). On the other hand, any inflationary developments – whether supply or demand-side driven – would neither have been supported by the German monetary authorities nor by the German citizens. Similar to citizens of many transition countries⁸, Germans feared monetary disruptions, they had suffered, particularly the hyperinflation in 1923 and the “pent-up” inflation during the “Third Reich”⁹. Consequently, a necessary

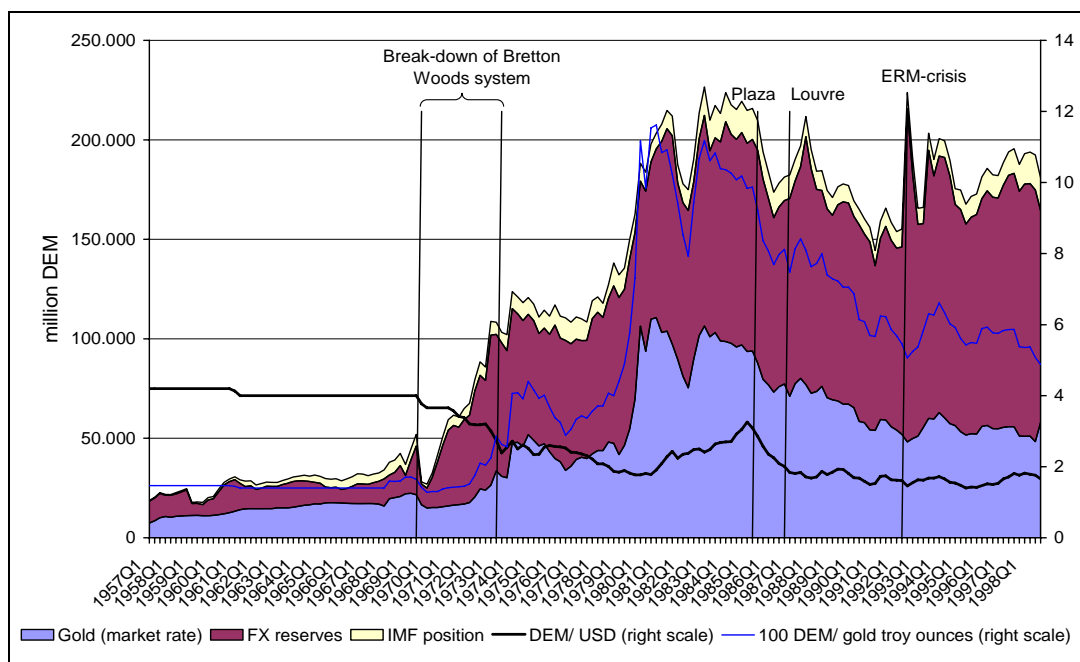
⁸ Dinkic (1995) describes in detail the monetary disruptions of Yugoslavia during the 1990s which contributed to a lack of confidence in the national currency, the dinar. Mitrovic (2004, p. 218–220) describes the Yugoslav hyperinflation in 1993, whereas Avramov (1999, p. 226–228) the hyperinflation and dollarization in Bulgaria in 1996/1997.

⁹ During the Third Reich monetary policy was increasingly forced into the service of armaments financing, and later of the war economy. Although rigorous price controls helped to keep prices stable, the value of the currency was eroded from within, so called “pent-up inflation” (Deutsche Bundesbank, 1995, p. 10).

precondition for re-gaining confidence in the national currency was a firm commitment to price stability.

In this way, Germany faced a similar dilemma during the Bretton Woods system as many fast growing transition countries with (implicit or explicit) fixed exchange rates have faced over the more recent past. Productivity differentials contributed – among other factors – to appreciating pressures on the exchange rate as well as to supply-side driven inflation. Large-scale and continuous revaluations were not compatible with fixed exchange rate regimes and higher inflation was strictly not in line with citizens' preferences. This conflict between internal and external equilibrium, in which monetary policy during the Bretton Woods system was caught, is described in detail in Holtfreierich (1999) and Emminger (1977).

Chart 3: Development of Foreign Reserves in Germany, 1957Q1–1998Q4



Source: International Financial Statistics, IMF.

Many emerging market countries, which implicitly or explicitly have an exchange rate objective and at the same time high capital inflows, nowadays accumulate foreign reserves rapidly and up to very high levels. As can be seen in chart 3, Germany also built up foreign reserves in Germany supports the argument that the German monetary authorities intervened heavily in order to prevent revaluations of the Deutsche mark. At first, these interventions took place very

occasionally, for instance in 1961. During the crumbling down period of the Bretton Woods system, however, interventions became more substantial and foreign reserves increased rapidly. This is similar to many transition and emerging market countries which have built up foreign reserves “endogenously”. In other words, the accumulation of foreign reserves is often not driven by the desire to reach an adequate level, but it is a reflection of monetary and exchange rate policies which suppress exchange rate appreciation. Under sufficiently high capital mobility, combining an (implicit or explicit) exchange rate target with the objective of internal price stability results in a dilemma situation that has become known as the “impossible trinity”. German monetary authorities pursued the objective of internal and external price stability while at the same time, the capital account was already fairly liberalized.¹⁰ In order to escape the impossible trinity, the German monetary authorities tried to curtail speculative capital inflows by capital account restrictions.¹¹ These capital restrictions, however, only had temporary effects on speculative capital account transactions. Eventually, these measures neither prevented revaluations, as in 1961, nor the final move to flexible exchange rates in 1973. Thus, they were gradually removed thereafter.¹²

The conflict between internal and external equilibrium is an ongoing issue in many emerging market economies. Since reconciling the “impossible trinity” is hardly possible and escaping it by introducing capital account restrictions is not well perceived by international financial markets, monetary authorities ultimately face the choice between one of both objectives: fixed exchange rates or monetary policy autonomy.

¹⁰ In 1958 Germany was one of the first European countries that introduced a convertible currency during the post war period. Convertibility was more widely defined than provided for in Art. VIII of the IMF Art. of Agreement, which is based on the avoidance of payment restrictions in transactions of the current account, because outflows of the capital account were mainly liberalized as well.

¹¹ Examples are the ban on interest payment on foreign deposits with domestic banks, on the sale of money market paper to non-residents and on repo securities transactions between residents and non-residents in June 1960, by the declaration of a coupon tax on non-residents' interest income from domestic bonds in March 1964 and its introduction one year later, by the introduction of the authorization requirement for the acceptance of foreign funds by domestic banks in November 1968 and by the introduction of the cash deposit requirement for borrowings abroad in March 1972 (Deutsche Bundesbank, 1985).

¹² In 1975 removal of the last restrictions on interest payments on non-residents' deposits, in 1981 removal of the last quantitative restrictions on the purchase of securities by non-residents, and in 1984 removal of the last restrictions on interest payments on bonds held by non-residents („coupon tax“).

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General Patterns in the Monetary History of Balkan Countries in the 20th Century

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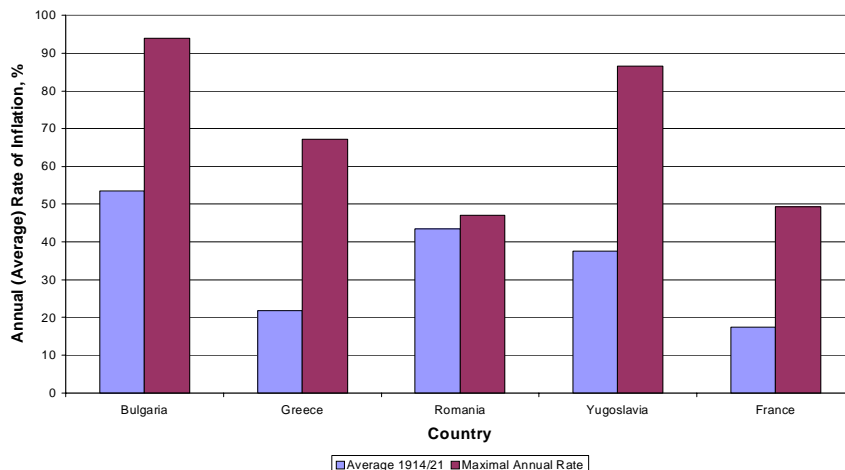
1. Introduction

The monetary history of Balkan countries in the twentieth century has been characterised by many tragic events, most of them a direct consequence of the First World War and the Second World War and the breakdown of the communist system. They have, according to the Cagan (1956) definition, experienced four hyperinflations, namely in Greece in the aftermath of the Second World War, in Yugoslavia in late 1989/90, in Serbia and Montenegro in 1992/94 and in Bulgaria in 1997. The hyperinflation in Serbia and Montenegro was the second biggest in history, only topped by that in neighbouring Hungary after the Second World War, a country which had already suffered another hyperinflation after the First World War.

But the inflations in Bulgaria, Greece, Romania, Serbia/Yugoslavia and Turkey after the First World War were also not cases of moderate, but rather of high inflation (chart 1). In the Graph France has been added to allow a comparison with a Western European country. All these inflations were like hyperinflations caused by huge budget deficits financed by money creation through the monetary authorities (chart 2).

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Chart 1: Annual Rates of Inflation of Balkan Countries around the First World War



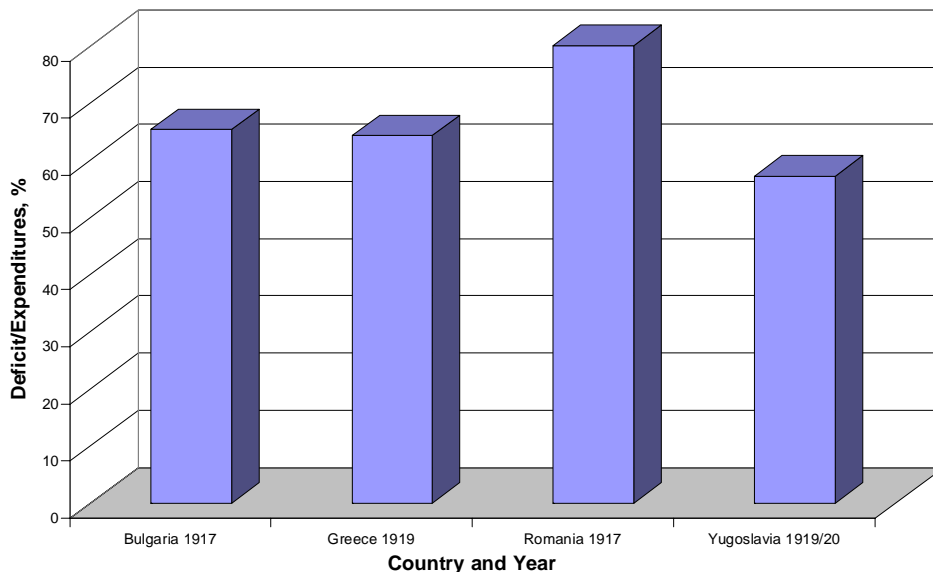
Note: No figures were available for Romania until 1921/22, for Turkey until 1922 and for Yugoslavia until 1920/21.

Source: Lampe, John R. and Jackson, Marvin R. (1982), table 11.1, pp. 380 f.

In the present paper we will look at these experiences to see whether they follow some general qualitative law-like characteristics, which have been described in an earlier book (Bernholz 2003). In the next section regularities for the hyperinflations will be analysed.

This will be done in a more detailed manner than this could be done in this book. The following sections will be concerned with the inflations in the wake of the First World War to explore whether they follow similar patterns to those already found for other countries.

*Chart 2: Maxima of Annual Deficit/Expenditure Ratios of Balkan States
Around the First World War*



Note: Figures for the war years were not available for Serbia/Yugoslavia.

Source: Lampe, John R. and Jackson, Marvin R. (1982), table 11.1, pp. 380 f.

2. Characteristics of Hyperinflations in Balkan Countries.

2.1 Huge Public Deficits as a Precondition for Hyperinflation

The first hypothesis to be checked relates to high public deficits as a necessary condition for the occurrence of hyperinflations. We may call this the Sargent hypothesis, since Sargent formulated it explicitly (Sargent 1983). No difficulties arise for this hypothesis concerning the Greek, the Serbian/Montenegro and the Bulgarian hyperinflations. As can be seen from table 1, the maximal deficits ranged from 41.6 to 99% of total expenditures.

Table 1: Deficits – Expenditures

	Period	Deficit/Expenditures
Bulgaria*	1995–31.3.1997	9.7–41.6%
Greece**	1941/42–31.3.1945	71–99%
Serbia/Montenegro	1991–1993	27.7–74.4%

*Notes: *Figures refer to quarters of years. ** Not always full fiscal years*

Sources: For Greece: Delivanis and Cleveland (1950), for Bulgaria: IMF. For Serbia/Montenegro: Petrovic (1994), Bogetic, Dragutinovic and Petrovic (1994), table 17, p. 7.

Things seem, however, to be different for the Yugoslav hyperinflation, the mildest of the four. In this case the federal budget showed even surpluses of 0.86% in 1988 and of 5.2% in 1989. This, however, is judged from other hyperinflations rather incredible. As stated by several analysts (Bole and Gaspari 1991, Schoenfelder 1990) the public banking system extended the money supply by granting credits or by guaranteeing promissory notes issued by socialist firms. The banks agreed to this system under the pressure of the republics and communities in which they were located and of the respective functionaries of the communist party. All these credits implied negative real interest rates., so that they amounted to public subsidies finally financed by hidden money creation. As Schoenfelder puts it:

“For the Yugoslav banks negative interest rates on its assets resulted in huge losses. ... In the eighties the composition of the liabilities of banks and esp. of NBJ [the central bank] changed to the effect that by 1988 about seventy per cent of the liabilities of NBJ were denominated in foreign currency.

The two major sources of such liabilities have been foreign loans extended to NBJ or basic banks and foreign currency deposits of Yugoslav citizens at basic banks which were later transferred to NBJ. Thus banks and especially NBJ have to pay positive real interest rates on most of their assets. It became standard accounting method to “cover” the resulting huge losses by introducing fictitious assets into the balance sheets of banks. ...

Real interest rates declined because nominal interest rates were adjusted to inflation only with great delay.” (pp. 10 f.)

It is obvious that these losses on credits extended to socialist firms with “soft budget constraints” (Kornai 1971) had finally to be covered by money creation through the monetary authorities. For otherwise the banks including the NBJ would have fallen into bankruptcy, which was, however, prevented. Thus, if we include banks into the public sector, a huge public fiscal deficit financed by money creation was also present in the Yugoslav hyperinflation. Bole and Gaspari (1991) presented the following result (table 2).

It is interesting to note that though Bajt rejected the Sargent hypothesis for Yugoslavia, he also concluded (1990, p. 8) that "...some para-budgetary expenditures had been traditionally financed directly by the NBJ, yet they amounted to some 25% of the federal budget only (altogether 10.4% of the GMP). All other budgets have as a rule been balanced."

Now a deficit in the amount of 10.5% of GSP is certainly very substantial and would be a much higher figure if expressed as a share of total government expenditures. But I have to admit that I am not well-informed on the intricacies of the financial and monetary relations among socialised firms, banks, NBJ, republics and communities of the Yugoslavia of that time. Moreover, there is certainly a problem of definition, namely of which entities belonged to the public sector during the period.

Table 2: Deficit of the Public Sector During the Yugoslav Hyperinflation

(Percentage of Gross Social Product)

	1987	1988
Real Decrease in Dinar Credits to the Banks	2.3	1.1
Real Increase in Net Foreign Liabilities of NBY	3.1	-1.8
Issues of Real Dinar Reserve Money	5.1	6.5
Inflation Tax	6.2	7.2
Seignorage	-1.1	-0.7
Total	10.5	5.8

Source: Bole and Gaspari (1991), table 10. 6, p. 374.

From a purely theoretical point of view it is even possible that the monetary authorities grant so much credit even to private firms, organisations and households by increasing the monetary base that a hyperinflation ensues. But this would presuppose a direct dominating influence of private interest groups on them, which seems not to be a likely event, if the same groups are not able to dominate the government with the consequence of large budget deficits.

On the other hand, if we had to accept that the Sargent hypothesis had been disproved in several cases as a necessary condition for hyperinflations, it would have to be reformulated as a probabilistic hypothesis. Indeed, among the 28 hyperinflations which have occurred until now, there are four cases in which it is possible that the government deficit was lower than 20% of total expenditures and thus not high enough to engender them. Since the Yugoslav case is the most prominent among them, there are, on the other hand, serious doubts, whether we have the right figures. And it is interesting to note that all these cases refer to formerly communist countries (Bernholz 2003, p. 73). But if we grant them to be

counter-examples to the Sargent hypothesis, it remains to calculate the probability of such an event from the empirical evidence we have. If the null hypothesis is accepted that hyperinflations caused by huge government deficits are as likely as others, this is rejected with a probability of nearly one.

2.2 Real Money Stock, Undervaluation and Currency Substitution

Let us now turn to two other qualitative hypotheses concerning hyperinflations. The second states that the real stock of the inflating money decreases dramatically during the course of inflation.

The third hypothesis has been called “Bernholz Law” by Paldam (1994, p. 138) and is also characteristic for most hyperinflations. It describes the tendency towards strong undervaluation of the inflating currency. The empirical facts for the four hyperinflations are presented in table 3. As can be seen the real stock of the inflating money has shrunk very strongly in all four cases. But the hypothesis relating to undervaluation is rejected for the case of Bulgaria, though the index went down during the highest inflation, but from a level much above the normal level of 100% which it never reached. It is difficult to explain this exception, though I am inclined to reject it. Presumably it has not been caused by strict foreign exchange controls during the period considered, since in using black market exchange rates, the overvaluation is lower but still present (chart 3).

Another factor could be the selection of a wrong base year. In 1975 the official exchange rate stood at 0.97 to the dollar and the premium rate at 1.20. Price controls were only abolished in 1991. Thus if we take the rate of 1.20 as a basis and assume that prices remained on the whole unchanged from 1975 to 1991, then a strong undervaluation would result.

If we look at the broader picture of all 28 hyperinflations, the hypothesis seems to have to be rejected in six cases, if we include Bulgaria. In one of them, Peru, however, it is only rejected for the official, but not the black market exchange rate (Bernholz 2003, p. 73). For Nicaragua the real exchange rate followed a seesaw pattern characteristic for exchange controls. This was similar for Peru and also for

Table 3: Minimal Real Stock of Money and Maximal Undervaluation during Balkan Hyperinflations

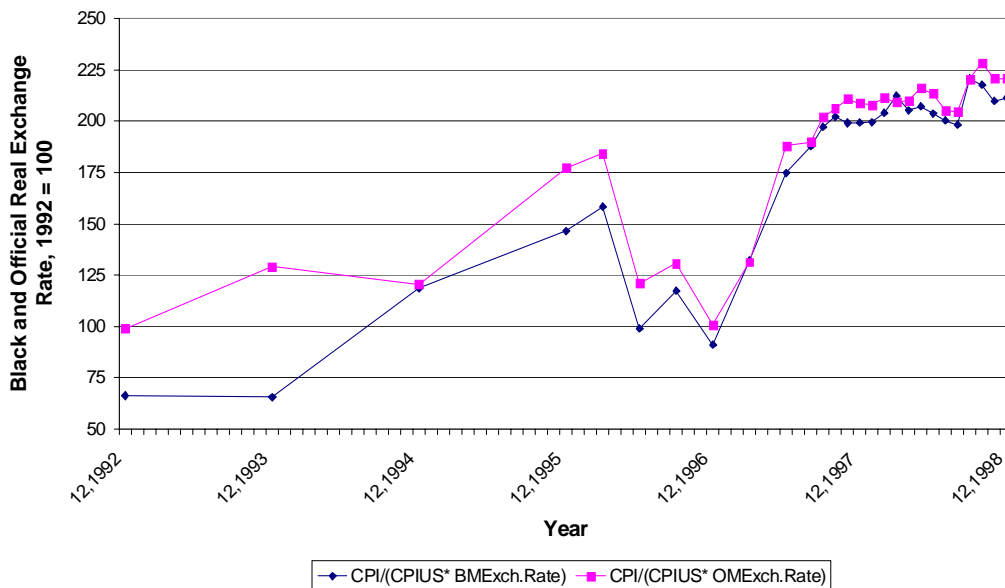
	<i>Real stock of inflating money, in base year = 100%</i>	<i>Kind of money</i>	<i>Date</i>	<i>Under- valuation 100% in base year</i>	<i>Date</i>	<i>Base year</i>
Bulgaria	12.90%	“Money”IMF	Feb. 97	131.60%	Feb. 97	1992
Greece	0.30%	Banknotes	Nov. 44	35.70%	July 45	Aug. 39
Serbia and Montenegro	4.36%	M1	Nov. 93	0.29%	Dec. 93	Jan. 92
Yugoslavia	24.66%	M1	Feb. 90	24.70%	May 89	Jan. 80

Note: The “undervaluation” figures for Bulgaria went from 100 to 183.2% in February 1996 and then fell to 131.6 % in February 1997.

Source: Bernholz 2003, tables 8.1, 8.3, 8.5, pp.167 f., 176, 180 f.

Bulgaria though less pronounced in this case. In the cases of China and the Soviet Union both countries were isolated from the outside world because of war and civil war and show a tendency towards undervaluation after the end of the isolation. The situation was probably similar for Taiwan, where the real exchange rate also moved towards undervaluation from 1947. Still, it would be better to find additional and perhaps more convincing explanations for these cases and especially for Bulgaria. From a probabilistic perspective the hypothesis of undervaluation is strongly confirmed. Cagan has defined hyperinflation as beginning in the first month in which the monthly rate reached 50% or more and as ending a year after the last month in which this happened. If we take together all these months for all hyperinflations and check for the null hypothesis that overvaluation is as probable as overvaluation, we get a probability of $9.4 \cdot 10^{-6}$ that this could be true.

Chart 3: *Bulgarian Real Exchange Rates During Hyperinflation, 1992–1998*



Notes: The initial black market rate applied for 1992 has been calculated as a percentage of the official one. BM Black market, OM official market exchange rate.

Sources: Black Market Exchange Rates: Pick's Currency Yearbook (1995). Data from 1995 are based upon the operational rates of exchange used by the United Nations for personnel in those countries. Other data: IMF: International Financial Statistics.

The fourth hypothesis to be checked relates to currency substitution. During high inflation people seek to get rid of the rapidly devaluing domestic money. Since this is impossible for the nominal stock which is even steadily increased, this occurs through a rise in the velocity of circulation bringing about a faster growth of the price level, so that the real stock of money decreases. But in modern economies money is a necessary precondition of market exchanges and can therefore only be partly substituted by barter. As a consequence, during high inflations the inflating money is more and more driven out by stable money, in former times by gold and silver coins, under modern conditions by stable foreign money, like US dollar or German mark. Already Ragnar Nurkse (League of Nations 1946, p. 48) characterised the process for the time after the First World War as follows:

“The lack of a stable domestic means of payment was a serious inconvenience in trade and production, and foreign currencies therefore came to be desired as a

store of value but actually as a means of domestic payment. ... Thus, in advanced inflation, Gresham's law was reversed; good money tended to drive out bad ...

I have proposed to call this phenomenon Thiers' law, since the French historian and later President of the 3rd Republic was the first to describe it for the earliest hyperinflation in history, that of the Great French Revolution. Unfortunately, we usually do not have any figures for the development of currency substitution. Only verbal descriptions or at best rough estimates are available. For governments regularly try to suppress not only currency substitution itself but also the information about it with heavy fines and penalties, since the substitution is eroding the base of their inflation tax. But exactly this process is one of the factors strongly influencing the decrease of the real stock of the inflating money and the movement of the exchange rate towards undervaluation.

Let us now look at the four Balkan hyperinflations. For the Greek case we have evidence that currency substitution by English gold coins, sovereigns, and by British, Egyptian, American and Swiss banknotes played a great role. *"These moneys were wanted for hoarding, for the conversation of business working capital, ... , and for use as the principal means of payment because during the final weeks of inflation only the salaries of public employees were paid in drachmas. The drachma ceased to be a measure of value or the generally acceptable means of payment"* (Delivanis and Cleveland 1950, pp. 98 f.).

As a consequence even the German occupation forces sold golden sovereigns during the war, and afterwards the same was done by Greek monetary authorities. Makinen (1986, 798) reports that more than 1.3 million sovereigns entered circulation in this way. And though the use of sovereigns and foreign banknotes was forbidden in 1945, when the failure of the currency reform of November 11, 1944, became obvious, this did not prevent their use. And the practice of issuing sovereigns was taken up again after some months, and the second now more successful reform of January 1946 even introduced the convertibility of the new drachma into sovereigns at the then prevailing black market rate (Makinen 1986, p. 801).

According to newspaper reports the currency substitution during the Serbian hyperinflation especially by the DM led to a nearly complete disuse of the dinar before the currency reform in early 1994. According to the Basler Zeitung of January 12, 1994, even Groschen (pieces of ten Pfennigs, that is 0.1 DM) circulated and taxi drivers and retail businesses did no longer accept dinars.

I have scarcely any evidence concerning the cases of Bulgaria and Yugoslavia. However, Gulde (1999) points out that before ending the inflation by introducing a currency board *"In Bulgaria there were heated discussions about the choice of anchor currency. Some advocated the U.S. dollar, noting its widespread use in informal transactions and as a store of value, while others supported the deutsche mark ..."* Moreover, Mulligan and Nijse (2001, p. 282.) write: *"In Bulgaria, foreign currency, as a percentage of total money holdings (M2) increased from*

approximately 5 percent in 1986, to more than 34 percent by the first quarter of 1994. Foreign currency demand continued to accelerate until Bulgaria adopted a currency board." I do, however, not know, from which sources the authors got these data. But if their figures are correct this throws again some doubt on an overvaluation of the Lev. For foreign currency could only be obtained by buying dollar, which should have worked towards an undervaluation of the Bulgarian currency.

Similarly, for Yugoslavia Bole and Gaspari (1991, p. 372) point out that *"Another source of [the public sector's real deficit] is the creation of negative net wealth in the central bank's balance sheet, stemming from its foreign-currency-denominated debt (to the rest of the world and to Yugoslav residents), i. e.. from the uncovered exchange losses arising from the net foreign indebtedness."* And later (p. 377) they remark that *"In addition , Yugoslav households (like households in other high-inflation countries) own foreign exchange-linked assets: thus, viewed from the angle of households` demand for real balances, the proposed measure of opportunity costs takes on additional significance in that such foreign-exchange linked deposits can be seen as a close substitute for money."*

This means that these foreign-exchange denoted assets were at least held as a store of value by Yugoslavs.

2.3 Success and Failure in the Reforms Ending the Hyperinflations

Bernholz (2003) has categorised the currency reforms trying to end hyperinflations into successful, less successful and least or unsuccessful. As a measure of success he employed the rates of annual inflation remaining during the first year after the attempted reform. The first category of up to 25% inflation comprised nine of the 30 known cases of hyperinflation, among them Bulgaria and Greece. The second category of remaining annual inflation of up to 99% contained seven cases. The third with more than 99% comprised all other 14 cases, among them Serbia and Montenegro and former Yugoslavia. According to Bernholz different institutional characteristics of the reforms were responsible for their different outcomes. In a recent paper Bernholz and Kugler (2006) have checked his qualitative with an econometric probit analysis. They concluded that only the introduction of independent central banks played a significant role for successful reforms. Turning to a regime of fixed exchange rates with a stable currency also showed the right sign, but was not significant. And indeed, Bulgaria secured the independence of its national bank with the introduction of a currency board, whereas the Greek central bank was made independent with the help of a treaty with and control by the UK and the USA. By contrast, no independent central bank was established by the Serbian and Yugoslav reforms.

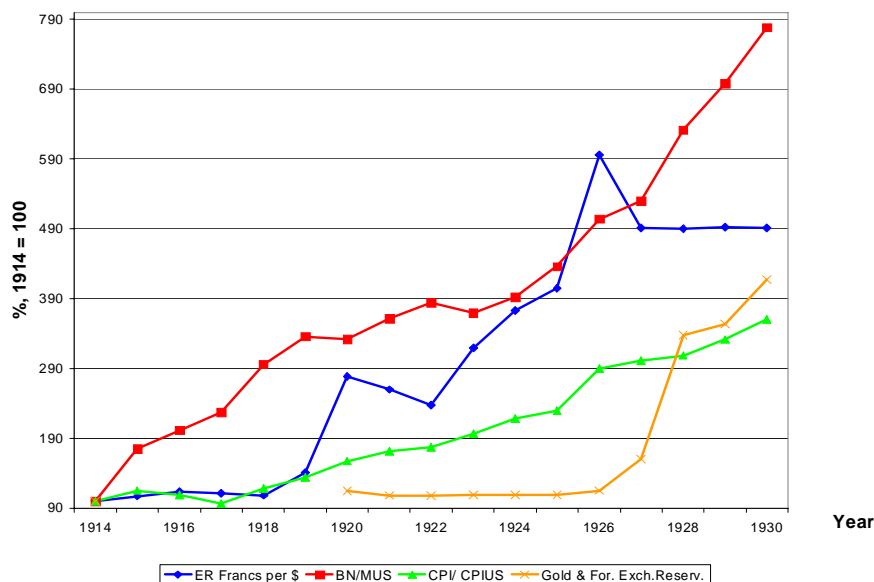
3. Monetary Developments and Inflation in the Wake of the First World War

It has already been shown in the introduction that all countries of the Balkans, whether victorious or not were plagued by substantial inflation (chart 1) as a consequence of the First World War and the events following it. The only surprising exception seems to be Albania, for which I, however, have not found any data. But *“In Albania ... were a national currency was introduced for the first time during the latter part of the `twenties, foreign gold coins had remained in effective circulation, even during the war. Foreign silver coins and bank notes were also used as means of payment, but were only accepted at rates corresponding roughly to the gold value of the currencies in which they were expressed. Albania was indeed the only European country which remained effectively on the gold standard throughout the war and the post-war period under review.”* (League of Nations, 1946, p. 93, note a to table III). It thus seems that the absence of a national money has been a blessing to the citizens of this country during the period.

In all the other countries the inflation was caused by substantial government deficits mainly stemming from war and after-war emergencies financed by money creation (chart 2). This is no exception compared to other European countries, in which some, namely Germany, Austria, Hungary, Poland and the Soviet Union even suffered from hyperinflation. Moreover, only a few countries, namely the United Kingdom, Denmark, Norway, Sweden, the Netherlands and Switzerland were able to return to their pre-war gold parities some years after the war. Therefore, the experiences of the Balkan countries were more similar to those of countries like France and Belgium, a fact which has already been analysed by Nenovsky (2006) in a paper comparing the cases of France and Bulgaria. Let us therefore first look at some characteristic developments in France (chart 4).

As can be seen from the figure, the money supply (banknotes) relative to that in the USA dragged the exchange rate and the relative price level up. The latter means that an undervaluation developed, quite in correspondence with our hypothesis (first put forward for moderate inflations by Storch 1815, compare Bernholz 1982) examined above for the case of hyperinflations. In 1926 a stabilisation was introduced which is reflected in the decline of the exchange rate for the dollar. An undervaluation is beneficial to the export and import competing industries and the people employed by them. This advantage is eroded if the undervaluation diminishes or even finally turns into an overvaluation because of a restrictive monetary policy. As a consequence political forces begin to fight for a relaxation of these policies. One possibility to do so is to fix the exchange rate at a still underdevalued level, or which amounts to the same but corresponded to the perceptions in the 1920s to fix the new gold parity of the franc at a corresponding

Chart 4: Inflation and Stabilisation in France, 1914–1930



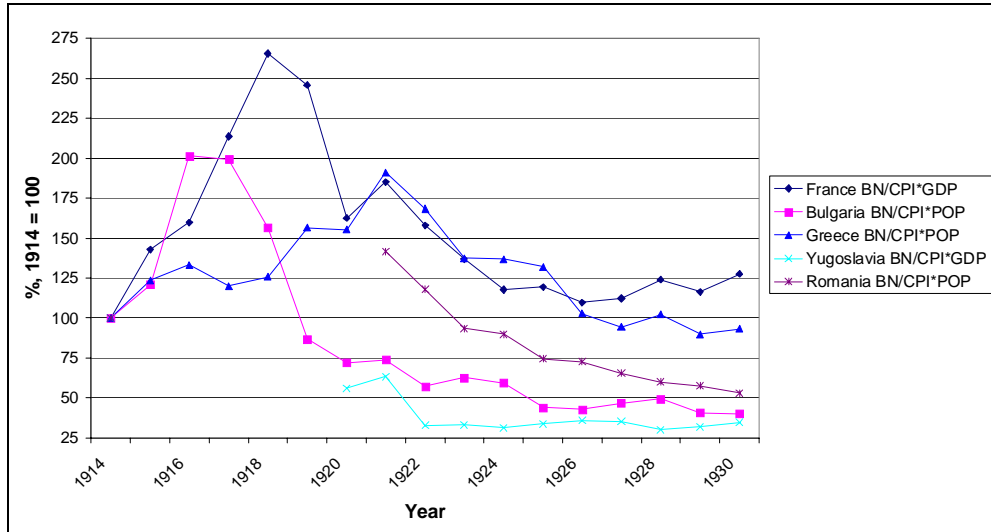
Note: BN = Banknotes in Circulation.

Sources: Statistisches Reichsamt (1921/22, 1924/25, 1936).

level. This is exactly what happened and which can be seen for the dollar exchange rate in chart 4. Moreover, as can also be seen, gold and foreign exchange reserves rose strongly after the new gold parity had been fixed. This provides additional evidence that the franc was still undervalued.

To complete the picture we have still to look at the development of the real stock of banknotes corrected for the change of real GDP (chart 5). The real stock first rose strongly caused by the financing of a huge budget deficit during the war, and since inflationary expectations of the public had not yet adapted. After 1918 it fell nearly steadily until the stabilisation in 1926, though the nominal stock of banknotes continued to rise except in 1920 and 1921 and increased even by 19% in the year before the reforms undertaken in 1926.

Chart 5: Development of Corrected Real Stock of Banknotes in Five Countries, 1914–1930



Notes: POP: Population, BN: Banknotes in Circulation.

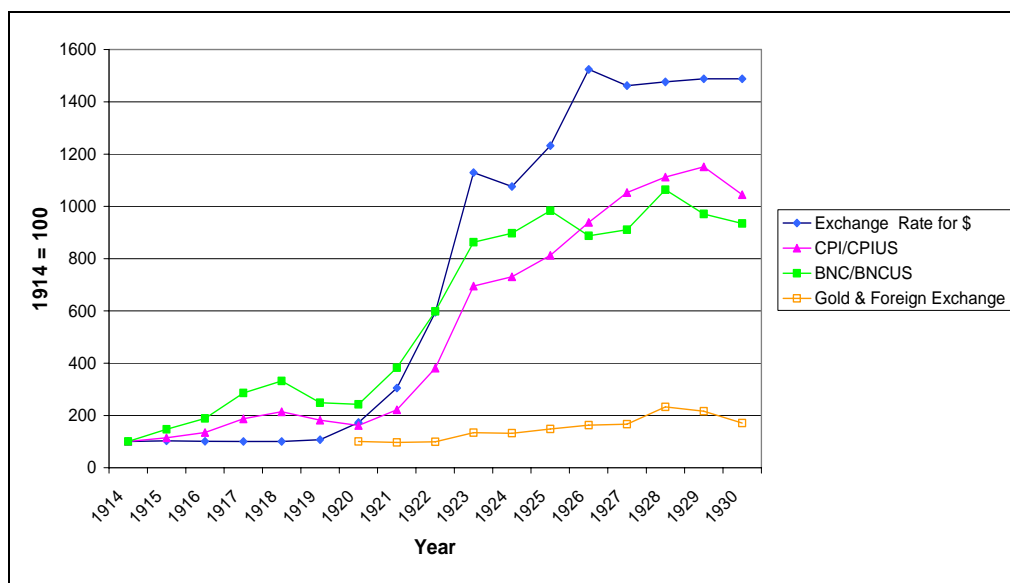
Sources: For population and GDP: Maddison (1995), pp. 108–111, 148, 153–155. For banknotes in circulation of Balkan countries: Lampe, John R. and Jackson, Marvin R. (1982), table 11.1, pp. 380 f. For France: Statistisches Reichsamt (1921/22, 1924/25, 1936).

This means that the price level climbed more rapidly since 1918 than the supply of banknotes because the public had adapted its inflationary expectations. We have seen before that this is typical for all hyperinflations, but it is also true for high inflations. Looking now at developments in the Balkan countries we can observe the same pattern for Bulgaria and Greece. For Romania and Yugoslavia the data until 1921/22 are missing, but the Romanian figures for 1921/22 suggest that the same pattern may have occurred there. The figures for Yugoslavia seem to contradict an increase during the war years, but since we have no data, everything is guesswork. Moreover, Serbia about tripled its territory by turning into Yugoslavia. As a consequence the figures are neither reliable nor easily comparable. What is surprising and quite in contrast to the French experience, is the very low real stock of banknotes in Bulgaria and Romania below 50% and 75% of the level of 1914 after 1925. One explanation could be higher rates of inflation and therefore higher inflationary expectations. Another political instability always threatening monetary stability. In both cases a higher degree of currency substitution might have been present, for which, however, I have no evidence. But the first alternative is not available, since the average rates of inflation in Bulgaria

and Romania from 1925 or 1926 to 1930 were similar or even a bit lower than those in France. So we are left with a puzzle, if we believe the figures to be correct.

Let us now try to compare the developments in the Balkans with those sketched in chart 4 for France. Greek developments are, on the whole, quite similar qualitatively.

Chart 6: Relative Banknote Circulation, Relative Development of Price Level and Exchange Rate in Greece, 1914–1930



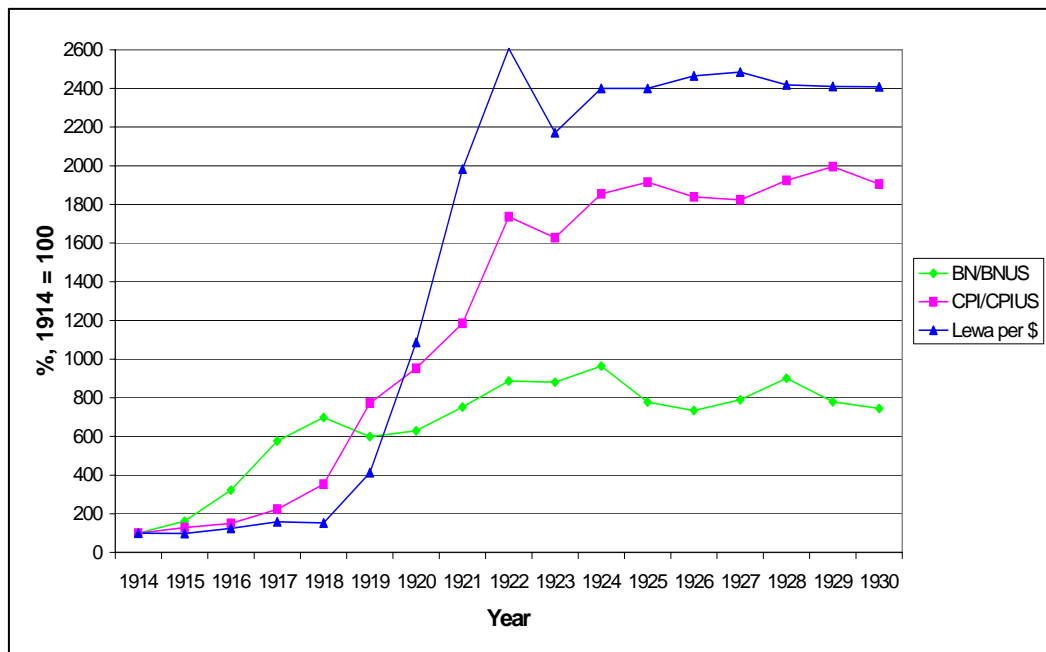
Sources: Exchange rates: Schneider, Jürgen, Schwarzer, Oskar and Denzel, Markus A. (1997). For other figures until 1919: Lampe, John R. and Jackson, Murray R. (1982). For figures until 1936: Statistisches Reichsamt (1928, 1936a and 1936b). For CPI also: B. R. Mitchell (2001).

Relative banknote circulation is dragging up exchange rate and relative price level behind it, though this is somewhat retarded for the latter. Also, an undervaluation develops. The exchange rate moves ahead of the relative banknote circulation, as it did in France shortly before the reforms. The stabilisation somewhat lowers the undervaluation. But the new gold parity established in May 1928 implies a remaining undervaluation like that in France. The gold and foreign exchange reserves rise somewhat after the monetary stabilisation, but much less than in France.

Let us now turn to Bulgaria. Here again a similar qualitative picture develops. The relative money supply is dragging up the relative price level and the exchange

rate in the beginning. Later undervaluation develops, which is maintained by the setting of the new gold parity after the undervaluation had been twice reduced in 1922 and 1928 by stabilisation efforts. Surprising is only the low level of the relative banknote circulation after 1922, especially compared to the relative price level. This corresponds to the low level of the real stock of banknotes noted before.

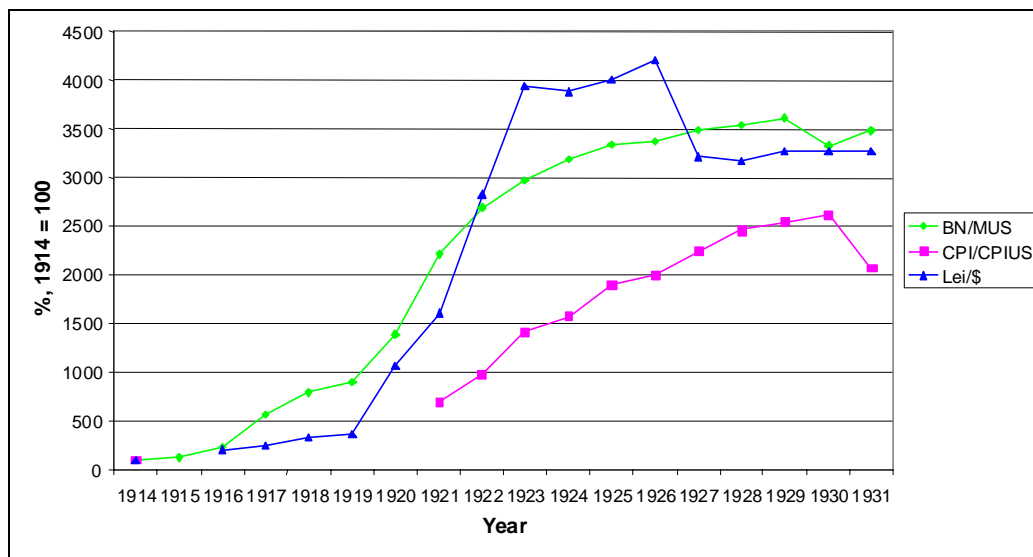
Chart 7: Development of Relative Banknote Circulation, Relative Prices and Exchange Rate in Bulgaria, 1914–1930



Sources: See chart 6.

We finally look at developments in Romania and Yugoslavia (charts 8 and 9). Here we find the same qualitative picture for Romania, which fixed a new gold parity in February 1929, except for the fact that the parity was set at a slightly overvalued rate.

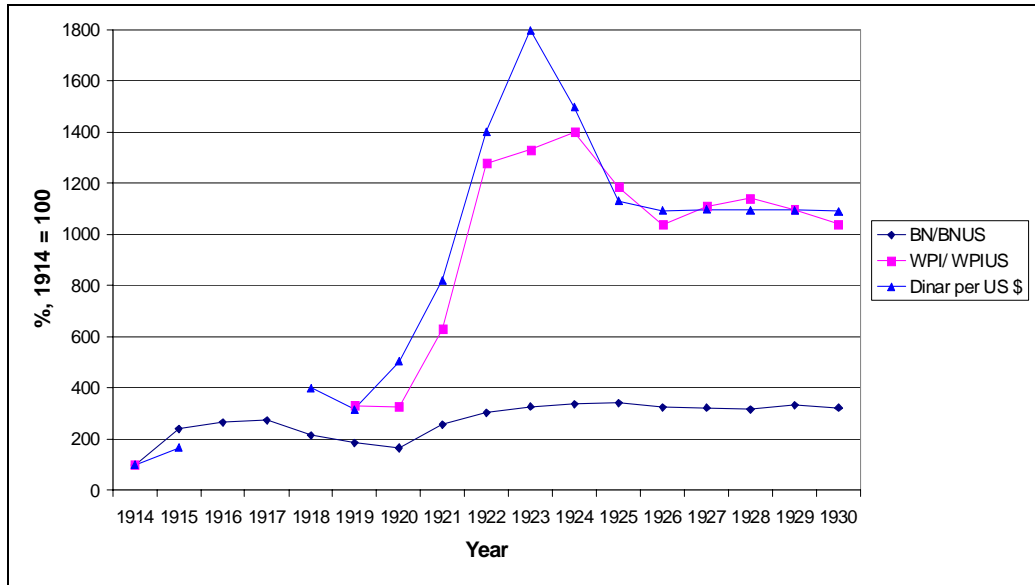
Chart 8: Relative Banknote Circulation, Relative Prices and Exchange Rate in Romania, 1914–1931



Sources: See chart 6.

Because of the lack of data for Serbia/Yugoslavia during the war period it is an open question whether the relative banknote circulation again dragged up exchange rate and relative prices in the beginning. Also, wholesale prices had to be used since cost of living or retail price index was not available. Now we know from other historical episodes that relative wholesale prices follow the exchange rate more closely. In spite of this we find an undervaluation of the dinar. The new gold parity implied, however, purchasing power parity with relative wholesale prices vis-a-vis the dollar. Measured in relative cost of living indices this might well have shown up as an undervaluation. Similar to the case of Bulgaria the relative level of banknotes in circulation is incredibly low. It again corresponds to the low level of the real stock of banknotes noted above. In both cases this remains a puzzle.

Chart 9: Relative Banknote Circulation, Relative Wholesale Prices and Exchange Rate in Serbia/Yugoslavia, 1914–1930



Sources: See chart 6.

4. Conclusions

The study of the four hyperinflations in Balkan countries as well as the milder inflations in the wake of the First World War have, on the whole shown the same qualitative characteristics typical for other inflations. The following hypotheses have been confirmed in most cases:

1. The real stock of money increases in the beginning of inflation more than price level and exchange rate.
2. When, however, inflation goes on and accelerates, exchange rate and price level move ahead more than the real stock of money even with steadily rising nominal stock.
3. An undervaluation develops rather soon and is typical for inflation.
4. When monetary stabilisation is undertaken, undervaluation diminishes.
5. The fixing of the exchange rate takes place at a still undervalued rate because of domestic political reasons in most cases.
6. Currency substitution is an important factor especially during high inflations.

We have, however, also found some exceptions and puzzles. The overvaluation of the Bulgarian currency during hyperinflation in the 1990s is remarkable, though doubtful. Also, the stabilisation of the Romanian currency in the late 1920s occurred at a slightly overvalued exchange rate implied by the new gold parity. Finally, the low level of the real stock of banknotes in Bulgaria and Yugoslavia after 1922 are puzzling. Further analysis of these events may be important to shed more light or to correct some of the above hypotheses. Moreover, a looking for evidence whether currency substitution played a role during the inflations in the wake of the First World War should also be on the research agenda.

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Effective Exchange Rates in Bulgaria 1897–1939¹

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1. Introduction

Recently effective exchange rates for many *core* countries and some of the *periphery* have been subjected to detailed scientific research. Solomou and his collaborators did the painstaking job of data collection and developing a cross-country as well as cross-time comparability of among the different regions of the Classical Gold Standard. In a seminal paper with Catão (2000, p. 372) Solomou questioned the conventional wisdom of the *fixed exchange rate regime, reflecting the predominance of an Anglo-American perspective*. This research aims at the inclusion of yet another area of the ‘periphery’ that was generally so far omitted when the operation of the Gold Standard and the interwar gold-exchange standard were in review.

Our main purpose is to construct nominal and real effective exchange rates of the Bulgarian lev. The hope is that compiling long-term historical series will encourage further studies on Bulgarian quantitative economic history. Applying today’s widely accepted economic methodology will enable us to test the potential of adjustment mechanisms in the Europe’s Southeastern fringe. The current paper was inspired by the South-East Europe Monetary History Network (SEEMHN)

¹ Acknowledgements to: Ivaylo Nikolov (Loughborough University, UK) for providing us with Maddison data on CPI, Svetla Vladimitova (BNB librarian), who helped us with the data collection, and Matthias Morys (Oxford University) for providing us with price data for Austria-Hungary. We are also grateful for comments received by Roumen Avramov (Centre for Liberal strategies-Sofia).

Data Collection Project². This would be a second such attempt in the SEE region after the work of Lazaretou (1995) on Greek nominal and real exchange rate development to the best of our knowledge.

The current paper is divided into 3 parts. The main body of research is presented in the second part, which additionally subdivided into three sections. In the first subsection we make a brief overview of the applied methodology. The second and the third subsections focus on two key from analytical point of view periods between 1897 and 1913 and 1927 and 1939. In the last part of the article we use standard econometric techniques to study some export's determinants and particularly the impact of the Real Effective Exchange Rate (REER) and external demand on exports' development. Such an analysis could provide us with interesting insights on whether and under what circumstances REER influenced export development. Moreover, the quantitative analysis would allow us to give some suggestions on the devaluation dilemma in the 1930's. Detailed presentation of data and sources is presented in the Appendix.

2. Effective Exchange Rates for Bulgaria

2.1 Methodology

According to a BIS economic paper on measuring international cost and price competitiveness (Turner and Van't Dack, 1993) three elements are important for ensuring proper construction and interpretation of nominal effective exchange rates: (1) the choice of currencies to be included, (2) the weighting structure to be assigned to the set of currencies and (3) the base period.

Bilateral exchange rates of the Bulgarian lev against foreign currencies are available from Feb. 1897,³ which determined the beginning of the period in review of the paper. The exchange rate data was collected from the Exchange Rate Section in the State Gazette. Normally, the BNB reported the rate 3 to 4 times a week of which we used one observation trying to draw it from or near the following dates – the 7th, the 14th, the 21st and the 28th of each month. As the next step we have calculated the monthly exchange rate as a simple average of these four observations. From the information reported in the newspaper we used only the rate of bills of exchange, as this was the way most of the trade was financed, thus leaving the ER for banknotes and coins aside. Then, using a simple average

² The South-Eastern European Monetary History Network was initiated in 2006 by the central banks of Albania, Austria, Bulgaria, Croatia, Greece, Romania, Serbia, Slovenia and Turkey.

³ Bulgarian National Bank (BNB) was established in 1879. In 1885 it was granted monopoly on banknote issue. Few years later in 1891 Bulgarian gold and silver backed banknotes gained convertibility.

between ‘buy’ and ‘sell’ rates, we calculated the ER of bills of exchange, drawn against all the main commercial partners.

The choice of currencies which are to be included in the basket is determined by our purpose to cover as most as possible of Bulgaria’s foreign commodity exchange, conditional on price data availability (details about data description are provided in the Appendix). Although there is another internationally recognized weighting system⁴ (Turner and Van’t Dack, 1993; Edwards 1989; Lipschitz and McDonald, 1991) taking into account domestic production of each trading partner (*double weights*), it is difficult to employ it for the period under study since output data for most countries including Bulgaria is either unavailable or unreliable. With respect to the method of aggregation, we apply the geometric weighted average (instead of arithmetic average) in order to preserve the relationship between exchange rates quoted in national currencies per 1 unit of foreign currency and vice versa (Bozhkov, 2004). NEER is calculated according to the formula:

$$NEER = \prod_i \left[\frac{1}{ER_{BGL/X_i}} \right]^{w_i},$$

Where ER_{BGL/X_i} is the bilateral exchange rate of the LEV for one unit of foreign currency of country i , and w_i is the respective weight of i country in the foreign trade of Bulgaria.

The Bulgarian nominal EER is calculated incorporating eight/ten of its main trading partners (Austria-Hungary, divided into Austria and Hungary after the First World War, Belgium, France, Germany, Italy, the Ottoman Empire/Turkey Switzerland, the UK and the USA), thus covering over 2/3 of Bulgaria’s commercial exchange – an average of 87.5% in the pre First World War-period and 77% for the interwar years. The share of all trading partners has been determined on a yearly basis. Shorthand methods have recently been applied (Solomou and Catão 2000; Shimazaki and Solomou, 2001 and Catão and Solomou, 2003) using several (either two or three) base years. In our understanding, however, the technique followed here is painstaking yet far more precise procedure for determining the foreign currencies that should be included in the basket.

Real effective exchange rate is defined as the nominal rate deflated by of foreign prices or costs relative to those at home. Applying the same geometric average procedure of aggregation, we calculate the REER in the following way:

$$REER = \prod_i \left[\frac{P^{BG}}{P^i * ER_{BGL/X_i}} \right]^{w_i},$$

⁴ Double weighting systems are applied by most international organizations like BIS, OECD, IMF, and European Commission.

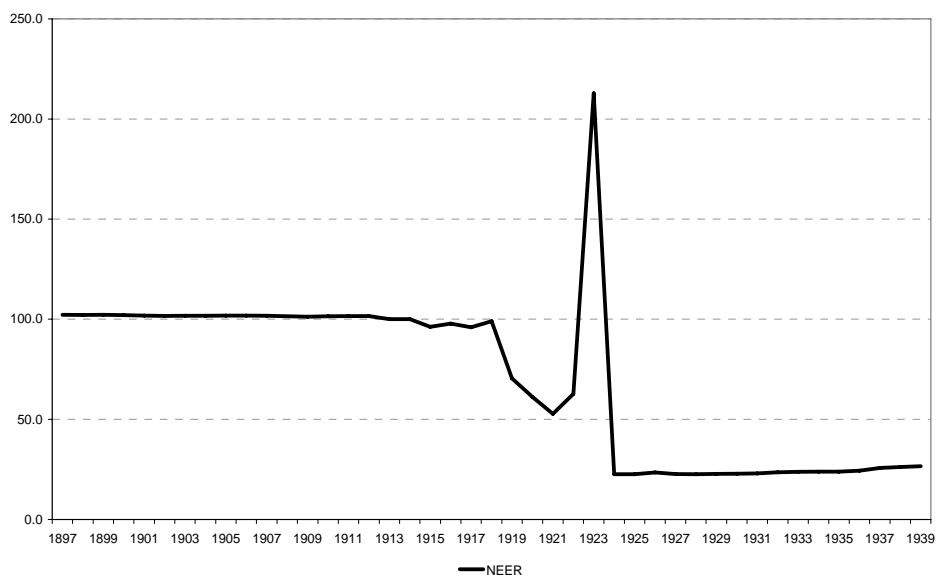
Where P^{BG} is the price deflator in Bulgaria, P^i is the price deflator in the respective trading partner of Bulgaria and all other notations are the same like in the NEER formula.

Real EER was derived by using consumer price indicators where possible, as was the case for Austria, Belgium, France, Germany, Italy, Switzerland and the UK (Maddison 1991) and Bulgaria for the interwar period. Unfortunately, as the (Consumer Price Index) CPI was not available for Bulgaria prior to the First World War and for Turkey for the whole period 1897–1939 we were forced to resort to the wholesale price index (Pamuk 2000, Statistical Yearbook of Bulgarian Kingdom, various years). However, as Solomou and Catão 2000 point out, this should not cause any significant problems because of the *high correlation between the GDP deflators and consumer price deflators*. In the Bulgarian case, which is best known to us, this consumer price index excluded the rent and clothing but included detailed information about food, drinks and heating. However, we should stress again that the aforementioned data problems make the REER calculated only indicative estimates of the general trends. The weights used are the same trade weights as were used in the nominal EER calculation.

2.2 Long-term Perspective

Another methodological aspect of calculating effective exchange rates is to have a constant basket of currencies (Ellis, 2001), i.e. it should include the same currencies (countries) over the whole period under review. For the sake of constructing a long-term historical time series of effective (nominal) exchange rates, we find ourselves constrained to form a basket of only 6 currencies identified by six trading partners of Bulgaria – France, Germany, Italy, Switzerland, the United Kingdom and Turkey which together comprise up to 60% on average for the whole period (1897–1939). This methodological requirement restrained us to include Austria-Hungary and Belgium in the sample. After the First World War the former Hapsburg Empire was divided into several independent states (Austria, Hungary, Czechoslovakia, Poland and Yugoslavia) while for Belgium there is no exchange rate reported for the years 1915 to 1918 when it was under German occupation. The data for the two significant Bulgarian trading partners would later be reintegrated when focusing our research on the two key episodes (the Gold Standard and the postwar currency stabilization).

Provided the way EERs are constructed, upward movement should be interpreted as appreciation with respect to the base period which is 1913 as the most commonly used one in the literature on the subject (Shimazaki and Solomou 2001) and the historical data bases (Maddison 1991, Mitchell 1992) and downward movement as depreciation (chart 1).

Chart 1: Bulgaria's NEER (1897–1938, 1913/1914=100)

Source: Authors' calculations.

The long-term development of Bulgaria's nominal effective exchange rate seems to experience slow depreciation towards the end of the Classical Gold Standard, which is common for the other countries in the gold club *core* and the *periphery* after mid-1890s (Solomou and Catão, 2003). The decade of warfare (three consecutive wars: the First and Second Balkan and the First World War) triggered Bulgarian effective exchange rate depreciation. In 1919, it reached the trough at 47.37% of its original 1913 value. Within a single year (1923) the trend was completely reversed when Bulgaria's Nominal Effective Exchange Rate (NEER) appreciates by a factor of 24. This in fact was due mainly to the devaluation of the Reichsmark and the significant German share of Bulgaria's visible trade (an average of 24% for the whole period). Although we do not pretend that NEER gives us the exact degree of appreciation and depreciation, one can find in Nenovsky and Dimitrova (2006, p. 10) that "in June 1923 a sharp rise to 75 *stotinky*⁵ per US dollar was observed which recorded appreciation of 245 percent".

It was not before 1924 when Bulgaria, following some of the *core* countries (like France) undertook measures for exchange rate stabilization. Unlike the U.K. Bulgaria fixed its national currency at a new devalued parity. The new parity of the

⁵ According to the law from 1885 1 lev was subdivided into 100 *stotinky*.

lev established *de facto* in 1924 was 77 percent under its prewar level. Bulgaria's poor gold reserves position⁶ and the heavy burden of its foreign debt service narrowed dramatically the room for maneuvers during the Great Depression leaving Sofia with virtually no choice but to defend its national currency (Ivanov 2004, Nenovsky et al, 2007).

This policy choice was translated in Bulgarian NEER as a monotonous appreciation after mid-1920s accompanied by Draconian measures for maintaining a stable exchange rate of the of the national currency. Following the German *Devisenbewirtschaftung* experience a combination of trade and foreign exchange restrictions were introduced in 1931. They helped the government to preserve, at least officially, the parity of the lev. It was not before 1933 when a system of export subsidies was put in place, thus unofficially devaluating the lev with approximately 25 percent. Officially, however, the peg against the gold was maintained until the end of the period in review.⁷

2.3 Short-term Perspectives

The period in review (1897–1939) is characterized by turbulent episodes and severe disturbances in the international trade and economic development evidenced by the high volatility (standard deviation) of the shares (around the mean) designated to the respective trading partners of Bulgaria (Germany – 15.4, Turkey – 8.2, the UK – 6.1, Italy – 5.9) and of the coverage of the basket itself (7.5). This implies different biases of the constructed long-term NEER for some years. As the effective exchange rates are very sensitive to changes in the trade structure and high inflationary currencies (Ellis, 2001), we consider focusing the analysis in two sub-periods. Another important motivation for such our decision is the data break in 1913 or 1914⁸ in both Maddison and the Statistical Yearbook of Bulgarian Kingdom price indices. Last but not least, in that way we would be able to make a comparison in-between the two time spans without losing consistency.

⁶ Apart from the external constraint on borrowing after WW-I, Bulgaria suffered from purely domestic constraints on capital accumulation like chasing the capital accumulation during WW-I upon the accusation of being “illegally acquired on the account of those who fought for Bulgaria” (article 4 from the Law for Putting on Trial the Culprits for the National Catastrophy), high tax burden on corporate profits and political instability (Boshulkov, 1927). For a recent review in the literature cf. Avramov, 2007.

⁷ Actually, Bulgaria never devalued until the late 1940s. *De facto*, however, the lev was subjected to an adjustment mechanism through the currency control, the export subsidies and the paper-exchange standard during the Second World War.

⁸ Maddison (1991) CPI data is divided into sub-periods with a break in 1913. The luck of overlapping observations for some countries prevented us from constructing a series for the whole period. Similarly, in the case of Bulgaria, we use one price indicator for the period prior 1913 and another for the period after.

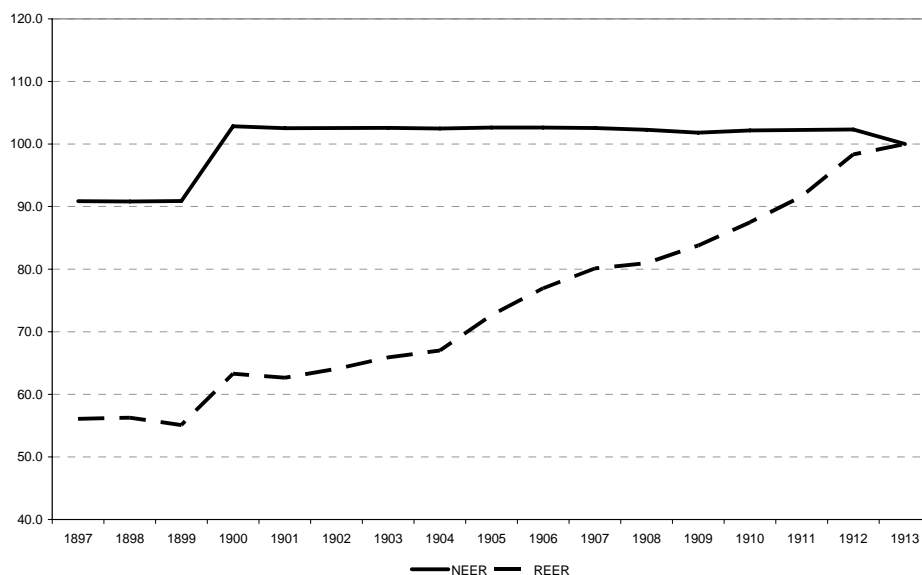
The huge structural changes in international trade and periods of hyperinflation forced us to construct series for two unattached sub-periods. Their borders were defined in purely empirical manner influenced more by the data availability constraint, rather than following some theoretically justified criteria (like Garofalo 2005).⁹ For both periods we managed to construct economically consistent indicators of effective ERs, which more or less characterize the two major exchange rate regimes, i.e. the Classical Gold Standard and the Gold-Exchange Standard between both world wars. Although we cannot directly compare values of effective exchange rates between the two periods, such analytical technique would allow us to study the sub-periods in more details as well as to allocate the general developments across them. Furthermore, dividing the long-term NEER trend into two short-term periods would allow us to include several important trade partners (the USA, Belgium, Austria and Hungary) that were omitted so far due to data breaks.

2.3.1 First Sub-Period (1897–1913)

The first period stretches between 1897 (the first year for which we were able to get detailed exchange rate data) and 1913, as the latter serves as a base year. In international context it covers the final stage of the Classical Gold Standard. The effective exchange rate covers eight countries with which Bulgaria conducted 88% of its foreign trade turnover¹⁰. Among its main trading partners we managed to incorporate Turkey (18%), Austria-Hungary (18%), the UK (16%), Germany (14%) and Belgium (10%).

⁹ In Garofalo (2005) the author also employs econometric approach for classifying exchange rate regimes, which prove to cover the major episodes of exchange rate experience in Italy identified also according to the methodology for periodization applied in economic history.

¹⁰ In contrast to ERRs calculated as ideal Fischer ideal index (Solomous and Catão, 2000), the trade shares in our calculations are average values of the respective periods.

Chart 2: Bulgaria's EERs (1897–1913, 1913=100)

Source: Authors' calculations.

Putting the EERs under the magnifying glass (chart 2) we can detect in the late 19th century a close to 10 percent depreciation of the lev in nominal terms with respect to its 1913 level. In 1900, however, the NEER exhibited a sharp appreciation of 13.2 percent, triggered by the weakened Austria-Hungarian Crown (Eichengreen, 2002). Investigating bilateral exchange rates of the lev it turned out that the crisis affected most Austria-Hungary from all of the Bulgarian trading partners in EER basket. From the 1900 peak NEER marginally depreciated by 2.5 percent on average till end of the Classical Gold Standard. Conversely, the REER was appreciating throughout the whole period starting from a very competitive (low) price level.

The degree of appreciation might be however slightly biased by our choice to use another (the only available) price indicator for Bulgaria, which might be described as something between CPI and retail price index from today's point of view¹¹. The index reported by Bulgarian General Directorate of Statistics included 98 commodities mainly food, drinks and heating. According to the occasionally survived peasants' budgets from 1907 those items comprised nearly 2/3 of the rural

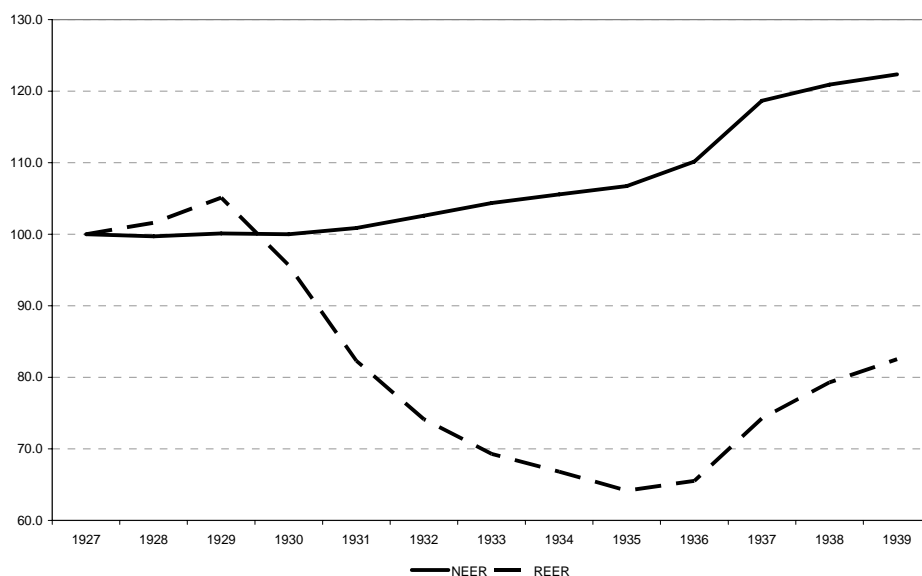
¹¹ Given the character of consumption and the degree of home production in the country at that time, we consider it representative for capturing consumer prices changes, and hence appropriate for a consistent international comparison.

consumption (about 80 percent of the population lived in villages). If clothing is also taken into consideration as far as the wool and goat-hair were widely used by the population in rural areas for self-preparation of garments, then the index coverage would reach 80 percent. Obviously, the rents were the only significant item excluded from the index. Unfortunately, official statistics does not report data on rents before 1911 preventing us from the calculation of CPI for Bulgaria during the years of the Classical Gold Standard.

2.3.2 Second Sub-Period (1927–1939)

The second time series is calculated for most of 1920s and 1930s with a base in 1927 (chart 3). In such a way we were able to exclude the First World War and its devastating consequences and concentrate on the postwar stabilization of the lev. Interestingly, although the number of the currencies in the basket is bigger (10 countries), Bulgaria's foreign trade coverage decreases (by an average of 75 percent). The number of main foreign trade partners increased after WW-I due to the split of Austria-Hungary into several independent states and the inclusion of the USA.

Chart 3: Bulgaria's EERs (1927–1939, 1927=100)



Source: Authors' calculations.

As a result of the devaluation of several key currencies in early 1930s Bulgarian NEER started to appreciate. When the sterling left the “gold club” in 1931 the Lev

was overvalued by close to 2 percent with respect to its 1927 level. This was followed by another 2.5 percent appreciation in 1933 driven by the U.S. departure of the gold. The intense trade relations with Germany, the specific bilateral trade agreements (clearing, exchange rate premiums and compensations¹²) as well as the collapse of the Gold block after the Banque de France's decision to go off gold in 1936 resulted in 7 percent further appreciation of the Bulgarian currency.

The REER development could be split into 3 sub-periods. Until 1929 when Bulgaria was on the upward curve of the economic cycle the REER continue to appreciate by another close to 5 percent from its level in 1927. This was mainly a result of the 7.5 percent 1927 Stabilisation Loan granted under the auspice of the League of Nations and the influx of foreign capitals that followed suit. The Great Depression put a sudden end to the short-lived gold inflows reversing the trend to a steep depreciation aggravated by the sharp slump in agricultural prices. The trough was reached in 1935 when the REER of the lev was 35 percent under its 1927 level. From mid-1930s onwards the national currency started gaining strength and by the 1939 it restored half of its value.

The post-1929 development of REER allows us to analyze the familiar devaluation/deflation dilemma that Bulgarian elite was facing during the Great Depression from an unfamiliar vantage point. Political considerations played an important role in determining its decision to stay on gold. It could be argued that co-operation with Bulgaria's former adversaries in the Entente was the cornerstone of the entire reconstruction effort in Bulgaria from as early as 1919. (Tooze and Ivanov, 2007) Certainly, there was no doubt in the mind of the People's Block governments that took control of Bulgaria from June 1931 that they should follow the line of international and domestic stabilization pursued since 1920s. Debt repudiation would have questioned this key policy dogma and should have certainly resulted into a deeper economic and political isolation. As the People's Bloc Prime Minister Nicola Mushanov (1931–1934) was to put it in 1933: *"We are too weak to solve alone, with our own Dutch courage, the (economic) problems."*¹³

As we shall see shortly (section 3) this politically driven regime choice surprisingly did not come at a high economic price. With the autarkic drive at its extreme and the quantitative restrictions stifling the international trade in 1930s further REER depreciation would have hardly boosted Bulgarian export and stabilized its balance of payments.

3. Relationships between REER and Exports in Bulgaria

Further to the above discussion, here we propose an attempt to study export determinants and particularly the impact of REER and external demand on export

¹² For more details see Toshev (1941–42) and Svrakov, (1941).

¹³ Stenografski dnevnitsi na XXIII ONS, 23 Nov. 1933, p. 231.

development. Based on fundamental textbook theoretical relationships real export should predominantly reflect REER movements and foreign demand (Rivera-Batiz and Rivera-Batiz, 1985). The relationship can be illustrated with the following formula:

$$M^* = M^*(REER, Y^*),$$

Where M^* as real export (volume of export) is determined by REER and Y^* is foreign demand. According to the method of REER calculations (upward movements indicate appreciation) real export is expected to be in reverse relationship with respect to REER development, i.e. to have a negative sign (referred below as negative impact), while real exports and external demand should exhibit developments in the same direction.

An indicator of the external demand (Y^*) is the real GDP growth of Bulgarian trading partners. As a proxy we take GDP per capita aggregated for the core 12 European countries at 1990 international Geary-Khamis dollars (Maddison, 2003). Due to the lack of long-term historical series of export deflators of Bulgaria, M^* is approximated by the physical volume of export (thousands of tones). Anticipating that this might have some biases on the estimates, we also investigate the impact of both factors on nominal export, i.e. total amount of export incorporating price changes.

The impact of the long-term REER on the exports is studied for the whole period – from 1896 to 1939, while the impact of the short-term REER is analyzed for the two sub-periods 1896-1913 and 1923-1939. The estimation procedure includes preliminary unit root tests of the constructed time series and cointegration tests. These tests do not provide evidence of co-integration relationships among the variables we consider, so less advanced techniques than VAR or VEC, like OLS regressions using stationary transformations of the variables have been applied. An attempt to differentiate the impact of the REER on the nominal and real exports is made through the use of respectively the volume of exports as a proxy variable for the real exports (table 1) and exports in current leva (table 2).

For the whole period in review the long-term REER has a statistically significant, although of small size (0.08) negative impact on the volume of exports (as initially expected). The analysis for the period shows a significant negative impact on the volume of exports of the period 1915–1920 (modeled as a dummy variable), which can be explained by the war and post-WWI economic slow-down.

Table 1: Impact of REER and Foreign Income on Volume of Exports

Models	Equation 1 (log of exports)		Equation 2 (log of exports)		Equation 3 (1 st diff of log)	
Period/ Factors	REER (log)	Foreign income (1 st diff of log)	REER_ST (1 st diff of log)	Foreign income (1 st diff of log)	REER_ST (1 st diff of log)	Foreign income (1 st diff of log)
1896 - 1939	-0.088824	1.318458	-	-	-	-
<i>t</i> -statistic	-2.321326	0.414798	-	-	-	-
<i>R</i> -squared		0.734064	-	-	-	-
1896-1913	-	-	-2.058866	2.127893	-	-
<i>t</i> -statistic	-	-	-4.22638	0.986926	-	-
<i>R</i> -squared	-	-		0.54875	-	-
1923-1939	-	-	-	-	0.127352	-0.816524
<i>t</i> -statistic	-	-	-	-	0.484371	-0.641216
<i>R</i> -squared	-	-	-	-		0.582457

Source: Authors' estimations.

It should also be noted that short-term REER and the volume of exports show significant relation for the period 1896–1913 which suggest that during the Classical Gold Standard one percentage point REER appreciation resulted in more than 2 percentage points in real export contraction. The estimation for the second short-term period of 1923–1939 leads to a conclusion that neither the REER nor the foreign income has a significant influence. The volume of exports however, fluctuates around some autonomous value, which could be interpreted as an autonomous real export or could be also biased by the characteristics of the indicator (physical volume in tones). Moreover, it shows significant deviations in the years of 1930/31 and 1936 as a result of some idiosyncratic factors. The extraordinary increase in the of real export in 1930/31 is motivated by the good harvest given that the Bulgarian export is dominated by agricultural products, while the comparatively high increase in 1936 could be explained by the intensifies trade with Germany as a result of the overwhelming clearing agreement and the strong war orientated demand of this country. The foreign income has no statistically significant impact of the volume of export both in the analysis of the whole period and in the analysis of the two sub-periods.

Table 2: Impact of REER and Foreign Income on Exports in Current Leva

Models	Equation 1 (log of exports)		Equation 2 (1 st diff of log)		Equation 3 (1 st diff of log)	
Period/ Factors	REER (log)	Foreign income (1 st diff of log)	REER_ST (1 st diff of log)	Foreign income (1 st diff of log)	REER_ST (1 st diff of log)	Foreign income (1 st diff of log)
1896 - 1939	-0.001379	0.791589	-	-	-	-
<i>t-statistic</i>	-0.083405	0.916792	-	-	-	-
<i>R-squared</i>		0.303735	-	-	-	-
1896-1913	-	-	-3.406283	-	-	-
<i>t-statistic</i>	-	-	3.02794	-	-	-
<i>R-squared</i>	-	-	0.825413	-	-	-
1923-1939	-	-	-	-	-0.013754	3.634461
<i>t-statistic</i>	-	-	-	-	-0.764486	2.757762
<i>R-squared</i>	-	-	-	-		0.474177

Source: Authors' estimations.

As we mentioned above, given the characteristics of real export, we would like further to investigate the relationship between export and REER daring to break the economic dichotomy between the nominal and real terms. From all regressions, total export is explained to a certain extent by the REER only for the short-term based variable for the period 1896–1913. Given the exhibited REER appreciation for the whole period, one percentage point of REER appreciation is associated with 3.4 percentage point decrease in nominal export. In the other two cases (the long-term REER for the whole period and the short-term REER for the period 1923–1939) the impact of the REER is statistically insignificant. However, in the second sub-period a significant positive influence of the foreign income is observed.

4. Concluding Remarks

Finally, we can summarize that the REER has a negative impact on the real exports, and a negative impact on the nominal exports of the period 1896–1913. Based on the results we may argue that under comparatively free international trade which characterized the Classical Gold Standard (1896–1913), REER movements have statistically significant impact on export in compliance with the theoretical postulates. The insignificance and even the opposite theoretical impact of REER on export for the interwar period could be explained by the collapse of the free international trade after the First World War and the quantitative restrictions introduced as a reaction to the Great Depression. In fact as a result of the hostile international trade environment, the observed REER depreciation did not contribute to an increase in export. Moreover, in this line of reasoning, we could even argue that REER could not be employed as an efficient instrument for export stimulation under conditions of trade restrictions.

This argument could be used with respect to the devaluation dilemma in the 1930s suggesting that no further REER depreciation would have improved the trade balance of Bulgaria on the export side. Furthermore, as shown in (Nenovsky, Pavanelli and Dimitrova, 2007), even the allowed exchange premiums on limited private foreign trade deals of Bulgarian exporters reaching 25% in nominal terms (which could be interpreted as the market determined exchange rate development of the Bulgarian lev), translated into less than 6% in real terms which could have a marginal effect on real exports if any.

According to our estimations the impact of the foreign income on exports is not statistically significant except in the case of nominal exports for the period 1923–1939 when one percentage point in foreign income could bring 3.6 percentage points in export. This further suggests that it is the foreign demand or free international trade which dominated the REER effect on export in the interwar period.

To conclude, we found statistically significant and theoretically justified impact of REER on the volume of export provided that free international trade is the prevailing paradigm. Under imposed trade restrictions, in the case of autarchy in its extreme, we were unable to establish a statistically significant relationship between REER and exports. These findings provide us with economic arguments with respect to the devaluation dilemma in the interwar period supporting the political choice and all implemented policy instruments for officially maintaining the stable exchange rate.

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Appendix 1: Data Description

A. International trade weights.

Countries and their weights (simple average) for the respective period.

Period I. From 1897–1913: Austria-Hungary (18%), Belgium (10%), France (7%), Germany (14%), Italy (4%), Switzerland (1%), UK (16%) and Turkey (18%). Total coverage (88%), standard deviation: 4.1.

Period II. From 1922–1936: Austria (9%), Hungary (2%), Belgium (4%), France (6%), Germany (28%), Italy (11%), Switzerland (3%), UK (6%), USA (2%) and Turkey (3%). Total coverage (75%), standard deviation: 4.4.

Source: Bulgarian Statistical Yearbooks, various years.

B. Exchange rates

Period I. From 1897–1913: Annual average series is constructed averaging 12 monthly observations, as the latter are arithmetic averages of 4 weekly observations at a certain dates. Due to the lack of averages for some periods, we take the average of the buying and selling bilateral exchange rates (raw data).

Source: State Gazette; Bulgarian Statistical Yearbooks; Izvestia na BNB.

Period II: From 1914–1939: Annual average bilateral (selling) exchange rates. Just for the sake of consistency we compare overlapping values for 1914 and detected minor differences, which do not bias the general development of exchange rates. Due to the lack of bilateral exchange rates against the Hungarian national currencies before 1925, we reconstruct the series on the basis of correlation of 1 between the HUP and ATS (taken as first difference).

Source: Bulgarian Statistical Yearbooks, Izvestia na BNB.

C. Price data

All price data is CPI (1913/1914=100) from Maddison (1991) except the one for Austria-Hungary, Hungary, Turkey and Bulgaria. The CPI value for 1920 for Belgium is reconstructed from Mitchell's cost-of-living indices (1992) as the time series overlap almost completely for the rest of the period.

Austria-Hungary: wholesale price index 1914=100 (generously provided by Dr. Matthias Morys).

Hungary: cost-of-living index 1929=100 (Mitchell 1992).

Turkey: cost-of-living index for Istanbul 1914=100 (Pamuk 2000).

Bulgaria: for the period 1887–1913 – index number of the price change of 98 goods; studying this indicator it represents something between CPI and retail price index. Given the character of consumption and the degree of home production at

that time, we consider it representative for capturing consumer prices changes, and hence appropriate for a consistent international comparison.

For the period 1924–1938 – cost-of-living index (food, electricity and heating for 12 major cities in the Kingdom of Bulgaria (1914=100). The same one is quoted in Mitchell (1992).

Appendix 2: EERs Data Series

Year	NEER Index (1913/1914=100)	REER index (1913/1914=100)	NEER Index (1913=100 and 1927=100)	REER Index (1913=100 and 1927=100)
1897	102.2	67.8	90.9	56.1
1898	102.1	68.0	90.8	56.3
1899	102.2	66.5	90.9	55.1
1900	102.0	66.6	102.9	63.3
1901	101.8	65.6	102.5	62.6
1902	101.6	66.9	102.6	64.1
1903	101.7	69.0	102.6	65.9
1904	101.7	70.6	102.5	67.0
1905	101.8	75.5	102.6	72.6
1906	101.8	79.2	102.7	76.9
1907	101.7	81.6	102.6	80.1
1908	101.5	82.8	102.3	81.0
1909	101.3	85.8	101.8	83.8
1910	101.5	89.1	102.2	87.5
1911	101.5	92.3	102.3	91.6
1912	101.5	98.2	102.3	98.3
1913	100.0	100.0	100.0	100.0
1914	100.0	100.0		
1915	96.2	119.9		
1916	97.8	198.1		
1917	95.9	363.8		
1918	99.0	724.6		
1919	70.5	712.9		
1920	61.2	1032.4		
1921	52.7	937.1		
1922	62.7	2336.3		
1923	212.8	1123113.9		
1924	22.6	289.5	288.3	258.3
1925	22.6	272.4	175.5	146.1
1926	23.5	309.1	185.3	174.3
1927	22.7	307.6	100.0	100.0
1928	22.6	311.0	99.7	101.6
1929	22.8	321.1	100.1	105.1
1930	22.8	296.4	100.0	95.6
1931	23.0	264.5	100.9	82.3
1932	23.6	245.8	102.6	74.1
1933	23.8	231.2	104.4	69.3
1934	23.9	223.4	105.6	66.8
1935	23.9	213.3	106.7	64.2
1936	24.4	215.5	110.2	65.5
1937	25.7	236.5	118.7	74.3
1938	26.2	250.5	120.9	79.3
1939	26.6	261.0	122.3	82.5

Exchange Rate Regimes of the Dinar 1945–1990: An Assessment of Appropriateness and Efficiency

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Abstract

The aim of this paper is to examine adequacy, efficiency and consequences of the foreign exchange policy of the dinar during the period after the Second World War up until 1990. During this period, the dinar was the national currency of the Second Yugoslavia (1945–1990/92). Also, this paper provides the answer to the question why the dinar during this 45-year period remained a weak and unconvertible currency.

The authorities of the Second Yugoslavia changed the exchange rate regimes of the dinar three times. The dinar was on a fixed regime from 1945 until 1973. Regime of managed floating was pursued between 1973 and 1989, when the fixed regime was again adopted as the nominal anchor of macroeconomic stabilization program. Convertibility of the dinar was officially declared as the aim of foreign and overall economic policy for the first time in 1965.

Analysis shows that applied regimes were appropriate in reference to the external and internal economic conditions at the time of their introduction. However, under all three regimes, the dinar remained an overvalued currency and multiple exchange rates prevailed. The exchange rate approached the real levels occasionally but just for the very brief periods of time – after devaluations (1945–1973), in 1983 and about the middle of 1990. Overvaluation and the system of multiple exchange rates were incompatible with the concept of currency convertibility.

Overvaluation of the dinar produced three main consequences: first, a permanent deficit of the current account of the balance of payments; second, a vicious cycle of mutually conditioned devaluation (depreciation) and inflation; third, money substitution.

Inefficiency of the foreign exchange policy is caused by the two groups of factors – direct and indirect (that are actually basic causes). The direct factors are: persistent structural imbalances of the economy, inflation (hyperinflation),

inconsistency in overall macroeconomic policy (particularly between monetary and foreign exchange policies), confused legal framework and political disintegration of the country. These direct factors, however, have their roots in the implementation of both import-substitution strategy and ideological concept of self-management socio-economic system. In these circumstances functioning of the market mechanism was highly suppressed. Thus, without market economy, true market concepts – foreign exchange rate and convertibility, did not have a chance to develop and exercise their functions fully.

Under prevailing ideological, political and economic circumstances, implemented exchange rate regimes did not contribute to the stabilization of the dinar – fixed regimes failed to impose monetary discipline and managed floating failed to impose monetary self-discipline. Ideological and legal frameworks were conducive to persistent monetary expansion (accommodative monetary policy) that directly led to the weakening of the dinar under both exchange rate regimes. That way, throughout the period, the dinar was moving further away from *de facto* convertibility. In 1990, *de iure* convertibility was used as an instrument of economic policy in the hope to strengthen the dinar but instead, it facilitated huge capital outflows which added to its further weakening.

The case of the Second Yugoslavia again confirms the old truism – stable political environment is the basic precondition for the stability and convertibility of the national currency.

1. Introduction

The First Yugoslavia was the kingdom established after the First World War. The Second Yugoslavia was the socialist republic formed after the Second World War and lasted until the period 1990–1992. The dinar was the national currency of both states and was not convertible, except for the very short period in 1931 and in the first half of 1990.

The aim of this paper is to examine adequacy, efficiency and consequences of the foreign exchange policy of the Second Yugoslavia.

From 1945 to 1990, the exchange rate regime of the dinar was changed three times. At first, during the Bretton-Woods monetary system, the dinar was on a fixed regime until 1973. Managed floating regime was pursued between 1973 and 1989, when the fixed regime was again adopted as a nominal anchor of macroeconomic stabilization program.

The convertibility of the dinar was officially proclaimed for the first time in 1965 as the aim of foreign exchange policy, but actually it was implemented at a much later date – as an comprehensive economic program put in operation in December 1989.

The exchange rate represents a major macroeconomic price which influences the structure of foreign trade and consequently the structure of the economy itself.

To perform this allocating function appropriately, the exchange rate should be on a real level. Otherwise, unreal exchange rate tends to create external imbalance. Overvaluation creates a deficit and undervaluation a surplus in the current account of the balance of payments. If maintained for longer periods, the unreal exchange rate leads to inadequate structure and even autarky of the economy. Hence, the maintenance of the real exchange rate of a national currency is the essential criterion for assessing efficiency of a foreign exchange and overall national economic policy, especially in the long-run.

The very nature of an exchange rate is that it equates a general level of prices and not individual prices of goods and services in domestic and foreign countries. This means that there should be only one exchange rate for a national currency. The single national currency and the single general level of prices are consistent with the single exchange rate. In practice, however, countries apply multiple exchange rates by which different kinds of international transactions are carried on at different rates of exchange. Countries apply multiple rates to achieve certain aims of economic policy – most usually to adjust balance of payments but also to foster growth of chosen priority sectors, to diversify economy or to prevent external shocks to destabilize the real sector as in the case of volatile capital movements. Though these reasons may sound justifiable, monetary history shows that multiple rate system seldom operates effectively. It usually produces unfavorable consequences such as inflation, inadequate resource allocation, fiscal losses, evasion of repatriation of foreign exchange proceeds etc¹. According to the Articles of Agreement of the International Monetary Fund (IMF), multiple currency practices are incompatible with convertibility of a currency as is stipulated in Article VIII, Section 3². Although a multiple system of exchange rates is contradictory to the ideal exchange system contemplated by the Articles, the IMF has the authority to approve multiple currency practices but only on a temporary basis³.

The application of the single exchange rate is taken as the second criterion for assessing efficiency of foreign exchange policy of the dinar.

Significance of the exchange rate is proportionate to the level of openness of the economy – the more open the economy, the more significant the exchange rate.

¹ Multiple rates have negative international implications as well. For example, during 1930s multiple rates were used particularly in Germany and Latin America and this led to retaliation by other countries. Widespread use of multiple rates then created general environment of exchange instability and disruption of smooth international economic and financial relations. (W. John R. Woodley, *What Does It Really Mean? – Multiple Currency Practices*, Finance and Development, June, 1964, p. 113.)

² Articles of Agreement of the International Monetary Fund, IMF, Washington D.C., 1978, p. 29.

³ Joseph Gold, *The Fund's Concept of Convertibility*, International Monetary Fund, Washington D.C., 1971, Pamphlet Series, No. 14. p. 19.

Small economies are destined to higher openness and therefore the exchange rate for them is very important, if not the basic price. The economy of the Second Yugoslavia was small which means that the realization of the real and single exchange rate, especially in the long run, represented one of the main aims of overall economic policy. This analysis will show whether Yugoslav authorities recognized and achieved this aim.

2. Fixed Exchange Rate Policy of the Dinar 1945–1973

The Second Yugoslavia belongs to the group of original members of the IMF. Officially, it became the member on December 27, 1945.

As a member country, Yugoslavia adopted a policy of a fixed exchange rate for the dinar according to its obligation under the original Articles of Agreement of the IMF. Article IV, Section 1a, gave member countries choice to express par value of the currency “in terms of gold as a common denominator or in terms of the United States dollar of the weight and fineness in effect on July 1, 1944”.⁴ The dinar parity was defined in gold by law. This was the basis of the exchange rate in terms of the U.S. dollar.

2.1 Gold Parities and Exchange Rates

The Yugoslav Finance Ministry determined the first parity of the dinar in gold by its Decision adopted on April 12, 1945. This decision set the temporary price of one kilogram of pure gold at 56.300 dinars. From that price came gold parity of 0.017762 grams for the dinar and exchange rate of 50.06 dinars per U.S. dollar.⁵

This first gold parity was determined without consultation with the IMF and was not registered at the IMF. In September 1946, the IMF notified original member countries to register parities of their currencies. By the end of 1946, 32 original member countries registered parities but seven countries, among them Yugoslavia, requested prolongation for registration which IMF allowed.⁶

Close political relations with the U.S.S.R., which assumed negative attitudes towards the IMF after the conference in Bretton Woods, were the main reasons why Yugoslavia did not continue its cooperation with the Fund up until 1949. That year, the conflict between the USSR and Yugoslavia broke out and Yugoslavia

⁴ Ronald I. McKinnon, *The Rules of the Game: International Money in Historical Perspective*, *Journal of Economic Literature*, March 1993, Volume XXXI, Number 1, p. 15.

⁵ M. Ugričić, *Novčani sistem Jugoslavije, (Monetary System of Yugoslavia)*, Zavod za izdavanje udžbenika, Beograd, 1967, p. 145.

⁶ M.G. de Vries, *Twenty Years of Par Values, 1946–1966*, *Finance and Development*, No. 4, 1966, p. 284.

turned back to normalize its relations with the Fund. Yugoslav authorities asked for registration of the gold dinar parity equivalent to 0,0177734 grams that Fund accepted on May 23, 1949.

With the approval of the Fund, Yugoslav authorities changed parity several times during the fixed regime. These changes are shown in table 1.

Table 1: Gold Parities and Exchange Rates 1945–1973

<i>Date</i>	<i>Price of gold*</i>	<i>Gold parity**</i>	<i>Exchange rate Din/USD</i>
12.4. 45.	56,300	0.017762	50.60
25.5. 49.	56,263.80	0.0177734	50.00
1.1. 52.	337,582.37	0.00296224	300.00
1954	x	x	632.00
1.1. 61.	843,955.92	0.0011848	750.00
26.7. 65.	1406594,78	0.00071094	1250.00
1.1. 66.**	14,065.40	0.0710937	12.50
23.1. 71.	16,879.14	0.0592447	15.00
31. 12. 71.	20,769.38	0.0481478	17.00
22.2. 73.	23,077.09	0.043333	17.00
31.12. 73.	Managed floating regime		

* *In dinars. Price of gold stipulated by Law on dinar parity, officially published in Službeni list SFRJ – numbers: 2/1961; 33/1965; 4/1971; 58/1971; 51/1972 and 8/1973.*

** *In grams of gold.*

** *After introduction of the new dinar: 100 old dinars = 1 new dinar.*

Source: 1. International Financial Statistics – various numbers.

2. V. Pertot, *Ekonomika valutnih tečajeva, (Economics of Foreign Exchange Rates)*, Zagreb, 1986, p. 358–361.

Political ties with the U.S.S.R. until 1949 also influenced the choice of economic strategy in Yugoslavia. The Yugoslav authorities adopted the Soviet model of economic development and organization of economic activities that decisively determined the nature of foreign exchange policy and significance of exchange rates and all other prices. Yugoslavia adopted the soviet model of intensive industrialization by the development of iron metallurgy and heavy industry in the environment of centrally-planned economy and foreign trade state monopoly. This non-market economic model made all prices, including the foreign exchange, only accounting categories without real economic meaning. In theory, this strategy of

economic development is known as import-substitution strategy applied in various forms by many other developing countries too.

Yugoslavia, however, lacked necessary preconditions for development of iron and heavy industries – from raw materials, machinery to capital. Yet, conditions were artificially created by a myriad of economic policy instruments – from price controls to various export and import stimuli in favor of designated priority industries. In that way, autonomous internal price structure was created which was characterized by price disparities. Internal structure and level of prices did not correspond with international prices, too.

Unfortunately, internal and external price disparities, created at first for structural purposes and later reinforced by constantly expansionary monetary policy, remained a dominant characteristic of the Yugoslav economy until the end of its existence. Thus, price disparities remained as the main factor influencing the level of exchange rate and exchange rate policy.

In the beginning, differences between foreign and domestic prices were covered from specially created official fund – Equalization Foreign Trade Fund (EFTF). Since all differences in individual prices of imported and exported goods, calculated at official exchange rate, were covered from EFTF, in practice actually existed multiple system of exchange rates with practically as many rates as tradable goods and services.

The yearly average effective export and import rates for the period 1946–1951 are shown in table 2.

Table 2: Yearly Average Effective Export and Import Exchange Rates 1946–1951 (in dinars per U.S. dollar)

<i>Year</i>	<i>Export exchange rate</i>	<i>Import exchange rate</i>
1946	299	302
1947	320	310
1948	318	340
1949	328	318
1950	354	329
1951	354	326

Source: F. Martinović, Devalvacije jugoslovenskog dinara, (Devaluations of Yugoslav Dinar), 1973, p. 17.

Data from tables 1 and 2 show that there was a big difference between the official rate of 50 dinars per U.S. dollar, and effective export and import rates that were in the whole period above 300 dinars per U.S. dollar. This huge difference clearly demonstrates overvaluation of the dinar in those years.

A complex multiple rate structure with numerous different rates made the official rate, registered with the IMF, completely unoperative and fictitious.

Overvaluation, in the circumstances of import-substitution strategy, contributed to the appearance of current account deficit (table 8).

2.2 The First Devaluation 1952

The system of multiple rates can influence favorably or unfavorably the government budget but in some cases it can be neutral. When the level of effective import rates is higher than the level of effective export rates, the government collects profits. If the levels of effective export and import rates are similar, there is no effect on the budget.

Data from table 2 suggest that levels of effective export and import rates in Yugoslavia were similar until 1951. Yet, Yugoslav authorities faced the problem of covering the deficit of EFTF. This deficit came as a result of the current account deficit. It was obvious that both deficits, current and of the EFTF, were primarily caused by overvaluation and price disparities so that measures to adjust deficits required to remove price misalignments.

Political cleavage with the U.S.S.R. during the late 1940s, led to changes in the opinion of Yugoslav political leadership towards market economy. As a result, political and economic turnabout happened in 1952 when the centrally-planned system was abandoned and a new economic system was introduced under the name of self-management system. The new economic system accepted limited internal and external liberalization of market mechanisms. In the sphere of international relations, state monopoly of foreign trade was abandoned and EFTF ceased to exist. Also, the first devaluation was carried out. The new gold parity of 0.00296224 grams was registered with the IMF on the basis of which the new rate of 300 dinars per U.S. dollar was determined.

The newly accepted exchange rate was below the effective rates shown in table 2. It was also below the rate of 450 dinars per U.S. dollar estimated at the end of 1950 as a real exchange rate⁷. Accepting this rate of 450 dinars per U.S. dollar meant that dinar had lost 8/9 of its value in less than three years. Yugoslav authorities were not willing to admit publically such huge level of devaluation in time of conflict with the U.S.S.R. This means that political, rather than economic, criterion was prevalent in determining the scope of the first devaluation.

At that time, it was not possible without economic disturbances of a large scale to correct quickly price disparities – abruptly raise the prices of agricultural products and decrease the prices of industrial products. For that reason, method of gradual removal of price disparities was chosen. Consequently, it meant gradual transition from complex system of multiple exchange rates to the single one.

⁷ V. Pertot, *Ekonomika valutnih tečajeva, (Economics of Foreign Exchange Rates)*, Informator Zagreb, 1986, p. 354.

The new multiple rate system took the form of coefficients. The official rate of 300 dinars per U.S. dollar was corrected with introduced export and import coefficients. The range of coefficients was 0.5–4 which gave differential rates ranging from 120 to 1,200 dinars per U.S. dollar. Coefficients below 1 were granted to preferential imports (raw materials and intermediate goods) and to non-preferential exports (wheat). Coefficients around 1 were predominantly applied by other (than wheat) agricultural exports and by sectors which prices were on the international level (reckoned with the official rate). Exports and imports of industrial products which prices were higher than international ones, were granted various coefficients between 2 and 4 (2; 2.25; 2.35; 2.50; 3 and 4). Hence, new system of multiple rates in the form of coefficients, continued to give preferential status to industry, especially processing industry. This means that new economic system did not change the old economic strategy based on import-substitution. Autarky of the economy was also defended by sharp quantitative import restrictions.⁸

Table 3: Annual Average Effective Export and Import Exchange Rates 1952–1958 (in dinars per U.S. dollar)

Year	Export exchange rate	Import exchange rate
1952	585	440
1953	650	501
1954	837	759
1956	858	719
1958	---	802

Source: See table 2.

As it is seen from table 3, already at the end of the devaluation year (1952), effective rates were well above official rate of 300 dinars per U.S. dollar – particularly the export rate. At the end of 1953, average effective rate was about two times higher than the official rate. In the same year, however, free exchange rate on the exchange market was 2000 dinars that is about sevenfold the official one.

2.3 Limited Foreign Exchange Market and Unregistered Devaluation 1954

Process of gradual unification of differential rates was planned to be carried out through progressive reduction of export and import coefficients and with the

⁸ O. Kovač, *Spoljnoekonomska ravnoteža i privredni rast, (External Balance and Economic Growth)*, Ekonomski fakultet, Beograd, 1985, p. 226.

functioning of the foreign exchange market. This market was opened in 1952 under the peculiar name - Exchange Accounting Place (EAP). The EAP centers were located in capitals of the Yugoslav republics as foreign exchange markets with floating rates.

From the beginning, EAP centers were limited foreign exchange markets since the National Bank of Yugoslavia (NBY) still allocated foreign exchanges for the major imports. The supply of foreign exchange to the EAP centers came from retention quotas that at first were set at 40%. Later, retention quotas were changed in order to improve the functioning of the market.

Although the EAP was a very narrow and limited market, it is astonishing how precisely free floating rates reflected purchasing power of the dinar and international position of the Yugoslav economy. In October 1952, four months after the opening of the EAP, the average free floating rate was around 600 dinars per U.S. dollar. This rate was equivalent to the computed real rate that take the rate of 450 dinars as a real rate at the end of 1950 and inflation differentials between Yugoslavia and U.S.A. in 1951 and 1952.

When the free floating rate at the end of 1953 reached 2,000 dinars per U.S. dollar, authorities raised the retention quota to 50% at the beginning of 1954 in order to increase supply on the EAP market. However, this measure did not prevent the free rate from rising above 2,000 dinars.

After consultation with the IMF, Yugoslav authorities devalue dinar to the new rate of 632 dinars per U.S. dollar. This rate was not registered at the IMF but was applied in official transactions of the NBY. Thus, two official rates came into existence in this period – one registered at the IMF of 300 dinars and the other unregistered but operational rate of 632 dinars per U.S. dollar. The Unregistered rate was known as “single accounting exchange rate”.

The unregistered rate was corrected with the new export and import coefficients in the range of 0.8–2 that gave new range of exchange rates from 556 to 1264 dinars per U.S. dollar. In comparison to the previous ranging of 150–1,200, the new ranging of exchange rates actually devalued only the lowest rate from 150 to 556 dinars per U.S. dollar.

Contrary to the expectations, increased retention quota and unregistered devaluation with new range of multiple rates did not lead to equilibrium on the EAP market. Therefore further measures were taken at the end of 1954 – decrease of the retention quota to 15% and separation of the EAP market into two segments. On the one segment, so-called „circles“, the NBY offered certain quantities of foreign exchange for 80 major importers. The other segment continued to function with free floating rates that continued their upward trend and reached astronomical rates of 4,000 dinars per U.S. dollar. Such state of affairs with extremely high differences between official rates (300 and 632) and free floating rate unabled further functioning of the EAP market. Instead of removing structural imbalances that were at the core of the problem of smooth functioning of the foreign exchange

market, authorities abolished the EAP foreign exchange market in 1961 as part of exchange reform effected that year.

2.4 Exchange Reform and Second Unregistered Devaluation 1961

Economic reform in 1961 was suddenly undertaken and was focused on exchange measures. Apart from closing the EAP foreign exchange market, this reform abolished export and import coefficients, introduced new retention quota and effected another unregistered devaluation.

While old registered exchange rate remained at 300 dinars per U.S. dollar, the new second official rate was determined at 750 dinars per U.S. dollar ('single accounting exchange rate'). Estimates of that year showed that the real rate should be 850 dinars per U.S. dollar.⁹ Official devaluation failed to establish a real rate this time because authorities maintained that any rate above 750 dinars would excessively raise cost of imports of raw materials and intermediate goods for industry. From this argument it is clear that processing industry was once again given priority over agriculture.

The IMF accepted once again unregistered devaluation on the ground that the abolishment of export and import coefficients was important step towards transition to a single exchange rate. From the same reason, the IMF allowed introduction of three export subsidies of 11%, 22% , 32% and tax reliefs for exporters. This way, four different export rates were actually put in effect – 750; 832,5; 915 and 950 dinars per U.S. dollar.

On the import side, import tariffs took the place of import coefficients. Import tariffs covered all imports providing total protection for domestic producers. The level of Yugoslav import tariffs at that time were among the highest in Europe.

In essence, the exchange reform of 1961 did not abolish the system of multiple rates. It only made transition from the system of explicit to the system of implicit multiple exchange rates.

The system of implicit rates also has different effective export and import rates that are reckoned by taking into account all instruments by which official rate is corrected. Export effective rate is calculated by adding all export subsidies, tax reliefs and other export promotion measures to the official rate. Import effective rate is calculated by adding tariffs and other duties to the official rate.

The structure of implicate multiple rates between 1961 and 1965 is shown in table 4.

⁹ V. Pertot, *Ekonomika valutnih tečajeva, (Economics of Foreign Exchange Rates)*, op. cit., p. 359.

Table 4: Official and Effective Export and Import Exchange Rates 1961–1965 (in Dinars per U.S. Dollar)

Year	Official Exchange Rates		Effective Exchange Rates	
	Registered	Accounting	Export	Import
1961	300	750	1,002	879
1962	300	750	1,023	912
1963	300	750	1,041	906
1964	300	750	1,050	953
1965	1,250	-	1,126	1,106

Source: S. Obradović, *Problemi platnog bilansa Jugoslavije, (Problems of the Yugoslav Balance of Payments), Savremena administracija, Beograd, 1972, p. 50.*

Data from table 4 show: first, that the level of export stimulation and protection of domestic producers were very high; second, that system of multiple rates favored exports more than imports; third, that dinar was overvalued throughout the period. The scope of overvaluation is indicated by export effective exchange rate as it is accepted in theory.

Multiple system of exchange rates produced several negative consequences. It had inflationary effect, distorted further domestic price structure and produced wrong signals for resource allocation. Based on export stimulation measures, new investments were undertaken, especially in the most favored import-dependant processing industries. These industries were developed in this period mostly thanks to the favorable official exchange rate.

2.5. Economic Reform and Devaluation 1965

The aim of economic reform undertaken in 1965 was very ambitious – to establish a completely new economic system that would lead to the convertibility of the Yugoslav currency. It was for the first time that convertibility was officially proclaimed as the final aim of economic policy.

Together with radical change of prices, general level of prices was increased and more consistent price structure was formed, devaluation of the dinar was legally effected by adopting new gold parity of 0.000710937 grams of pure gold per one dinar.¹⁰ The new parity was registered at the IMF. On the basis of this parity, the NBY determined new exchange rate of 1250 dinars per U.S. dollar. In relation to previous registered exchange rate of 300 dinars per U.S. dollar, devaluation was very high – 317% but in relation to previous accounting rate of 750 dinars per U.S. dollar, devaluation was 66.6%.

¹⁰ Zakon o paritetu dinara, (*Law on Dinar Parity*), Službeni list broj 33/1965.

It is generally accepted that this devaluation brought external value of the dinar to its real level. This devaluation would be remembered as the only one during the fixed rate regime that established the real exchange rate.

After the replacement of the old dinar by the new one, with the rate of 100 old dinars for the new dinar, official gold parity of 0,0710937 grams and exchange rate of 12,5 dinars per U.S. dollar, were again registered at the IMF on January 1, 1966.

By removing export subsidies and tax reliefs for exports, introduced in 1961, this reform opened the space for transition to single exchange rate. Exporters were granted only general retention quota of 7% that could be held in dinars in domestic banking system.

After the first year of implementation of the bold reform measures towards liberalization of the internal market, political enthusiasm slowly faded in recognizing that radical reforms of prices lead to restructuring of the economy which could produce great economic, social and political disturbances. The authorities resorted again to price controls in the form of relatively fixed prices of intermediate goods and free prices for processing industry products.

In combating the rising external deficit after 1966, severe import restrictions were used and again various export stimulation measures were introduced in the form of export subsidies, tax reliefs and differential retention quotas. With decentralization in economic management, decisions about tax reliefs were mandated to the local authorities which led to the extensive use of this policy instrument.

The new official funds were established for direct subsidization of exports, so-called “Self-management Interest Communities” (SIC). These funds would continue to play a very important role during 1970s.

In this period authorities began for the first time to implement measures of indirect export stimulation through the preferential terms of loans extended to exporters.¹¹

Extensive use of direct and indirect export stimulation measures resulted from the fact that export sector itself was highly dependent on imports as it was the case for the whole industrial sector.

Contrary to the intention of the 1965 reform to establish a real and a single exchange rate, numerous import and export measures again created the environment of multiple exchange rates that are shown in table 5.

¹¹ S. Obradović, Problemi platnog bilansa Jugoslavije, (*Problems of the Balance of Payments*), Savremena administracija, Beograd, 1972, p. 161.

*Table 5: Official and Effective Export and Import Exchange Rates
1966–1970 (in dinars per U.S. dollar)*

<i>Year</i>	<i>Official Exchange Rate</i>	<i>Effective Exchange Rates</i>	
		<i>Export</i>	<i>Import</i>
1966	12.5	13	13.75
1967	12.5	13	14
1968	12.5	13.25	14.37
1969	12.5	13.45	14.57
1970	12.5	13.74	14.87

Source: See table 4.

Between 1966 and 1970, the dinar was overvalued as in the previous period but at a much less degree mainly due to decreasing rates of inflation until 1970 (table 6).

2.6 Inflation and the Last Three Devaluations

Inflation in the Second Yugoslavia was generated by structural reasons and further was supported by expansionary monetary policy. Monetary expansion started during 1950s and continued in the 1960s.

In 1960–1965 period, yearly average inflation rate in Yugoslavia was 13.3%, in industrial countries 3.41% and in developing countries 8.03%.¹² At that time, only Brazil, Uruguay, Chile, Argentina and Korea had higher inflation than Yugoslavia. As it is already said, inflation surged in 1965 as a result of comprehensive price restructuring and liberalization after which a slowdown of prices appeared until 1970. In 1970, the inflation rate reached 10.9% and authorities responded by the introduction of the price freeze at the end of that year.

In a fixed exchange rate regime, higher domestic inflation than in foreign countries – main trading partners and the peg country, aggravate an external balance and lead to overvaluation. During the 1960–1970 decade, average inflation rate in Yugoslavia of 12.1% was much higher than in the the countries that were the main Yugoslav trading partners and in the U.S.A. as a peg country (table 7). As a result, Yugoslav current account deficit increased from 210 million U.S. dollars in 1960 to 899 million U.S. dollars in 1970.

¹² O. Kovač, op. cit., p.184.

*Table 6: Yearly Average Rate of Inflation in Yugoslavia 1960–1972
(in %)*

1960	9.7
1961	8.1
1962	10.3
1963	5.5
1964	11.6
1965	34.6
1966	22.8
1967	6.9
1968	5.0
1969	8.0
1970	10.6
1971	15.6
1972	16.6

Source: Statistički bilten 803, (Statistical Bulletin), SZS, Beograd, September 1973.

*Table 7: Yearly Average Inflation Rate in Yugoslavia and Selected
Countries 1960–1970 (in %)*

USA	Germany	Italy	Austria	Yugoslavia
2.8	3.1	4.4	3.6	12.1

Source: World Development Report, 1978, p. 76 and table 6.

Inflation, overvaluation and an increased current account deficit at the end of 1970 required new devaluation.

At the beginning of 1971, authorities adopted the new gold parity of 0.0592447 grams of pure gold that determined the new exchange rate of 15 dinars per U.S. dollar.¹³ This change in gold parity and exchange rate was registered at the IMF on January 23, 1971.

The new exchange rate, however, did not compensate fully the relative inflation in the period from the previous devaluation (1965) and after devaluation the dinar remained overvalued. Being aware of this fact, the authorities effected next devaluation at the end of 1971, on December 22, to the rate of 17 dinars per U.S. dollar that came from the new gold parity of 0.0481478 grams of pure gold.¹⁴ The IMF registered this change on December 31, 1971.

¹³ Zakon o paritetu dinara, (*Law on Dinar Parity*), Službeni list SFRJ broj 4, 1971.

¹⁴ Zakon o paritetu dinara, (*Law on Dinar Parity*), Službeni list SFRJ broj 58, 1971.

In addition to domestic reasons, two major occurrences in the international monetary system influenced devaluation from December 1971 – alignments of exchange rates of the Group of Ten major industrial countries, agreed on December 18, 1971 in Washington Smithsonian Institute and the IMF decision about the introduction of temporary regime of central rates and wider margins.¹⁵ In accordance with this decision, the NBY introduced wider margins of 2.25% around the new exchange rate.

According to purchasing power parity theory, the formula for calculating real exchange rate is:

$$R_i = R_o \frac{P_{ai}}{P_{bi}}$$

R_i = new exchange rate
R_o = exchange rate in the base period
P_{ai} = domestic price index
P_{bi} = foreign price index

Applying this formula for 1971, when Yugoslav inflation rate was 15.6%, American inflation rate 4.3% and exchange rate 15 dinars per U.S. dollar, the new real rate is calculated at 16.55 dinars which was very close to the chosen official rate of 17 dinars per U.S. dollar. This calculation shows that devaluation covered relative inflation in 1971 but the new rate can not be taken as the real one since the rate of 15 dinars taken in the formula was overvalued. Thus, after this devaluation, dinar again remained overvalued.

The last change of gold parity in the fixed regime occurred on February 1973, when new dinar parity of 0.043333 grams of pure gold was registered at the IMF.¹⁶ However, exchange rate in terms of U.S. dollar remained 17 dinars. Thus, there was only a devaluation of 10% in terms of gold. Since inflation in Yugoslavia in 1973 was 16.6% and in USA only 3.3%, without changing the exchange rate in terms of U.S. dollars, the dinar stayed in the overvaluation area.

2.7 Efficiency of the Fixed Exchange Rate Regime 1945–1973

Analysis shows that in the whole 1945–1973 period, the Yugoslav dinar remained an overvalued currency. Also, under the surface of a fixed regime, multiple exchange rates prevailed – at first in the form of explicit and later implicit rates.

¹⁵ Central Rates and Wider Margins: A Temporary Regime?, Executive Board Decision No. 3463–(71/126) adopted December 18, 1971.

¹⁶ Uredba o paritetu dinara, (*Decree on Dinar Parity*), Službeni list SFRJ, broj 8, 1973.

Failing to apply real and single exchange rates, authorities fail to fulfill basic preconditions for achieving convertibility that was declared as the aim of national economic policy in 1965. In this regard, it can be said that overall economic policy, not just foreign exchange policy, was not efficient.

There were two main factors that unabled the realization of real and single exchange rate – persistence of structural imbalances that were supported by price disparities and continued inflation that was generated by structural reasons and than supported by expansionary monetary policy. At the beginning, the main structural imbalance was between agriculture and base (iron and heavy) industry and later between primary and processing industries.

Continuous overvaluation caused a persistent current account deficit as it is shown in table 8. Current deficits were, on their part, exerting further pressures on the exchange rate. With the approval of the IMF, authorities carried out several devaluations that were very high in comparison to other countries during the Bretton Woods monetary system.¹⁷ Instead of improving the current account, devaluations, this policy led to inflationary effects in an environment of monetary expansion and a high level of protection. In this way, a vicious circle of inflation and devaluation was created.

Structural imbalances and monetary expansion, actually resulted from import-substitution development strategy chosen immediately after the Second World War. It was recognized that the only way to correct imbalances was to change this strategy. But, this was not done. Lack of political will and courage to face this demanding process of restructuring postponed it for the later date. That way, Yugoslavia entered the period of flexible exchange rate regime with unchanged economic strategy and the main structural imbalance between primary and processing industries.

¹⁷ Within twenty years after 1949, very few adjustments in exchange par values occurred and all were very modest. In Japan, par value of the yen remained unchanged at 360 yen/U.S. dollar from 1949 to 1971. (Ronald I. McKinnon, op.cit.).

*Table 8: Current Account of the Balance of Payments SFRY 1946–1973
(in million USD)*

Year	Merchandise	Services	Income	Current Account
1946	-210	-1.4	-	-211
1947	-106	-2.9	-	-109
1948	-56	-2.3	-	-58
1949	-14	7.3	-2.5	-135
1950	-111	7.5	-2.6	-106
1951	-249	15.7	-5.3	-239
1952	-144	16.7	-5.5	-133
1953	-229	10.4	-9.4	-230
1954	-121	18.0	-8.7	-112
1955	-205	34.9	-7.6	-179
1956	-166	51.4	-7.6	-122
1957	-273	65.4	-5.9	-213
1958	-236	60.6	-8.2	-184
1959	-217	58.0	-10.3	-169
1960	-269	70.0	-10.8	-210
1961	-346	79.3	-17.0	-284
1962	-199	103.0	-21.0	-117
1963	-278	168.0	-34.0	-144
1964	-435	211.0	-48.0	-272
1965	-200	245.0	-60.0	-15
1966	-351	244	-70	-177
1967	-454	281	-74	-247
1968	-533	315	-80	-298
1969	-659	400	-90	-349
1970	-1195	415	-119	-899
1971	-1163	811	-138	-490
1972	-613	965	-131	221
1973	-904	1220	-127	189

** Non-monetary gold included.*

Source: Balance of Payments Statistics Yearbook – various numbers.

3. Managed Floating Regime 1973–1989

Implementation of the managed floating regime began on July 12, 1973. Various external and internal factors influenced introduction of the managed floating regime.

3.1 Conditions for Floating

The main external factor of adopting managed floating for the dinar was the fundamental disturbance of the international monetary system that was fueled in 1971 by suspension of the gold-bullion convertibility of the dollar and progressed later by adoption of flexible exchange rates by the U.S.A. and other industrial countries. Currencies of foreign countries in which Yugoslav export proceeds and foreign obligations were denominated, fluctuated widely on foreign exchange markets. The only way to avoid these unwanted fluctuations of the dinar, was to leave any pegs and find suitable more flexible regime.

Failure to establish real exchange rate through several devaluations during the fixed regime and acceleration of inflation in 1972–1973, were internal factors in favor of flexibility. As in many cases in previous history, flexible rate was adopted in Yugoslavia as an instrument to find the real level of the exchange rate.

Hence, in prevailing external and internal circumstances, the adoption of the flexible regime for the dinar seemed rather adequate. The IMF classified the dinar in the group of currencies with managed floating – an arrangement that requires permanent surveillance over the level of the exchange rate.¹⁸

With the adoption of managed floating, the obligation to fix the value of the dinar in terms of gold ceased to exist. In October 1972, the new Law on Foreign Exchange stipulated that the dinar parity in the future would not be expressed in gold and it gave the mandate to the Federal government to take all the necessary measures to maintain the real exchange rate.¹⁹ According to the Law, the exchange rate is formed on the foreign exchange market within the limits determined by the Federal Government and the NBY. The foreign exchange market was opened on May 7, 1973 and started to work on a regular basis on July 12, when the dinar officially was put on managed floating.

3.2 Foreign Exchange Market

The excluding temporary experiment with the EAP market during the 1950s, the opening of the foreign exchange market in 1973 meant the introduction of a

¹⁸ IMF Annual Report 1975, p. 46.

¹⁹ Article 15, *Zakon o deviznom poslovanju (Law on Foreign Exchange Business)*, Službeni list SFRJ, No. 36, July 13, 1972.

completely new organizational method of dealing with foreign exchange. Until that time, there was a system of foreign exchange rationing with compulsory surrendering of foreign exchange proceeds to the NBY. Since the time of the opening of the EAP market, exporters were given retention quotas which had been changing over time. From 1972, retention quota increased from 7% to 20%.²⁰

The Law on Foreign Exchange stipulated organization, membership and other basic aspects of the foreign exchange market. The market was defined as an interbank market. The members were the NBY and “authorized banks” – those with a license to conduct international payments. In the beginning there were 21 authorized banks.

In operational terms, the foreign exchange market was structured in three segments – principal market called “Interbank Session” (held twice a week as a meeting of the NBY and authorized banks), authorized banks’ market (everyday dealings among authorized banks) and over-the-counter market (everyday selling and buying between authorized banks and their customers). The exchange rate formed in free dealings on the Interbank session was an obligatory rate for all transactions on the second and third segments of the market.

From 1975, authorized banks were allowed to buy and sell foreign exchange abroad.²¹ Introduction of the international arbitrage transactions facilitated: first, maintenance of cross-rates on the Yugoslav market (the structure of rates that corresponds to that on international markets) and second, the NBY’s intervention only in one foreign currency. However, in 1977 the NBY started to intervene in two currencies – U.S. dollar and Deutsche mark.

By the Law on Foreign Exchange, the Federal Government had the right to set basic elements of foreign exchange policy – central rate, margins and their change. In its intervention, the NBY respected guidelines set by the Federal Government which means that the NBY was not independent in its operations. It was stipulated that the Federal Government could change central rate if the market rate had tendency to break margins. The first central rate was set at 16 dinars per U.S. dollar and the first margins at 5% around the central rate.²²

Already in November 1973, four months after the opening of the market, the exchange rate broke the margins but the Federal Government abstained from devaluation and postponed it for another 12 months. In October 1974, depreciation of 7% was effected. The IMF was notified that the current account worsening required this depreciation.²³ Instead of 200 million U.S. dollars, as it was set in the

²⁰ Godišnji izveštaj NBJ 1972, *Annual Report NBY 1972* p. 62.

²¹ N. Živanović, *Politika i kretanje kursa dinara, Policy and Exchange Rate Performance*, Bilten NBY, 2, 1972, p. 24.

²² L. Jančić and V. Seljak, *Devizno tržište i njegov razvoj, (Exchange Market and Its Development)*, Bilten NBJ, No. 1, 1974, p. 32.

²³ IMF Annual Report 1975, p. 46 and 65.

“1971–1975 Social Plan of Development”, the current account deficit reached one billion dollars in 1974.²⁴ Also, projected figures for inflation failed. In 1974, inflation rate was around 30% that was much above the rate of 5% targeted in the Social Plan.²⁵ From that year till the end of the period of managed floating, very high inflation was the main cause of dinar depreciation.

As the mandate for the exchange rate was in the hands of the Federal Government, the Government was also responsible for maintaining efficient functioning of the foreign exchange market, i.e. stability of the market rates. The only way to accomplish this efficiency was to achieve macroeconomic stabilization and to start necessary structural adjustments (to correct inherited imbalances from the earlier times). Unfortunately, the Yugoslav Government did not succeed to implement such a policy in the period of managed floating. As a result, the dinar constantly depreciated with accelerating rates of depreciation which prevented smooth functioning of the foreign exchange market. Gradually, the market was losing importance and finally completely lost its significance during the 1980s. It is visible in quantitative terms from the total turnover on the market (table 9).

*Table 9: Turnover of the Foreign Exchange Market 1973–1982
(in million U.S. dollars)*

Year	Interbank Session	Authorized Banks	Total Turnover
1973	1,113,325	235,326	1,348,651
1974	2,377,975	647,997	3,025,972
1975	2,402,541	644,995	3,047,536
1976	2,397,283	649,560	3,046,843
1977	1,999,277	885,122	2,884,399
1978	2,063,743	722,519	2,786,262
1979	2,998,191	840,716	3,838,907
1980	1,068,415	412,686	1,481,101
1981	1,945,441	398,063	2,343,504
1982	2,234,361	123,535	2,257,896
	20,500,552	5,560,519	26,061,071

Source: I.Tasić, *Deset godina rada deviznog tržišta (Ten Years of Foreign Exchange Market)*, Jugoslovensko bankarstvo 6/1983, p. 74.

²⁴ V. Pejovski, Društveni plan razvoja Jugoslavije za period 1971–1975, (*Social plan of Development of Yugoslavia for 1971–1975 Period*) Jugoslovenski pregled, br. 11, 1971, p.9

²⁵ Inflation measured by wholesale index published in: International Financial Statistics Yearbook, 1991, p. 114.

In the period of managed floating, another factor came into the scene that added to the inefficiency of foreign exchange market. This was the confusion of the legal framework created by the new Constitution adopted in 1974. On its basis, many new laws were adopted among which the Associated Labor Act (ALA) in 1976 that was crucial for the functioning of the economy.

3.3 Confusion of the Legal Framework 1974–1977

The new Constitution and the Associated Labor Act (ALA) established a new economic system based on the idea of rational integration of market and planning in the environment of social ownership. The most important mechanism of this new system was the economic planning on every level – from the basic economic units (named Basic Organization of Associated Labor – BOAL) to the Federal Government by means of “self management consultations” and “social agreements” that were supposed to simulate market and planning.²⁶ On these very principles, the new Law on Foreign Exchange, adopted in 1977, stipulated regulations in the field of international transactions.²⁷

The new Law on Foreign Exchange, brought into the Yugoslav economic system two parallel foreign exchange mechanisms – foreign exchange market, on the one hand and “self-management agreements” (and “social compacts”) on the other. In essence, this second mechanism represented planning of redistribution of the foreign exchange through specially created bodies called – Selfmanagement Interest Associations for International Economic Relations (SIAIER). These official bodies were created on the level of republics and autonomous provinces. Legally, foreign exchange proceeds were owned by workers (in BOAL) as their social ownership. They had no legal obligation whatsoever to sell foreign exchange on the official foreign exchange market. In practice, this legal framework led to increasing power of the authorized banks in foreign exchange dealings. In circumstances of growing shortage of foreign exchange, owing to the widening current account deficits, every authorized bank gradually became an individual foreign exchange market itself. That way, functioning of the single official foreign exchange market was disrupted and an illegal market came into existence consisting of numerous small, closed black markets. Again, multiple exchange rates appeared but this time, not as a government policy, but as the illegal rates which spread throughout the economy.

As the total supply of foreign exchange was not concentrated on the official market, foreign exchange rate formed at Interbank sessions was not determined by

²⁶ B. Srebić, *Devizni sistem 1974 – 1990, (Foreign Exchange System 1974–1990)*, Jugoslovenski pregled, No. 3–4, 1990, p. 60.

²⁷ The full name of this law was: Law on Foreign Exchange Business and Foreign Credit Relations.

supply and demand forces but mostly by decisions of the Federal Government. Thus, the exchange rate of the dinar became non-market rate despite the existence of the foreign exchange market.

In the field of foreign borrowings, the Law on foreign exchange allowed a high degree of decentralization. Liberalized legal terms for borrowing abroad during high investment 1976–1980 period, resulted in sudden increase of national debt – from eight billion U.S. dollars in 1976 to 20 billion U.S. dollars in 1982. As a result, debt servicing started to exert rising pressure on the exchange rate.

The new legal framework adopted with the new Constitution (1974), not only prevented the foreign exchange market from normal functioning, but also transferred economic power from the Federal government and bodies to the lower levels – to the governments of the republics and autonomous provinces. The excessive economic decentralization slowly disrupted total internal Yugoslav market from functioning as one single market.

3.4 Exchange Rates and the Balance of Payments 1973–1989

It was expected that the managed floating regime would decrease the current deficit by finding the real level of the exchange rate. But, expectations were not fulfilled. Despite permanent depreciation, current deficits persisted and even increased (table 10).

In contrast to the NBY methodology used at that time, table 10 is constructed without unilateral transfers in order to stress the real magnitude of the deficit. Unilateral transfers were treated here as a method of financing the current account deficit.²⁸ In Yugoslav case, workers remittances were a predominant form of unilateral transfers not only in this period but until 1990.

²⁸ M. Ćirović, *Teorija uravnoteženja platnog bilansa, (The Theory of Equilibrating Balance of Payments)*, Savremena administracija, Beograd, 1980, p. 13.

*Table 10: Current Account and Exchange Rate 1973–1989
(in mill. U.S. dollars)*

Year	Merchandise	Services	Income	Current Account	Exchange rate*
1973	-904	1220	-127	189	16.242
1974	-2156	1278	-132	-1010	15.913
1975	-2027	1356	-186	-857	17.344
1976	-1398	103	-209	-1504	18.178
1977	-2778	-66	-202	-3046	18.298
1978	-2401	-289	-206	-2896	18.637
1979	-3631	-407	-380	-4418	18.973
1980	-2855	-396	-640	-3891	24.639
1981	-2276	-268	-1184	-3728	34.966
1982	-1661	-866	-1485	-4012	50.276
1983	-1078	-537	-1340	-2958	92.839
1984	-751	-429	-1543	-2723	152.822
1985	-572	-189	-1613	-2374	270.163
1986	-510	-274	-1270	-2054	379.222
1987	50	-1861	...	-1811	736.998
1988	779	-1264	-1797	-2382	2522.59
1989	58	-2804	-1469	-4215	2876.00

*Yearly average exchange rate - "rf" series from *International Financial Statistics Yearbook*, various years.

Source: *Balance of Payments Statistics Yearbook*, various years.

During managed floating, Yugoslavia continued with relatively high degree of trade and exchange restrictions which means that potential current account deficits would be much higher than those shown in table 10.

The highest deficit took place in 1979 – about 4.5 billion U.S. dollars. Unilateral transfers financed 50% of this deficit. The other half was covered by foreign credits in the amount of 1.35 billion and by decrease in reserves of 0.7 billion U.S. dollars.²⁹ This deficit accounted for 8% of the total deficit of the oil-importing developing countries that year.³⁰

Explosion of the current account deficit in 1979, brought Yugoslavia to the IMF. In the coming years, successive stand-by arrangements were concluded with

²⁹ B. Stojanović, Međunarodni monetarni fond i Jugoslavija, (*International Monetary Fund and Yugoslavia*), Ekonomski institut, Beograd, 1991, table 21, p. 116–117.

³⁰ Calculated with reference to: M.G. de Vries, *Balance of Payments Adjustments*, IMF, Washington, D.C., 1987, p. 168

the aim to stabilize economy and start structural adjustments.³¹ However, all these arrangements failed and in 1989, the second largest current account deficit of 4.2 billion U.S. dollars burst.

Current deficits and slowdown in exports caused severe problems in functioning of the foreign exchange market (table 9). In 1980 and 1981, high misbalance between supply and demand appeared. Supply of foreign exchange from the authorized banks decreased enormously from 1979 and almost disappeared in 1982. It was compensated by the NBY intervention that continued to be the main source of supply for the Interbank Session market.

The pace of the dinar depreciation gradually accelerated, especially in the beginning of 1983. This initiated process of currency substitution in internal transactions – dinar was losing money functions and was substituting with foreign currencies in internal transactions. Instead of going towards stability and convertibility, the dinar took the opposite direction.

3.5 Nominal and Real Effective Exchange Rates

In a system of flexible rates, the exchange rate of a national currency fluctuates differently in terms of different foreign currencies. It can simultaneously increase in terms of one group and fall in terms of the other group of foreign currencies. Understanding movements of a flexible exchange rate is possible by applying methodology of the nominal and real effective rates that show the average change in terms of the selected group of foreign currencies. Nominal and real effective rates are expressed in an index form.

The nominal effective rate is an index that shows average nominal change. To see if this change leads to the real level of exchange rate, the index of the nominal effective rate is deflated by the index of relative inflation and thus the index of the real exchange rate is derived. If the nominal change fully compensates relative inflation, the value of the real effective rate will be 100%. Thus, the real effective exchange rate of the dinar is the index of the nominal effective rate of the dinar deflated by the index of relative inflation in Yugoslavia and selected countries.

Indices of nominal and real effective rates of the dinar are calculated in this analysis on the basis of several methodological assumptions and criteria.

Theory suggests that the base period should be one in which the equilibrium of the balance of payments is achieved. According to this, 1971 was chosen as a base year.

³¹ Cooperation of Yugoslavia with IMF from 1945–88 in the book: B.Stojanović, *Međunarodni monetarni fond i Jugoslavija, (International Monetary Fund and Yugoslavia)*, Ekonomski institut, Beograd, 1991.

Nominal rates are calculated in terms of a basket of seven currencies. This basket was used by the NBY from 1984. Bilateral rates are taken from the published official quotation list from Interbank sessions without taking into account export stimulations as they were not available (table 11).

*Table 11: Exchange Rates 1971–1989 (in dinars end of year)**

Year	USD (1)	DEM (100)	ITL (100)	ATS (100)	CHF (100)	FRF (100)	GBR (1)
1971	17.0	527.54	2.92	70.00	442.71	332.31	44.30
1972	16.75	525.00	2.85	72.50	440.50	332.00	39.00
1973	15.60	590.35	2.49	80.37	490.31	340.04	36.36
1974	17.05	689.34	2.57	95.74	649.33	374.45	39.65
1975	18.00	695.43	2.65	97.84	688.06	406.98	36.84
1976	18.31	767.53	2.09	107.73	747.08	367.15	30.88
1977	18.45	858.45	2.09	119.15	897.35	384.70	34.38
1978	18.61	987.96	2.23	137.21	1107.24	435.72	37.33
1979	19.16	1117.07	2.38	155.39	1213.23	477.43	42.99
1980	29.30	1512.00	3.20	213.75	1681.03	654.58	69.67
1981	41.82	1840.87	3.46	263.10	2312.81	727.17	79.12
1982	62.48	2625.62	4.56	372.98	3115.08	927.30	101.10
1983	125.67	4578.49	7.54	649.10	5754.97	1494.61	180.48
1984	211.75	6776.53	11.02	964.19	8231.65	2214.90	247.80
1985	312.80	12838.02	18.16	1820.22	15127.32	4174.90	454.04
1986	457.18	23444.99	33.65	3335.60	28013.32	7093.96	670.45
1987	1244.35	78045.16	105.86	11075.58	96535.44	23032.70	2315.72
1988	5210.76	291029.12	395.89	41375.64	343454.69	85258.90	9350.89
1989	118160	7000000	9341	988961	7678685	2046060	189765

* Direct notation of exchange rate: number of dinars per unit of a foreign currency.

Source: 1. 1971–1975: Bilten NBJ, (Bulletin NBY), number 1, 1981.
2. 1976–1984: Bilten NBJ, (Bulletin NBY), number 1, 1985.
3. 1985–1989: Bilten NBJ, (Bulletin NBY), number 11–12, 1989.

Weights for calculating effective rates and relative inflation were given by the NBY. The structure of these weights is shown in table 12.

Table 12: Weights for Calculating Effective Exchange Rate Indices (in %)

USD	DEM	ITL	ATS	CHF	FRF	GBP	Total
0.43	0.30	0.09	0.06	0.05	0.04	0.03	1

Source: National Bank of Yugoslavia.

It is possible to use various indices for deflating nominal exchange rate. In a country with price controls it is very difficult to discern what index really reflects general level of prices. On the other hand, it is equally difficult to discern if prices at all reflect costs of production. Taking into account these difficulties in Yugoslav case, real effective rates are calculated on the basis of two indices – index of wholesale prices and consumer price index (tables 13 and 14). Thus, two different real exchange rates are calculated – R1 and R2.

*Table 13: Wholesale Price Indices in Yugoslavia and Selected Countries
1971=100*

Year	Yugos- lavia	U.S.A.	Germany	Italy	Austria	Switzer- land	France	UK
1971	100	100	100	100	100	100	100	100
1972	111.0	104.4	102.6	104.1	103.9	103.6	104.6	105.3
1973	125.7	118.0	109.4	121.8	105.2	114.7	120.0	113.0
1974	163.3	140.1	124.0	171.4	121.1	133.1	154.9	139.4
1975	198.6	153.0	129.7	186.1	128.8	130.0	146.1	171.6
1976	211.3	160.1	134.5	228.7	136.3	129.2	156.9	199.4
1977	231.5	169.9	138.3	268.5	140.3	129.6	165.7	235.7
1978	250.2	183.1	139.8	291.0	141.8	125.2	172.9	259.0
1979	281.7	206.0	146.5	336.2	147.7	129.9	195.8	287.3
1980	362.6	235.0	157.6	403.8	160.5	136.6	213.1	327.5
1981	519.9	256.5	169.9	474.0	173.3	144.5	238.0	358.9
1982	648.8	261.5	179.9	539.4	178.8	148.2	265.2	386.6
1983	860.9	264.9	182.6	592.3	179.9	148.9	288.3	407.5
1984	1377.5	271.3	187.9	653.9	186.5	153.8	313.9	431.1
1985	2540.1	269.9	192.4	701.6	191.4	157.3	327.7	453.5
1986	4280.0	262.0	187.6	695.3	181.3	151.2	318.5	473.0
1987	8307.6	268.9	182.9	714.0	180.9	148.1	319.2	491.5
1988*	25172.2	279.6	185.3	747.6	184.1	151.6	335.7	513.6
1989*	353996.6	293.6	191.2	795.5	189.5	158.1	354.2	539.8

Source: International Financial Statistics Yearbook 1991, p. 114 and 115.

**Indices in Yugoslavia in exact decimal numbers for 1988: 25172.2 and for 1989: 353996.6.*

*Table 14: Consumer Price Indices in Yugoslavia and Selected Countries
(in %)*

1971=100

Year	Yugos- lavia	USA	Germany	Italy	Austria	Switzer- land	France	UK
1971	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1972	115.9	103.3	105.5	105.7	106.4	106.7	106.2	107.1
1973	138.5	109.7	112.9	117.1	114.4	116.1	113.9	116.9
1974	169.0	121.8	120.8	139.5	125.2	127.4	129.5	135.5
1975	208.7	132.8	127.9	163.3	135.8	136.0	144.8	168.3
1976	232.0	140.4	133.4	190.6	145.7	138.3	158.7	196.1
1977	266.1	149.5	138.3	225.8	153.7	140.1	173.6	227.3
1978	303.7	160.9	142.0	252.9	159.2	141.6	189.4	245.9
1979	366.5	179.1	147.9	290.3	165.1	146.7	209.8	279.1
1980	479.8	203.2	155.8	352.2	175.5	152.6	237.7	329.3
1981	670.7	224.2	165.7	420.9	187.4	162.5	269.6	368.5
1982	882.0	238.1	174.4	490.3	197.5	171.8	301.4	400.2
1983	1236.5	245.7	180.2	561.9	204.1	176.9	330.3	418.6
1984	1912.9	256.2	184.5	622.6	215.7	182.0	354.7	439.5
1985	3295.9	265.4	188.5	679.8	222.6	188.2	375.3	466.3
1986	6255.6	270.5	188.4	719.9	226.4	189.7	384.7	482.2
1987*	13812	280.5	188.7	753.8	229.5	192.4	397.4	501.9
1988*	40622	291.7	191.2	792.2	239.9	196.0	408.1	526.6
1989*	544296	305.7	196.5	842.1	240.0	202.3	422.4	567.6

Source: *International Financial Statistics Yearbook 1991*, p. 116 and 117.

* Indices in Yugoslavia in exact decimal numbers for:

1987: 13812.4 1988: 40622.2 1989: 544,296.8

In accordance to the IMF methodology, effective rates of the dinar are calculated on the bases of indirect notation – one dinar is expressed in certain amount of foreign currency. Exchange rates of the dinar in indirect notation are shown in table 15. These rates are reciprocal to the ones shown in table 11.

*Table 15: Exchange Rate of the Dinar 1971–1989 (indirect notation)**

Year	USD	DEM	ITL	ATS	CHF	FRF	GBP
1971	0.059	0.189	34.246	1.428	0.226	0.301	0.023
1972	0.060	0.190	35.088	1.379	0.227	0.301	0.026
1973	0.064	0.169	40.160	1.244	0.204	0.294	0.027
1974	0.058	0.145	38.910	1.044	0.154	0.267	0.025
1975	0.055	0.144	37.736	1.022	0.145	0.245	0.027
1976	0.054	0.130	47.846	0.928	0.134	0.272	0.032
1977	0.054	0.116	47.846	0.839	0.111	0.260	0.029
1978	0.054	0.101	44.84	0.729	0.090	0.229	0.027
1979	0.052	0.089	42.016	0.643	0.082	0.209	0.023
1980	0.034	0.066	31.25	0.468	0.059	0.153	0.014
1981	0.024	0.054	28.90	0.380	0.043	0.137	0.013
1982	0.016	0.038	21.93	0.268	0.032	0.108	0.010
1983	0.008	0.022	13.26	0.154	0.017	0.067	0.005
1984	0.005	0.014	9.07	0.104	0.012	0.045	0.004
1985	0.003	0.008	5.50	0.055	0.007	0.024	0.002
1986	0.002	0.004	2.97	0.030	0.003	0.014	0.001
1987	0.0008	0.001	0.944	0.009	0.001	0.004	0.0004
1988	0.00019	0.0003	0.252	0.002	0.0003	0.00117	0.0001
1989	0.0000084	0.0000142	0.0107	0.0001	0.000013	0.00005	0.0000052

* Indirect notation of the exchange rate: number of foreign currency units per dinar.

Source: See table 11.

Nominal effective rate of the dinar is calculated by the formula:

$$N = \sum_{i=1}^n W_i \frac{R_{it}}{R_{io}}$$

N – nominal effective rate

W – weight of the currency “*i*”

R_{it} – dinar rate in “*t*” year

R_{io} – dinar rate at the end of 1971

In table 16, indices of the dinar rate change (R_{it}/R_{io}) are shown, on the basis of which nominal effective rates (*N*) are calculated and shown in table 17 and in chart 1.

Table 16: Indices of the Dinar Rate Change 1971–1989 (in %)

1971=100

Year	USD	DEM	ITL	ATS	CHF	FRF	GBP
Weight	0.43	0.30	0.09	0.06	0.05	0.04	0.03
1971	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1972	101.69	100.53	102.46	96.56	100.44	100.00	113.04
1973	108.47	89.42	117.27	87.11	90.26	97.67	117.39
1974	98.3	76.72	113.62	73.10	68.14	88.7	108.69
1975	93.22	76.19	110.19	71.57	64.16	81.39	117.39
1976	91.52	68.78	139.71	64.98	59.29	90.36	139.13
1977	91.52	61.37	139.71	58.7	49.11	86.38	126.08
1978	91.52	53.44	130.09	51.05	39.82	76.08	117.39
1979	88.13	47.08	122.68	45.02	36.28	69.43	100.00
1980	57.62	34.92	91.25	32.77	26.11	50.83	60.87
1981	40.67	28.57	84.39	26.61	19.02	45.51	56.52
1982	27.11	20.1	64.01	18.76	14.16	35.88	43.47
1983	13.56	11.64	38.72	10.78	7.52	22.25	21.74
1984	8.47	7.4	26.48	7.28	5.3	14.95	17.39
1985	5.08	4.23	16.06	3.85	3.09	7.97	8.69
1986	3.39	2.11	8.67	2.10	1.32	4.65	4.34
1987	1.35	0.53	2.75	0.6	0.44	1.32	1.74
1988	0.32	0.16	0.73	0.14	0.13	0.38	0.43
1989	0.014	0.0074	0.03	0.007	0.057	0.02	0.022

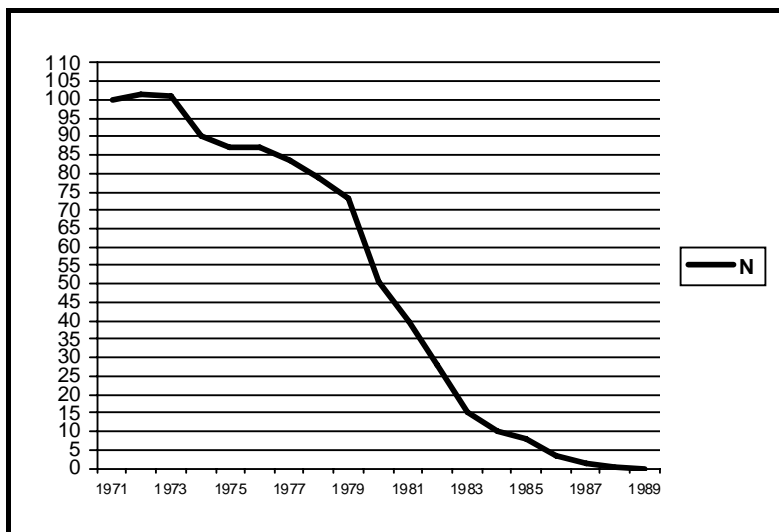
Source: See table 15.

Table 17: Nominal Effective Rate of the Dinar – N 1971–1989 (in %)

Year	Nominal effective Rate
1971	100.00
1972	101.26
1973	101.16
1974	90.08
1975	87.17
1976	87.18
1977	83.53
1978	78.69
1979	73.33
1980	50.56
1981	39.69
1982	27.99
1983	15.32
1984	10.04
1985	7.85
1986	3.38
1987	1.15
1988	0.29
1989	0.013

Source: See table 16.

Chart 1: Nominal Effective Exchange Rate of the Dinar N 1971–1989 (in %)



Source: See table 19.

The graph in chart 1, shows that nominal effective rate (N) of the dinar permanently decreased since 1974 in terms of selected currencies. Until 1980, external value of the dinar decreased about 50%. From that year, rapid weakening began to be ended by galloping depreciation in 1987–1989. In 1989, the dinar completely lost its external value. Whether this depreciation led to the real exchange rate could be seen from two calculated real effective rates.

The first real effective rate – R1 is calculated by the index of wholesale prices (table 13). It is shown in table 19 and chart 2.

*Table 18: Indices of Relative Wholesale Prices 1972–1989
(Individual and Average)*

Year	USA	Germany	Italy	Austria	Switzer- land	France	UK	Avg.
Weight	0.43	0.30	0.09	0.06	0.05	0.04	0.03	
1972	94.0	92.4	93.8	93.6	93.3	94.2	94.8	93.5
1973	93.9	87.0	96.9	83.7	91.2	95.5	89.9	91.3
1974	85.8	75.9	104.9	74.2	81.5	94.8	85.4	84.0
1975	77.0	65.3	93.7	64.8	65.5	73.6	86.4	73.8
1976	75.8	63.6	108.2	64.5	61.1	74.2	94.3	74.1
1977	73.4	59.7	116.0	60.6	56.0	71.6	101.8	72.3
1978	73.2	55.9	116.3	56.7	50.0	69.1	103.5	70.5
1979	73.1	52.0	119.3	52.4	46.1	69.5	102.0	69.0
1980	64.8	43.5	111.3	44.3	37.7	58.8	90.3	60.5
1981	49.3	32.7	91.2	33.3	27.8	45.8	69.0	46.5
1982	40.3	27.7	83.1	27.6	22.8	40.9	59.6	39.3
1983	30.8	21.2	68.8	20.9	17.3	33.5	47.3	30.7
1984	19.7	13.6	47.5	13.5	11.2	22.8	31.3	20.0
1985	10.6	7.6	27.6	7.5	6.2	12.9	17.8	11.1
1986	6.1	4.4	16.2	4.2	3.5	7.4	11.0	6.4
1987	3.2	2.2	8.6	2.2	1.8	3.8	5.9	3.6
1988	1.11	0.736	2.970	0.731	0.602	1.3	2.04	1.1
1989	0.083	0.054	0.225	0.535	0.045	0.1	0.152	0.06

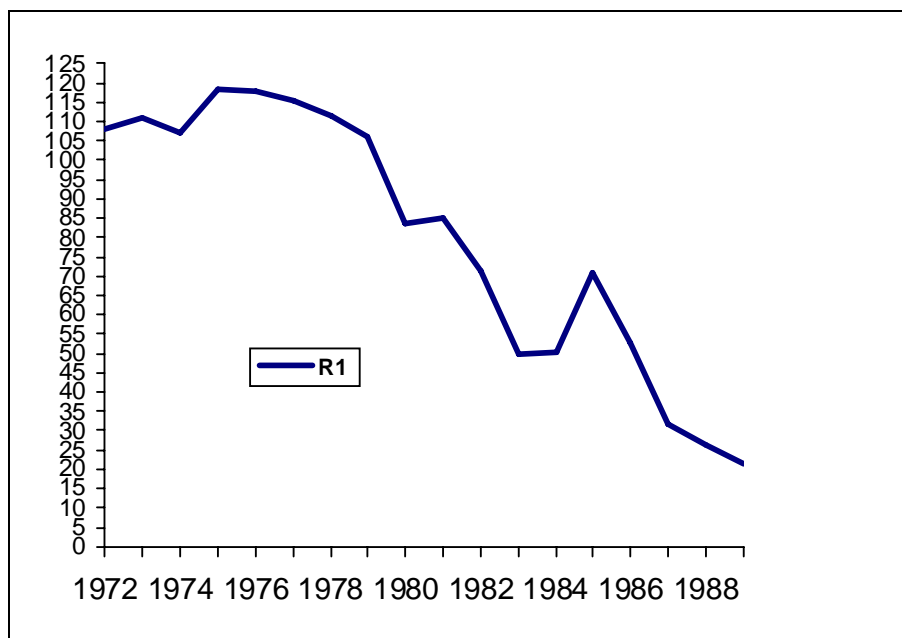
Source: See table 13.

Table 19: Real Effective Rate of the Dinar R1 1972–1989 (in %)

Year	Real effective rate 1
1971	100.00
1972	108.3
1973	110.8
1974	107.2
1975	118.1
1976	117.6
1977	115.5
1978	111.6
1979	106.3
1980	83.6
1981	85.3
1982	71.2
1983	49.9
1984	50.2
1985	70.7
1986	52.8
1987	31.9
1988	26.4
1989	21.6

Source: See table 17 and table 18.

Chart 2: Real Effective Rate of the Dinar R1 1972–1989 (in %)



Source: See table 19.

The graph of R1 clearly shows that dinar never was on its real level for any length of time in 1972–1988 period. Until 1979, there was real appreciation and from 1980 real depreciation. Hence, dinar was at first overvalued and from 1980 undervalued.

The real effective rate R2 is calculated by deflating N with relative inflation expressed with consumer price index (table 20).

Table 20: Indices of Relative Inflation Expressed by Consumer Price Indices (Individual and Average) (in %)

Year	USA	Germany	Italy	Austria	Switzerland	France	UK	Average
Weights	0.43	0.30	0.09	0.06	0.05	0.04	0.03	
1972	89.0	91.0	91.0	91.8	92.0	91.6	92.4	90.3
1973	79.2	81.5	84.5	82.5	83.8	82.2	84.4	81.0
1974	72.0	71.4	82.5	74.0	75.3	76.6	80.1	73.5
1975	63.6	61.2	78.2	65.0	65.1	69.3	80.6	65.1
1976	60.5	57.5	82.1	62.8	59.6	68.4	84.5	62.7
1977	56.1	51.9	84.8	57.7	52.6	65.2	85.4	58.6
1978	52.9	46.7	83.2	52.4	46.6	62.3	80.9	54.6
1979	48.8	48.8	79.2	45.0	40.0	57.2	76.1	52.0
1980	42.4	32.5	73.4	36.6	31.8	49.5	68.6	42.4
1981	33.4	24.7	62.8	27.9	24.2	40.2	54.9	33.6
1982	27.0	19.8	55.6	22.4	19.5	34.2	45.4	27.6
1983	19.9	14.6	45.4	16.5	14.3	26.7	33.9	20.8
1984	13.4	9.6	32.5	11.3	9.5	18.5	23.0	14.1
1985	8.1	5.7	20.6	6.8	5.7	11.4	14.1	8.6
1986	4.3	3.0	11.5	3.6	3.0	6.1	7.7	4.6
1987	2.03	1.37	5.46	1.66	1.39	2.88	3.63	2.2
1988	0.72	0.47	1.95	0.58	0.48	1.00	1.30	0.8
1989	0.056	0.036	0.155	0.044	0.037	0.77	0.104	0.09

Source: Table 14.

Table 21: Real Effective Rate of the Dinar R2 1972–1989 (in %)

Year	Real Effective Rate R2
1972	112.1
1973	124.9
1974	122.5
1975	133.9
1976	139.0
1977	142.5
1978	144.1
1979	141.0
1980	119.2
1981	118.1
1982	101.4
1983	73.6
1984	71.7
1985	91.3
1986	73.5
1987	52.3
1988	36.2
1989	14.4

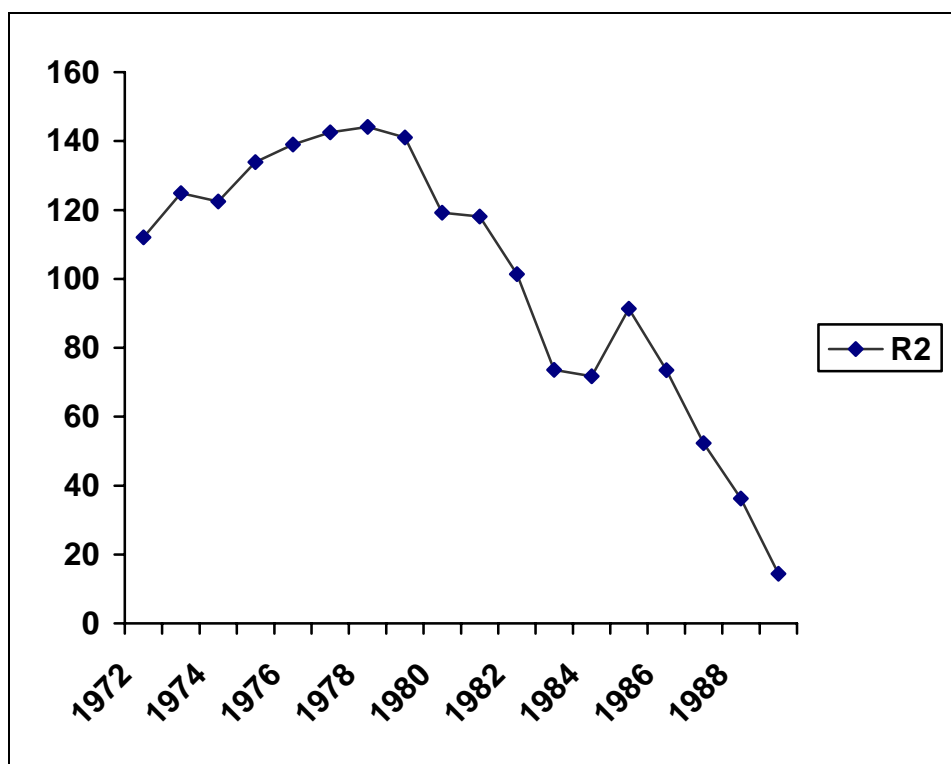
Source: See table 17 and table 20.

The graph of the real effective rate R2 is shown in chart 3. As the effective rate R1, R2 also shows similar performances of the real rate: first, First dinar had never been on its real level throughout the period and second, the dinar had been overvalued and then undervalued. R1 and R2 differ in showing degree of real appreciation and the year when dinar entered the zone of real depreciation. According to R2, it happened in 1983.

Index R2 is considered to be the better indicator of the real effective rate than index R1 because wholesale prices in Yugoslavia during the period did not reflect fully rising costs of production. For that reason, retail prices rose faster than wholesale prices.³²

³² R. Kovačević, *Ekonomski odnosi Jugoslavije sa zemljama OECD, (Economic Relations Between Yugoslavia and OECD Countries)*, Savremena administracija, Beograd, 1991, p.217.

Chart 3: Real Effective Rate of the Dinar R2 1972–1989 (in %)



Source: See table 21.

Index R2 shows that the dinar was considerably overvalued until 1978 when it reached the highest level of real appreciation (R2 was about 145%). Rising real appreciation stimulated imports and destimulated exports and finally contributed to the highest current deficit in 1979. Since that year, authorities decreased overvaluation but without stabilizing the rate on its real level. On the contrary, they intentionally continued with real depreciation in the hope to improve the external position of Yugoslavia in the face of a debt crisis that appeared in 1982. Real depreciation influenced an increase in exports and a decrease in imports but these favorable performances were short-lived in conditions of expansionary monetary policy. Continuous monetary expansion neutralized positive effects of real depreciation on the balance of payments simultaneously transforming it into a factor of rising inflation. Consumer price indices shown in table 14 clearly display the accelerating pace of inflation throughout the period. Thus, as in the earlier

period of fixed rates, a vicious cycle of depreciation and inflation again appeared but this time led to hyperinflation of about 1,300% at the end of 1989.

3.6 The Main Causes of the Failure of Managed Floating Regime

Adoption of the managed floating regime in 1973 was an adequate choice of the exchange regime but in practice, the expected positive effects were not accomplished. Instead of establishing a real and a single rate, the managed floating regime ended with black market multiple rates and hyperinflation.

Upon consultations with Yugoslavia in reference with the realization of performance criteria agreed in a stand-by arrangement for the period 28.06.1988 – 27.06.1989, the IMF assessed that the real depreciation was one of the main reasons for the breaking targeted inflation of 95% (others were liberalization of prices, increase of wages and rise of nominal interest rates). But, the IMF stressed that the main factor actually was the institutional rigidity of the Yugoslav monetary system that facilitated accommodating monetary policy.³³ Without monetary expansion, the IMF claimed, all other factors would not have exerted such high inflationary effects. According to the IMF, the NBY was almost without any authority in creating and controlling monetary policy.

Analysis of the functioning of the managed floating regime suggests that there were two main causes of its inefficiency. The first one was confusion of the legal framework stipulated in the Law on Foreign Exchange. The second was hyperinflation. But, as was stressed by the IMF, hyperinflation itself was caused by institutional rigidity of the monetary system. Thus, it could be concluded that both causes were produced by institutional defects of the Yugoslav economic system.

4. Comprehensive Economic Program Adopted in December 1989

The Federal Government put in effect the “Program of Economic Reforms and Measures for its Realization” (Program) in December 1989. A year earlier, in November 1988, changes of the Constitution took place which provided first steps towards transition to a market economy.³⁴ Such nature of the constitutional change enabled the Federal Government to conceptualize the Program on the principles of the market economy. The Program designed not only short-term measures for macroeconomic stabilization but also initiated deep and radical economic reforms to be taken in stages afterwards.

³³ IMF Survey, April 16, 1990, p. 124.

³⁴ It was the second change of the Constitution adopted in 1974. The first one took place in 1981.

4.1 The New Legal Framework

Constitutional changes were carried out with the aims to facilitate the introduction of the market economy and to provide smooth functioning of the Yugoslav market as an integral and single market.³⁵ These changes facilitated a further process of legal changes by adoption of new laws in 1989 that created a new economic system consistent to the market economy. The most important new laws, adopted before the Program, were: Law on Enterprises (business organization), Law on Banks and other financial organizations, Law on Accounting, Law on Foreign Investments and Law on the NBY and uniform monetary practice (operations) of the popular banks of the republics and autonomous provinces which gave the NBY higher importance in the monetary system and independence in conducting monetary policy in comparison to the proceeding law. Apart from these, completely new, previously non-existent, laws were adopted too: Law on Securities and Law on the Securities Market.

Upon drafting the Program, the Federal Government suggested additional constitutional changes for the establishment of ownership pluralism, political pluralism (multi-party elections), independence of economic units and defining the responsibilities of the Federal Government in conducting macroeconomic policies in the new market-based economic system. Also, the Federal Government proposed the adoption of a completely new constitution.

Already on January 25, 1990, the Yugoslav Presidency announced The Proposal for the New Constitution, explaining that existing Constitution (1974) was not adequate for further economic, social and cultural progress. The Proposal suggested a political system based on a multi-party system and an economic system based on a market model of the economy. In contrast to the 1974 Constitution that brought decentralization and creation of the republican economies and thus practically enabled the process of gradual transformation of the federation into the loose confederation, the Proposal stressed the importance of political and economic reunification of the country.

The Economic Program of December 1989 and the Proposal for the New Constitution represented the last attempt of the reintegration and stabilization of the Second Yugoslavia.

4.2 Regime of Fixed Exchange Rate and Convertibility

Implementation of the Program of economic reforms started in the midst of the deepest political crisis of the Second Yugoslavia. The most important aim of the first stage of the Program was to curb inflation and maintain it near the level of the

³⁵ M. Radosavljević-Peručić, D. Radonjić i J. Jelinčić, *Promene Ustava SFRJ, (Changes of the SFRY Constitution)*, Jugoslovenski pregled, 1–2, 1989.

major trading partners. Macroeconomic stabilization was considered as the main precondition for carrying out economic reforms in the future.

In addition to changes of the legal framework that were already taken to remove institutional causes of inflation, fixed exchange rate regime and convertibility were implemented as the principal anti-inflationary measures.

The fixed exchange rate was pegged to the Deutsche mark – the currency of the Yugoslav major trading partner. The Deutsche mark was also one of the most stable currencies in the world and thus a good choice for being the anchor currency. The rate was pegged at seven dinars per Deutsche mark. It was announced that this level would not be changed until the middle of 1990.

Convertibility was defined for current transactions for all residents and non-residents and included the right of citizens to buy and sell foreign exchange in the banks without limitations. Current convertibility was adopted as an instrument of economic policy and was not registered at the IMF as acceptance of the Article VIII. This was planned to be done at some point of time during the proces of stabilization and reforms.

Just before the Program, radical liberalization of imports was carried out. In 1988, about 53% of all imports were on restrictive regime but at the beginning of the Program implementation this figure decreased to only 13%.³⁶

Combination of fixed exchange regime and convertibility, conditioned all other measures of the Program: restrictive monetary policy, restrictive fiscal policy (by restraining public expenditures), liberalization of prices (except of some public utilities) and limitation of wage rise by tying it to exchange rate change. One of the monetary measures was the NBY decision not to advance credits to the Federal Government and to commercial banks if they give loans to firms that incurred losses.

However, implementation of the restrictive fiscal policy on the levels of republics and autonomous provinces was the major problem for the Federal Government due to the fact that it had a mandate to conduct only federal budgetary policy.

On the basis of designed combination of measures, the Program projected figures of the main macroeconomic aggregates for the 1990. It was estimated that GDP would fall at the rate of 2% and that inflation rate would be 13%. The growth of exports was projected at 8% and the growth of imports at 16%. For the balance of payments, current surplus was expected to be about 1.4 billion U.S. dollars and rise of foreign exchange reserves about 2.3 billion U.S. dollars.

The IMF praised the Program, especially institutional changes. After good results achieved in January and February, the IMF approved, on March 16, 1990, the new stand-by arrangement of 460 million SDR as a support to the full implementation of the Program.

³⁶ Godina reforme, (*A Year of Reform*), Jugoslovenski pregled, 11–12, 1990, p.263.

4.3 Realization of the Program in the First Half of 1990

Implementation of macroeconomic measures was successful until the middle of 1990 which gave optimism for the maintenance of convertibility. However, unfortunate reversal started in July. Economic performances gravely worsened in the second part of the year and convertibility was suspended in December 1990. Developments in inflation and balance of payments clearly demonstrate economic performances and their reversal.

During the first half of 1990, monthly inflation rates decreased, from 64% in December, 1989, to zero rate in May 1990, and even deflation occurred in June (table 22). Restrictive monetary policy played the key role in curbing inflation but it had negative effects on declining of industrial production.

Reduction of inflation rates similar to those in Germany, allowed the official rate of seven dinars per Deutsche mark to be unchanged. On the other hand, decreasing inflation influenced nominal and real effective exchange rates. Index of nominal rate had only negligible change but index of real effective rate changed, showing decreasing overvaluation of the dinar and establishment of real rate in June. Stability of the official rate and convertibility resulted in disappearance of the black market, i.e. multiple exchange rates.

Realization of real and single rate return confidence in the dinar and currency substitution vanished.

*Table 22: Basic Economic Indicators January – June 1990
(monthly rates in %)*

Month	Jan.	Feb.	May	April	May	June
Industrial production	-8.2	4.0	8.3	-11.9	-3.3	3.4
Retail prices*	41.5 (17.3)	13.6 (8.4)	5.2 (2.6)	2.8 (-0.2)	0.2 (0.4)	-0.3 (0.2)
CPI**	37.6	12.7	3.8	4.4	1.9	-0.9
Exchange rates***						
<i>Nominal</i>	-0.6	0.0	-0.1	0.3	-0.3	0.2
<i>Real</i>	39.6	13.1	4.8	2.8	-0.6	-0.2
Money****	25.5	5.6	9.9	15.6	7.0	8.2

Source: Privredna kretanja u prvom polugođu 1990. godine, (Economic Performances in the First Half of the Year), NBJ, avgust 1990, p.16.

**In parentheses: rates according to second measurements of Federal bureau of Statistics.*

***CPI = Consumer price index.*

**** Nominal effective and Real effective exchange rates.*

***** Quantity of money.*

*Table 23: Balance of Payments January – June, 1989 and 1990
(in mill. U.S. dollars)*

	1989	1990
<i>1. Merchandise</i>	-353	-1503
Export	6310	7231
Import	-6663	-8734
<i>2. Services</i>	401	33
Credit:	2215	2933
Interest	173	254
Transport	1000	1032
Tourism	661	982
Other	381	665
Debit	-1814	-2900
Interest	-856	-883
Transport	-580	-619
Other	-378	-1398
<i>3. Transfers</i>	597	1557
Remittances inflows*	2727	5422
Remittances outflows*	-2130	-3865
Balance of real transactions	48	-1470
Current account balance	645	87
<i>4. Loans long and middle-term</i>	-872	-465
Use	705	655
Repayment	-1427	-1210
Loans given **	-150	90
<i>5. Clearing account</i>	-211	-351
<i>6. Short-term credits**</i>	-400	-375
<i>7. FDI</i>	0	121
<i>8. Foreign exchange Reserves</i>	-188	-2536
<i>Blanance of capital transactions</i>	-1671	-3606
<i>9. Other***</i>	1026	3519
Capital account balance	-645	-87

Source: Privredna kretanja u prvom polugodu 1990. godine, (Economic Performances in the First Half of the Year), NBJ, Avgust 1990, p. 4a.

* *Workers and emigrants remittances*

** *Net value*

*** *Including errors and omissions*

Performances of the balance of payments are shown in table 23. In comparison to the first half of the 1989, the surplus of the current account decreased (from 645 to 87 million U.S. dollars) but this can not be judged as worsening, taking into account radical import liberalization. On the capital account, two items showed

incredible increase – reserves and “others”. In the whole history of the Second Yugoslavia, yearly increases of the reserves had never paralleled to that half-year increase of 2.5 billion in 1990. At the end of July, reserves amounted to 8,675 billion U.S. dollars. The item “Others” includes “Errors and Omissions” and its increase of 3.5 billion U.S. dollars indicates huge unregistered capital inflows. Also, for the first time from 1945, capital inflow in the form of direct investment appeared which demonstrated rising confidence of foreign investors in economic prospects of Yugoslavia.

Favorable results achieved in the first half of the year initiated talks with the IMF about acceptance of the Article VIII. This transition to official (and factual) convertibility required continuation of the favorable results in performances of prices and balance of payments. Unfortunately sudden reversal occurred in July, when limitations of wage increase were removed and multi-party elections started in republics.

4.4 Suspension of Convertibility in December 1990

Instead of 13%, as targeted in the Program, inflation rate in 1990 was 121.3%. Current account balance ended with deficit of 2.3 billion U.S. dollars instead with projected surplus of 1.4 billion U.S. dollars (table 24).

Except for the current account deficit, data from table 24 show huge discrepancies between the NBY and the IMF presentations in figures for some items of the balance of payments. According to the NBY, both subaccounts, current and capital, had deficits that are covered by the surplus of 4,657 billion U.S. dollars of the item “Others” (includes Errors and Omissions). This means that there was no flight of capital from the country. According to the IMF, the same item was in surplus of only 228 U.S. dollars. The second drastic difference is in the balance of services, stemming mainly from the difference in item of other services that show expenditure of 3.5 billion U.S. dollar in the NBY presentation but extraordinary 12,3 billion U.S. dollars in the IMF presentation. Surprisingly high difference is shown in unilateral transfers too. According to the IMF, there was nearly no outflows of unilateral transfers in contrast to the NBY data that show outflow of about 9 billion U.S. dollars.

Table 24: Yugoslav Balance of Payments 1990 (in mill. U.S. dollars)

	NBJ	IMF
<i>1. Merchandise</i>	-4563	-2676
Export	14308	14308
Import	-18871	-16984
<i>2. Services</i>	1164	-9516
Credit:	7713	7163
Interest	789	789
Transport	2525	2094
Tourism	2774	2774
Other	1625	1506
Debit:	-6549	-16679
Interest	-1667	-1667
Transport	-1343	-2719
Other	-3539	-12293
<i>3. Transfers</i>	1045	9828
Inflows	9860	9860
Outflows	-8815	-32
Rael transaction balance	-3399	-12192
Current account balance	-2354	-2364
<i>4. Loans long and middle-term</i>	-1281	-313
Use	1467	-
Repayment	-2067	-
Debt conversion	-681	-
<i>5. Loans given*</i>	285	-
<i>6. Short-term credits*</i>	-271	3551
<i>7. FDI</i>	238	-
<i>8. Clearing account (increase -)</i>	-331	-
<i>9. Foreign exchange reserves</i>	-943	-1102
Balance of capital transactions	-2303	2136
<i>10. Other</i>	4657	228
Capital account balance	2354	2364

Source: 1. *Annual Report NBY, 1990*, p. 47, 2. *Balance of Payments Statistics Yearbook, 1991*, p. 784–787.

* *Net value.*

Shown discrepancies suggest that there was huge outflow of capital from Yugoslavia that was concealed in the NBY presentation by the outflows of unilateral transfers and in the IMF presentation by the expenditures of other services. Comparing data of tables 23 and 24, it is obvious that capital flight occurred during the second part of the year. Convertibility of the dinar facilitated this huge capital flight.

All experts claim that inflation rose as a result of the increase in wages and public expenditures in republics in connection with the first post-war multi-party

elections. The Federal Government and the NBY were left without any authority to stop monetary and fiscal expansion.

Inflation ruined effects of the fixed exchange rate regime. According to the NBY data, real appreciation of the effective rate reached 118.3% at the end of 1990. Real appreciation caused worsening of the foreign trade and run on banks for converting dinars into foreign exchange. This exerted enormous pressure on the NBY reserves that decreased by 2.9 billion U.S. dollars in three last months of 1990. The NBY ceased to sell foreign exchange around the middle of December, except for the debt servicing. At the same time, free buying and selling of foreign exchanges for citizens were abolished and limitation of 1000 Deutsche marks was introduced for going abroad. All these measures practically meant suspension of convertibility.

On December 28, 1990, the Federal Government declared devaluation of 28.6%. The new exchange rate of nine dinars per Deutsche mark was effective from January 1, 1991.

It is evident that convertibility of the dinar failed not because of inadequate economic policy formulated in the Program but because of impossibility to implement that policy in the environment of political disintegration of the country.

5. Conclusion

The dinar, as national currency of the Second Yugoslavia, underwent three foreign exchange rate regimes – fixed (1945–1973), managed floating (1973–1989) and again fixed that was introduced in December 1989 together with convertibility as the anchor of macroeconomic stabilization.

Analysis shows that applied regimes were appropriate in reference to the external and internal economic conditions of the time of their introduction. However, under all three regimes, the dinar remained a overvalued currency and multiple exchange rates prevailed. Only occasionally, the exchange rate approached the real levels but just for the very brief periods of time – after devaluations under the first fixed regime, in 1983 under the managed floating and about the middle of 1990 under the second fixed regime. Multiple exchange rates were at first applied as the government policy, in the form of explicit and implicit rates, but later took the form of illegal rates on the black market that emerged in 1980's. Overvaluation and multiple exchange rates disabled the dinar from becoming a convertible currency. Thus, it could be concluded that the foreign exchange policy of the Second Yugoslavia was inefficient.

Overvaluation of the dinar produced three main consequences: first, permanent deficit of the current account of the balance of payments; second, a vicious cycle of mutually conditioned devaluation (depreciation) and inflation; third, money substitution.

There are several main causes for the inefficiency of the foreign exchange policy. They could be categorized as direct and indirect. The direct causes are: persistent structural imbalances of the economy, inflation (hyperinflation), inconsistency in overall macroeconomic policy (particularly between monetary and foreign exchange policies), fundamental defects of the legal and institutional systems and political disintegration of the country that began with the adoption of the 1974 Constitution and ended in the 1990/1992 period. These direct causes, however, have their roots in the implementation of the import-substitution strategy on the one hand and the ideological concept of a self-management socio-economic system on the other. Both factors highly suppressed the functioning of the market mechanism. But, without true market economy, true market concepts – foreign exchange rate and convertibility, did not have a chance to develop and exercise their functions fully.

It is striking that major programs of economic reforms since 1965 were adequate to the causes of the unreal rate and external deficits (and supported by the IMF) but could not be implemented because of the lack of political courage, will and cohesion.

The case of the Secocnd Yugoslavia again confirms the old truism – stable political environment is the basic precondition for the stability and convertibility of the national currency.

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Foreign Exchange Regime in Romania between 1929 and 1939

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1. Reasons, Goals, Specifications

The relationships between a national currency and foreign currencies and the manner in which they are governed by the state show to a great extent the economic situation of that country, the position of the domestic economy in the international economic context and the relationships between the concerned country and the other worldwide political partners. This was reason enough for us to start analysing the foreign exchange regime in the inter-war Romania, namely all the legal regulations and principles established by the Romanian government in the above-mentioned period with regard to the use of currencies, as well as of the other foreign means of payment².

The reasons for which we chose the second inter-war decade are to be found in the dramatic changes that marked this period both internationally and domestically. This paper begins with the completion of the process that aimed at regaining convertibility of the Romanian currency, the *leu*. During the First World War, the loss of the National Bank of Romania's (NBR) cover stock, which was sent to Moscow, the suspension of convertibility and the devaluation in relation to the other European currencies left their mark on the *leu*.

Under such circumstances, the Monetary Reform in 1929 was an attempt for Romania to return to normality in terms of money circulation. The events

¹ The paper presents the views of the authors, without involving or engaging the National Bank of Romania.

² Gheorghe D. Bistriceanu, *Lexicon de finanțe bănci asigurări*, vol. III, Editura Economică, 2001, p. 217.

following the reform, particularly the outset of the Great Depression with all the consequences upon the worldwide monetary system, had a natural bearing on the money circulation in Romania.

Our approach ends with the year 1939, given that the outburst of the Second World War, although it did not imply Romania's immediate involvement in the conflict, brought about new disruptions to the world money circulation, with inherent implications for the Romanian space.

This analysis aims not only at chronologically emphasizing the main stages of this foreign exchange regime, but also at establishing its underlying principles and, even more, at specifying the factors that led to the passage from one stage to another.

2. The Free Convertibility Stage 1929–1932

This first stage, referred to as the *leu* free convertibility, covers the 1929–1932 period and starts with the Monetary Act of 7 February 1929, according to which the Romanian currency, the *leu*, the equivalent of 10 milligrams of 9/10 fineness gold, regained convertibility “into gold coins (legal tender), into gold bullions or into foreign currencies convertible into gold”. As concerns the third case, the legal text set forth that „foreign currencies shall be assigned at a price not exceeding the theoretical parity, as increased by the gold consignment costs”³.

Although the law provided for several convertibility possibilities, in practice, the *leu* could be converted only into gold currency, the rate between foreign currencies and the *leu* being established according to the parity with gold and floating based on demand and supply.

The *leu* regained its convertibility and started being listed on the currency exchange after the NBR replenished its cover stock through a massive foreign currency amount following a foreign borrowing, the 7% Stabilisation Loan.

The outset of the Great Depression in 1929 called into question these achievements. The entire Romanian economy was affected. Prices of agricultural produce dropped owing to bumper domestic crops. Later on, under the influence of the worldwide depression, the phenomenon spread out to other products as well. Export-oriented goods were particularly affected, which led to an increase in the amount exported. At the same time, prices of imported products went up.

However, the decline in imports and the increase in exports helped maintain a surplus trade balance. Such excess could not always be turned to good account for the benefit of Romania, given the existence of other drivers of the crisis. Foreign currency inflows could not cover the outflows generated by the payment of foreign

³ Monetary Act No. 359 of 7 February 1929 in *Official Gazette* No. 30 bis of 7 February 1929.

debt, the imports and the massive capital withdrawals caused in 1931 by the outburst of the banking crisis on the European market. Such massive capital withdrawals resulted in the weakening of the entire credit system in Romania. Between November 1929 and May 1930 inclusively, the foreign and Romanian capital outflow amounted to approximately *lei* 8.1 billion⁴. Public debt repayment and the other foreign expenditures exceeded steadily the trade balance surplus, which pushed Romania's balance of payments into deficit (table 1).

The situation was all the more difficult as the outcomes of the monetary stabilisation had not been consolidated. According to a renowned Romanian economist, Virgil Madgearu⁵, one of the conditions for Romania to maintain the results of the Monetary Act of 1929 was that the implementation of the Act should be followed by a foreign capital inflow boosting the standing of domestic credit institutions and balancing the very fragile equilibrium of the balance of payments⁶.

As already stated, the context was not favourable, calling for the intervention of the NBR in order to rescue the credit system and ensure the liquidity required by the Romanian economy. In the first quarter of 1931, the NBR turned into gold currencies *lei* 550 million worth of gold bullions, as illustrated by the decline in the cover stock from *lei* 9,275,434,874 in February to *lei* 8,811,108,137 in May 1931⁷. During the same year, the portfolio rediscounted by the NBR surged by *lei* 6.2 billion in April-November 1931, being accompanied by a *lei* 4.9 billion pick-up in money circulation⁸. A partial solution was the resort to new foreign borrowings, the most significant of which was the 7.5% Development Loan of 1931. Although the loan was earmarked for streamlining certain economic sectors and domestic credit institutions (the Agricultural Credit, railway and agriculture investments), it was used by the NBR in order to maintain the *leu* stability and convertibility, given the crisis situation. "It is doubtful whether our issuing institution – says the Romanian economist Victor Slăvescu – would have been able to control the harsh circumstances in the summer of 1931 and thereafter, unless the equivalent in foreign currency of that loan had been available"⁹.

However, the NBR cover stock posted a new drop, the cover of commitments decreasing from 44.75% at the beginning of 1931 to 35.14% at the end of the same

⁴ Virgil N. Madgearu, *Evoluția economiei românești după Războiul Mondial*, Editura Științifică, Bucharest, 1995, p. 228.

⁵ Virgil N. Madgearu (1887–1940), a Romanian economist, sociologist and politician, theoretician of agrarianism and of the doctrine of "the peasants' state", member of the Romanian Academy.

⁶ Virgil N. Madgearu, *op. cit.*, p. 226–227.

⁷ Victor Slăvescu, *Curs de monedă, credit, schimb*, Editura Scrisul Românesc, Craiova, 1932, p. 367.

⁸ Virgil N. Madgearu, *op. cit.*, p. 229–230.

⁹ Victor Slăvescu, *op. cit.*, p. 373.

year¹⁰. Victor Slăvescu¹¹ mentioned also that only by comparing the two readings one can understand very well “to what extent the ground of the stabilised *leu* was shaken up”¹².

3. The Stage of State – Controlled Foreign Exchanges

The first stage ended in the course of 1932 when, considering the developments in world economy, the Bucharest authorities found themselves in a position to choose between the imposition of a restrictive regime concerning the trade in currencies and the exhaustion of all Romania’s international means of payment in order to maintain the free movement of currencies and the *leu* convertibility.

During the stage preceding the introduction of the state control over the foreign exchange mechanism, attempts were made to regulate financial relationships with those countries having imposed restrictions to the repayment of debts to the Romanian exporters, by the implementation of similar measures as of 18 December 1931. The direct payment of goods purchased from traders of those countries was forbidden. Payments had to be made in advance in *lei* at the NBR, into the account of the Clearing Office, the import of goods becoming possible only thereafter¹³.

The low levels of foreign currency receipts and the heavy capital withdrawals led the NBR to impose monopoly on the trade in foreign currencies on 18 May 1932¹⁴. According to the new foreign currency regime, all the means of payment in foreign currencies: cheques, bills of exchange, foreign currency accounts, foreign banknotes and coins available to the banks, traders and private persons could only be sold to the issuing institution or to the banks authorised by it. All the foreign currencies resulting from exports, credits etc. were to be assigned to the National Bank. Foreign currencies were purchased and sold only at the exchange rates established by the NBR.

The control over foreign exchanges was extended to all the categories of foreign payments, whether they arose from the state’s obligations, from trade relationships, or they represented spending on education, healthcare treatments, tourism etc. The

¹⁰ Virgil N. Madgearu, *op. cit.*, p. 231

¹¹ Victor Slăvescu (1891–1977), a Romanian economist and politician; professor at the Academy of High Business and Industry Studies of Bucharest; he wrote numerous monographs dedicated to various Romanian banking institutions; member of the Romanian Academy.

¹² Victor Slăvescu, *op. cit.*, p. 371–372.

¹³ Law on the regulation of payments in relation with the countries which introduced restrictions on foreign currencies in Official Gazette of 29 February 1932.

¹⁴ Ministers’ Council Journal No. 591 of 17 May 1932 in Official Gazette No. 113 of 18 May 1932, Law on the trade in currencies in Official Gazette No. 230 of 1 October 1932, Rules for the enforcement of the Law on the trade in currencies in Official Gazette No. 250 of 25 October 1932.

declared goals of the new foreign exchange regime were the removal of fund transfers masking capital flight and the provision of liquidities to cover the rate of public debt and the amounts necessary for imports. The other foreign payments, including the repayment of private debts, were made only within the affordable limits established by the NBR¹⁵.

Another aspect worth mentioning is that of the NBR's institutional condition. According to its statute, the NBR was a bank with both private and state-run capital, with private capital accounting for the largest part, i.e. 90%¹⁶. According to the law, the NBR was entitled to issue money. The pieces of legislation governing the control over foreign exchanges granted special powers to the NBR as proxy of the state towards the other credit institutions and private persons. It held the monopoly on currency trade, established the official exchange rate, and approved the transfers abroad in *lei* or foreign currencies. Furthermore, the NBR was entitled to exercise a preventive control over foreign currency operations by checking out the relevant documents (import licence, certificate issued by the Chamber of Commerce, other documentary evidence) submitted by the applicant for the transfer endorsement, through the notifications of the customs authorities regarding the exports performed, through checking out the special foreign currency registers where the banks and the companies had to write down the foreign account balances. All the commitments in foreign means of payment of the other state institutions were subject to the endorsement by the Ministry of Finance, which in its turn had the obligation to consult with the NBR. Such exceptional state of affairs was perceived with high intensity at the time and the management of the issuing institution itself found it compulsory to explain the new status as follows:

"Of course, the imposition of a control over the use of foreign currencies is not an advisable measure within a normal exchange system, but this solution was the only one and, unless resorted to in due time, a real disaster would have occurred for the entire national economy.

The measure was adopted as a result of, on the one hand, the heavy deposit withdrawals from banks, which went out or became internal hoard, and the rushing demand for coverage of foreign loans and, on the other hand, the impossibility of recovering the capitals of the Romanian exports, which were blocked in many countries by various restrictions".

"The control over the use of foreign currencies was organised directly by the National Bank of Romania through centralisation. The bank assumed a very

¹⁵ Virgil N. Madgearu, *op. cit.*, p 232–233.

¹⁶ The National Bank of Romania Statute in Official Gazette No. 30 bis of 7 February 1929.

difficult task which could not be avoided, given the importance of the matter, with direct regard to the currency stability"¹⁷.

The introduction of the foreign exchange restrictions was followed by a downfall in the *leu* exchange rate in a range between 5% and 15%. On the other hand, the NBR witnessed an increase in foreign currency inflows from *lei* 410 million in May 1932 to *lei* 970 million in June 1932¹⁸. The upward trend maintained in the course of the year. As concerns the demand for foreign currency, the NBR approved almost 100% of the requests of state institutions and of *régies autonomes*, and a large part of the requests coming from traders, industrial entrepreneurs etc. (table 2). In spite of the foregoing, in 1932 the foreign currency deficit saw an increase. In May and August 1932, the NBR had to sell gold in amount of *lei* 547 million out of its stock in order to replenish the foreign currency stock. The cover of the sight commitments at the end of 1932 almost reached the limit of 35.84%¹⁹.

Mention should be made that the control over the trade in foreign exchange is connected to the supervision of foreign trade. The regulation of imports was adopted in 1932 in order to meet the measures establishing quotas imposed on Romanian goods by other countries. The clearing exports were regulated as well. As far as the control over the currency circulation is concerned, clearing exporters had to surrender to the NBR, at the official exchange rate, between 20% and 40% of the hard currencies obtained²⁰.

However, the control over foreign exchanges was imposed without establishing a direct relationship with the supervision of foreign trade. The control was aimed at preventing the movement of capitals without ensuring a permanent surplus of the trade balance. As a consequence, in 1933, Romania had to reduce the exports and diminish the trade balance to a half (table 3), which soon resulted in a substantial deficit of hard currencies available at the NBR. This development had negative effects, which translated in the following year into a built-up of trade arrears and the impossibility to ensure the transfer of financial tasks set forth in the agreements concluded by the Romanian government and foreign creditors. Under such circumstances, the regulation of foreign trade and that of currency movements had to be strictly defined.

By means of several legal acts adopted in October-November 1934, it was established that every import operation could be performed only on the basis of a previous export operation and that imports could not exceed in any way 60% of the

¹⁷ National Bank of Romania, Report of the Board of Directors submitted to the Ordinary General Meeting of Shareholders, 1933, p. 5–6.

¹⁸ Gh. N. Staicu, *Schimburile cu străinătatea în regim restrictiv*, Bucharest, 1944, p. 101–104.

¹⁹ *Ibidem*.

²⁰ Ministers' Council Journal No. 1234 of 22 November 1932 in Official Gazette No. 276 of 24 November 1932.

value of the exported products, in order to prevent the accumulation of trade arrears. The transfer endorsement on the import license was introduced, in the absence of which the license was not valid, and the import quotas depended therefore on the NBR's currency holdings. The exportable products were divided into two categories: the first category included the oil products, wood, grains and vegetables which were to be exported only for hard currencies, whereas the second category included all the other products. All the currencies resulting from exports had to be assigned to the NBR at the official exchange rate. This time the lawmaker also established the currency percentage (40%) the NBR was to keep for the State's needs and for its own operations. The remaining 60% were to be allotted to cover the imports of goods, being distributed to the traders according to the legal provisions²¹. The mechanism linking the distribution of currencies to the foreign trade through the NBR was complicated. The customs authorities issued import certificates for 60% of the export value, which were distributed to the traders by the Board for Guidance and Supervision of Foreign Trade. The actual reception of the aforementioned documents was the responsibility of the NBR, which authorized several banking institutions for the negotiation thereof²².

In addition to the possibility of negotiating the value of import certificates by means of the authorized banks, the new regime also introduced the foreign exchange premiums in order to cover the differential between external and domestic prices and to provide incentives for exports. Hence, as of December 1934, the NBR paid a 6% premium calculated for the value of the exports in the first category (oil, grains, vegetables), which added to the supplementary premiums paid for the exports of grains and vegetables. Such premiums were designed to indemnify the exporters for the losses they incurred from assigning currencies to the NBR at an official exchange rate lower than the real one. Moreover, attempts were made to reorient the clearing exports to the foreign exchange payment exports²³.

The NBR's receipts in foreign exchange did not improve during 1934. That year ended with a decrease in the surplus of the foreign trade balance and a minimum positive balance of hard currencies for the NBR, which affected the balance of payments by perpetuation of trade arrears. Under such circumstances, new changes were implemented with a view to liberalizing the foreign exchange regime. In order to stimulate the assignment of currencies to the NBR and reduce the

²¹ Royal Decree No. 2871 of 25 October 1934 in Official Gazette No. 247 of 26 October 1934 and Royal Decree No. 3067 of 14 November 1934 in Official Gazette No. 267 of 19 November 1934.

²² The English-Czechoslovakian Bank, the Italian and Romanian Commercial Bank, the Romanian Commercial Bank, the Romanian Credit Bank, Bank of Roumania Ltd., *Romanian Bank*, Urban Bank and the Romanian Banking Society.

²³ Gh. N. Staicu, *op. cit.*, p. 138.

differential between the official exchange rate and the free market exchange rate, the principle of partial negotiability for trade in currencies was adopted in March 1935. Thus, the currencies resulting from exports were to be assigned at the official exchange rate to the NBR in proportion of 60% in case of oil products and 40% of the export value of the other products. Such currencies were designed to cover the foreign payments of the Romanian government and public institutions. The rest of the currencies resulting from exports could be negotiated by traders through the authorized banks according to the rules established by the NBR²⁴. Those currency holdings were earmarked for the importers who proved they had the import license issued by the Foreign Trade Directorate within the Ministry of National Economy or for other persons' requests (for travelling, studying, dealing with health problems etc.), which were endorsed by a special inter-ministry board attached to the Directorate for Regulation of Foreign Trade.

The law of the time set forth special arrangements regarding the payments to the countries with which Romania had entered into payment agreements. The provisions of such arrangements concerning payment priorities prevailed over the aforementioned regulations or other domestic priorities. Moreover, the currencies referred to in the payment agreements, even if they were hard currencies, were not converted into *lei* at the official exchange rate plus foreign exchange premiums, but at the exchange rates established through bilateral agreements²⁵.

The arrangements on the currency partial negotiation did not have the expected results since the currency inflows with the NBR were not sufficient. In the second half of 1935, the NBR had to pay *lei* 2,857 million in hard currencies on the account of government debts, while it could only rely on approximately *lei* 1,420 million²⁶ representing hard currency inflows; moreover, at mid-1935, trade arrears amounted to *lei* 7,404 million in hard currencies²⁷.

Under such circumstances, the Romanian authorities decided to revert to the previous arrangements as of 11 June 1935. The law reinstated the NBR's monopoly on the entire currency trade, thus putting an end to the currency partial negotiability, while reorganizing the foreign exchange premium system. The issuing institution had to pay "for the purpose of maintaining and stimulating exports" a premium higher than the official exchange rate of each currency. At first, the percentage of the premium was set on a discriminative basis, according to the category of goods to be exported, within the range of 10% for oil products and

²⁴ Ministers' Council Journal No. 429 on foreign trade arrangements in Official Gazette No. 56, Part I of 7 March 1935.

²⁵ Ministers' Council Journal No. 969 in Official Gazette No. 130, Part I of 11 June 1935 and Decision of the Ministers' Council Presidency No. 2532 on the premiums for imports and exports of goods in Official Gazette No. 130, Part I of 11 June 1935.

²⁶ NBR Archives, Secretariat Division archives, file 4/1934, sheet 92–93.

²⁷ NBR Archives, Research Division archives, file 4/1931–1940, sheet 751.

40% for wheat and wheat derived products²⁸. It is worth mentioning that the premiums were granted only for the exports of the goods paid in hard currencies²⁹, whether they were placed in current accounts or in clearing accounts. By contrast, the importers and the individuals who obtained currencies from the NBR for other types of foreign payments had to pay a 44% premium³⁰, in addition to the official exchange rate of the required currency.

Given that hard currency outflows exceeded inflows and Romania's trade balance posted significant deficits, the Romanian government deemed necessary to unify the foreign exchange premiums, whether it concerned the settlement of currencies bought from exporters or arising from other operations: when selling foreign currencies, the NBR charged a flat premium higher than the official exchange rate. Starting with 1 December 1935, the percentage of the premium was set at 38% of the official exchange rate of the currency concerned³¹.

This regime was in place until 30 August 1938, when, given a new fall in prices on world markets, particularly in prices for grains and grain derived products, it was found that the 38% premium was no longer sufficient to stimulate the exports of such products. Under such circumstances, the principle of currency partial negotiability was applied again, the official exchange rate and the foreign exchange premium being preserved in the case of currencies assigned to the NBR.

On 31 August 1938, legal grounds were provided for the partial negotiation of currencies arising from normal exports of grains and grain derived products, leguminous plants, oil-bearing seeds and other seeds. From the amount resulting from such exports, 70% was to be assigned to the NBR at the official exchange rate plus the 38% premium, the remaining 30% being left available to exporters, who could trade such amounts through the authorized banks³².

The use of several exchange rates arising from payment agreements, the clearing trade, the 30% negotiable quota and the 38% foreign exchange premium,

²⁸ Wheat and wheat derived products 40%, barley, oat and rye 30%, maize 15%, livestock and animal products, food products (except poultry) 30%, wood and wood derived products 25%, oil products 10%, other products 25%.

²⁹ French francs, Swiss francs, Belgian francs, Italian liras, pesetas, Dutch florins, pounds sterling, Egyptian or Palestinian pounds, US or Canadian dollars, Czechoslovakian *koruna*, Danish, Norwegian or Swedish *krona*.

³⁰ Ministers' Council Journal No. 969 in Official Gazette No.130, Part I of 11 June 1935 and Decision of the Ministers' Council Presidency No. 2532 on the premiums for imports and exports of goods in Official Gazette No. 130, Part I of 11 June 1935.

³¹ Ministers' Council Journal No. 2234 on changes in foreign trade arrangements in Official Gazette No. 272, Part I of 26 November 1935 and Ministers' Council Journal No. 1173 on foreign exchange premium for exports and imports of goods in Official Gazette No.147, Part I of 27 June 1936.

³² Ministers' Council Journal No. 2064 in Official Gazette No.201, Part I of 31 August 1938.

along with the rise of domestic prices, aggravated the depreciation of the national currency.

In order to put an end to speculations, as of 1 October 1939, the free partial negotiation of currencies resulting from exports was extended to all categories of goods. Moreover, the percentage was increased, 30% were assigned to the NBR at the official exchange rate plus the 38% premium, while the remaining 70% could be freely negotiated on the stock exchange through the authorized banks and could only be used for the transfers that had received authorisation from the Office of Exchanges with Foreign Countries³³.

The aim was to foster exports, direct them towards hard currency countries, unify the multiple exchange rates of the *leu* and strengthen its position, cut domestic prices and lower the cost of living. However, the measure was not suitable, as the world war burst out, which caused the introduction in other countries of guidance and rationalisation measures that increased the role of the state in the economy. In addition, there were numerous clearing and payment agreements which regulated the use of currencies resulting from the exchanges between Romania and other countries, and established fixed conversion rates as well. There were also the clearing arrangements, as well as the hard currency accounts blocked by agreements for certain purposes. This state of affairs made the free negotiation of currencies ineffective in proportion of 70%. Actually, the free partial negotiability of foreign currencies was not applied for a long period, as in 1940, the full assignment of currencies to the NBR was resumed, concurrently with the increase of the payable foreign exchange premium above the official exchange rate.

4. Conclusions

Leaving aside the changes occurring from a period of time to another, the foreign exchange regime in Romania after 1932 may be characterized in institutional terms and in terms of goal fulfilment.

In institutional terms, the organisation of control over the trade in currencies was based on the following principles: the assignment to the NBR of the currencies resulting from exports of goods or obtained otherwise, focusing the currency operations at the NBR, imposing the State's control over the currency operations either directly or through its proxies³⁴.

As concerns the fulfilment of goals, the State's control over the trade in currencies was aimed at protecting the stability of the national currency and ensuring the hard currency needed for the payment of the country's foreign debt,

³³ Decree-Law No. 3418 regulating the exchanges with foreign countries in Official Gazette No.215, Part I of 17 September 1939.

³⁴ NBR Archives, External Accounting Division archives, file 13/1946, unnumbered.

whether it arose from public debt or represented arms costs. In addition, it is worth mentioning the payments arising from Romania's foreign trade.

The attempts at ensuring the currency holdings necessary to the State and the Romanian economy were not always successful. The recurrent changes in the foreign exchange regime during 1934–1935, as well as during 1938–1940 reflect the criticality of the situation. In those periods of time, a sudden passage was made from the NBR's monopoly on the purchase of currencies to the possibility of partial negotiation thereof, just to revert to the previous state of affairs later on. The aforementioned changes were accompanied by the introduction of payable foreign exchange premiums above the official exchange rate of the currencies assigned to the NBR.

At the same time the stability of the national currency, the *leu*, could not be fully ensured. A proof is given by the introduction of the free negotiable quotas for the currencies resulting from exports, as well as by the introduction of foreign exchange premiums, which diminished the value of the *leu*. The devaluation thereof was officially admitted by the revaluation of the gold stock of the NBR in November 1936 at the price of *lei* 153,333.33/kg of fine gold. It was determined by adding the 38% premium (*lei* 42,222.22/kg of fine gold) to the stabilisation price used in 1929 (*lei* 111,111.11/kg of fine gold)³⁵.

Overall, the real value of the Romanian *leu* at that time could not, however, be determined for sure. Such a confusing situation was generated by the control the State imposed over the trade in currencies. The large number of regulations governing the foreign exchange and foreign trade regimes, the recurrent change thereof within short periods of time, the coexistence of several exchange rates for the same currency (the rates resulted from payment and clearing agreements, the official exchange rate plus the foreign exchange premiums, the exchange rates used on the free market) resulted in the distortion of relations between the Romanian *leu* and the foreign currencies.

³⁵ Decree No. 2504, published in Official Gazette No. 260 of 7 November 1936.

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*** * * Official Gazette 1929-1939**

*** * *** *NBR, Reports of the Board of Directors to the General Shareholders' Meeting, 1933–1936*

Table 1: Romania's Balance of Payments

lei mill.

Year	Foreign trade balance	Loans, credits, advances	External public debt (amounts transferred abroad with annuity title)	Public régies and the state	Miscellaneous	Invisibles (capital transfers abroad, repatriations)	Balance (covered with gold and foreign exchange)
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7=1+2+3+4+5+6</i>
1927	4,258	434	-4,279	-600	350	2,657	2,820
1928	-5,226	4,646	-4,012	-586	350	2,097	-2,731
1929	-668	13,617	-5,392	-660	350	713	7,960
1930	5,477	838	-5,032	-662	320	-4,667	-3,726
1931	6,442	3,618	-6,090	-192	-17	-7,381	-3,620
1932	4,701	1,647	-4,776	-384	-82	-1,460	-354
1933 (11 months)	2,485	-208	-2,423	-205	137	-435	-649

Source: Victor Slăvescu, *La situation économique de la Roumanie et sa capacité de paiement mémorandum*, MO Imprimeria Centrală, Bucharest, 1934, Annex 57.

Table 2: The Volume of Foreign Exchange Requests at the NBR

		lei			
	Year	1932	1933	1934	1935
Foreign exchange requests	Traders	3,299,954,906	3,105,012,295	10,885,316	5,942,213
	Industrial entrepreneurs	2,202,511,261	2,198,204,757	4,256,994	4,402,456
	Private agricultural companies and others	673,069,251	680,978,726	1,977,680	893,491
	Public institutions and <i>régies autonomes</i>	5,045,974,946	3,751,941,960	1,813,771	2,213,473
Total		11,221,510,364	9,736,137,738	18,933,761	13,451,633
Foreign exchange approvals	Traders	2,306,596,781	2,794,387,243	7,995,884	5,619,008
	Industrial entrepreneurs	1,494,059,578	2,044,779,306	3,098,577	4,120,630
	Private agricultural companies and others	540,467,413	552,695,241	1,431,708	552,926
	Public institutions and <i>régies autonomes</i>	5,045,657,832	3,751,030,000	1,800,497	2,197,548
Total		9,386,781,604	9,142,891,790	14,326,666	12,490,112

Table 2 Continued: The Volume of Foreign Exchange Requests at the NBR

Rejected requests	Traders	993,358,125	310,625,052	2,889,432	323,205
	Industrial entrepreneurs	708,451,683	153,425,451	1,158,417	281,826
	Private agricultural companies and others	132,601,838	128,283,485	545,972	340,565
	Public institutions and <i>régies autonomes</i>	317,114	911,960	13,274	15,925
Total		1,834,728,760	593,245,948	4,607,095	961,521

Source: NBR, Reports of the Board of Directors to the General Shareholders' Meeting, 1933–1936.

Table 3: Romania's Foreign Trade 1929–1939

Year	Exports		Imports		Balance lei mill.
	thousands tonnes	lei mill.	thousands tonnes	lei mill.	
1929	7,065.0	28,960.0	1,120.0	29,628.0	-668.0
1930	9,215.0	28,522.0	805.0	23,044.2	5,477.8
1931	10,047.0	22,196.9	560.0	15,754.6	6,442.3
1932	9,057.0	16,721.6	450.0	12,011.3	4,710.3
1933	8,778.0	14,710.8	467.0	11,741.9	2,428.9
1934	8,854.0	13,655.7	636.0	13,208.5	447.2
1935	9,276.0	16,756.2	533.0	10,847.5	5,908.7
1936	10,549.0	21,703.4	630.0	12,637.7	9,065.7
1937	9,637.0	31,568.4	709.0	20,248.7	11,283.7
1938	7,409.0	21,532.6	821.0	18,767.8	2,764.8
1939	7,564.0	26,809.3	739.0	22,890.5	3,918.8

Source: Victor Axenciuc, *Evoluția economică a României, Cercetări statistico-istorice 1859-1947, vol. III Monedă credit-comerț finanțe publice*, Editura Academiei Române, Bucharest, 2000, p. 361–362.

Discussions over the Currency Policy in the NEP Period (1921–1928)

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In 1921, Russia's authorities transitioned from the "war communism" policy to the new economic policy (NEP), which was based on the combination of the market principles and the state regulation. In the first years of the reform (up to May 1924) relatively stable chervonets and depreciating sovznak circulated in parallel. Although there was no gold standard, the authorities bore in mind possible return to it. According to the decree on the issue of chervonets, the one chervonets banknote was equivalent to 7.74 grams of pure gold, i.e. the amount contained in the pre-revolutionary 10 ruble gold coin. Exchange for gold at this parity, however, was postponed until a special government order was made. Accordingly, an official exchange rate of chervonets to dollar and pound sterling was linked to the pre-war monetary parities. An official exchange rate was set on the Moscow commodities exchange, where demand and supply were regulated by the state. Market rate could significantly deviate from an official one and to reduce the gap Gosbank made currency interventions.

Sokol'nikov, the Commissar of Finance, considered linking chervonets to the hard foreign currency based on the gold parity to be the main means of securing chervonets' stability. He based his reasoning on the idea that the banknotes should play the role of the gold money. Because the exchange for gold was prohibited, he believed the banknotes could play that role only if certain parity with foreign currency was maintained. Over the whole NEP period there were numerous discussions between the exporters and the People's Commissariat of Finance (NK Fin) as to how to set the optimal exchange rate between chervonets and the foreign currencies.

Narkomfin and VSNH (administrative body regulating state industry) were strongly against sharp appreciation of the foreign exchange rate. At the same time Narkomvneshtorg (People's Commissariat of Foreign Trade) was against its depreciation. At the end of March, Narkomvneshtorg sent a letter to the government criticizing the currency policy of Narkomfin. It accused Narkomfin of setting exchange rate too low for foreign currency and therefore making the export unprofitable. This conclusion followed from the comparison of the pound sterling

and dollar exchange rates (expressed in gold) in the international exchanges in London, New-York, and Paris with those in Moscow. It has been pointed out in the letter that there is mismatch between exchange rates and actual price movements of export goods. As a result “Export of flax, pelts, and timber under current exchange rates is no longer profitable”.¹

Narkomfin did not agree to those arguments based on the sophisticated theoretical analysis. At the beginning of May, Sokol’ikov sent the government a reply which was signed not only by him, but also by his scientific consultants, professors. Yurovsky and Loevetsky. Having studied the relationship between Russian and British/American commodities indexes on the pre-war basis and the changes in pound sterling and dollar exchange rate to the pre-war parity, the authors concluded that the export is profitable.

They also pointed out that the importance of the currency policy for the development of export should not be overestimated in the Russian reality: “In our environment, when any calculations are rather relative and significant overhead expenses push the production and selling costs up, few points deviations of the exchange rates from the desired parity can not be critical for the foreign trade.”² This was very important comment.

After the monetary reform was completed in May 1924, chervonets became the only hard currency. Over more than a year (till autumn 1925), the domestic prices were stable, and so was the exchange rate of chervonets. Nevertheless, even then some well-known economists suggested re-considering the exchange rate. For example, on 8 October 1924, Professor Novozhilov had raised the question in *Finansovaya gazeta* of whether the *chervonets* was overvalued in terms of foreign currency in relation to its purchasing power within the country. This, in his opinion, was impeding exports and obstructing the development of the forces of production. Novozhilov was an adherent of Kassel’s purchasing power parity theory, according to which exchange rates are determined by relative prices in the countries concerned. The *chervonets* rate against the dollar, for example, was set at the 1913 gold parity (US dollar 1 = 1.945 rubles), although after the monetary reform in May 1924 the rise in wholesale prices in the USSR compared with 1913 exceeded that in the USA by around 16%. Novozhilov argued that equilibrium had been disturbed and must be restored, and saw two solutions. The first, which could be long and difficult, was to reduce domestic prices. The second, which he considered preferable, was to lower the ruble exchange rate against the dollar: “Is it not simpler to raise one price – the price of gold – than to reduce all prices?”, he asked rhetorically.

Novozhilov’s article provoked a lively debate in the economic press. The most fundamental criticism came from Yurovsky in *Economicheskaya zhizn*, 23 October

¹ Goland, *Diskussii ob ekonomicheskoi politike v gody denezhnoi reformy 1921–1924*, M. 2006, p. 469

² *Ibid*, p.471.

1924. He pointed out that before the war too almost all countries had used customs measures to create special price conditions. As a result the purchasing power of gold had never been identical in all countries, i.e. exchange rates backed by a gold parity did not precisely reflect differences in the level of prices. For example, in 1913 the level of wholesale prices for all goods in the USA was 91% of the level in Russia. This did not prevent the development of foreign trade because the level of prices of agricultural goods, which formed the main part of Russian exports, was approximately one and a half times higher in the developed countries than in Russia. Roughly the same price relationship for agricultural goods still existed at the end of 1924, which made it possible to export profitably. Prices of industrial goods, however, had increased considerably more in the USSR than in the developed countries. In Yurovsky's opinion this was primarily the consequence of greater economic destruction during the civil war, rather than of monetary policy. "The current exchange rate of the *chervonets* is the normal rate, and the so-called "discrepancy" between the exchange rate and the purchasing power of the *chervonets* correctly reflects the real state of the productive forces of our country at the present stage of reconstruction", he wrote. Yurovsky expressed confidence that the "scissors" between the exchange rate and the purchasing power of the *chervonets* would close as the consequences of the destruction were overcome and the reconstruction of industry led to a reduction in prices. This process, he thought, could be prevented by only one thing: "If we supported the *chervonets* exchange rate at its gold parity and at the same time created new inflation by excessive issue of banknotes."

The subsequent course of events confirmed the correctness of this belief. Wholesale prices in the USSR and the USA converged from May 1924 until February 1925, when the gap was 9%.³ Thereafter, domestic prices began to rise, caused up to the summer by the effects of the bad 1924 harvest and from autumn 1925 by credit inflation. This revived the idea of revising the *chervonets* exchange rate. In November 1925 Yurovsky, when preparing a book based on previously published articles, substantially supplemented the one written a year earlier. He noted that the rise in prices had also affected exported agricultural products, making exports less profitable. Simultaneously, industrial prices had risen even more strongly than agricultural prices, and these "scissors" had begun to slow the development of agriculture. Consequently the gap between the exchange rate and the purchasing power of the *chervonets* had widened. Yurovsky recognised that if these trends became established the ruble exchange rate would inevitably have to be revised. But he emphasised that this operation would not mean simply corrections to the previous currency policy: "It would mean only that if we give up the firmness of the whole monetary system it would be impossible not to give up the firm ruble exchange rate too. Lowering of the exchange rate would not be the consequence and would be

³ *Economicheskii byulleten Konyunktturnogo instituta* 1925, 11–12, p. 23.

one aspect of the disturbance of the equilibrium of the whole system. The idea of lowering the exchange rate, therefore, in practice is not restoration of the existing monetary circulation but is connected with a policy of inflation⁴.”

Yurovsky observed that there was only one way to bring domestic prices into line with world prices quickly—to open the economy to foreign goods, i.e. to abandon the monopoly of foreign trade and customs regulation. The price of this, however, would be the sacrifice of a large part of manufacturing industry, which could not compete with cheaper and better quality foreign goods. This way seemed unacceptable then, both to the leadership of the country and to the society. He therefore concluded: “The relatively high index of commodity prices was inevitable with any currency policy unless our general policy was willing to take the absolutely unacceptable course of demolishing our industry and turning the Union into a country buying the majority of the manufactured goods it needs abroad and paying for them by exporting its raw materials”.⁵ Nevertheless, Yurovsky thought it was still possible to avoid revising the exchange rate and instead changing the economic plans and conducting a cautious credit policy so as to overcome the inflationary tendencies and gradually reduce prices. In November 1925 such solutions were accepted by the leaders of the country.

Two months later, however, this course began to be undermined. In January 1926, the deputy chairman of Gosplan Smilga and the deputy chairman of VSNKh Pyatakov proposed abandoning the policy, pursued since the launch of the *chervonets*, of supporting its exchange rate at the gold parity. The Politburo formed a special commission to study currency policy. This commission included, in particular, chairman of government Rykov, Stalin and Trotsky. At Rykov’s request, Yurovsky wrote a special note for this meeting, on the significance of measures aimed at supporting the *chervonets* exchange rate on the domestic currency market. While earlier, when he discussed this topic in the press, it had been viewed as an academic question, now the choice of different versions of abandonment of the parity exchange rate was a subject of practical policy. His note therefore concentrated on analysis of the negative consequences of this step.

If the private market rate for the ruble against and foreign currency fell considerably, then, Yurovsky predicted, many people would want to convert *chervontsy* into foreign currency, or at least into goods, which would exacerbate the goods famine. Private holders of state loans would behave in exactly the same way. They would dump the loans on the market in order to convert the proceeds into foreign currency or goods. Gosbank could only buy these loans by issuing additional money, thus stoking up inflation. Not to buy them meant allowing their price to fall, undermining the prospects for state borrowing. Thus a fall in the ruble exchange rate on the private market threatened to aggravate the goods famine. Fewer industrial goods would go to the village, the purchase of which prompted the peasants to sell

⁴ Yurovsky, *Sovremennye problemy denezhnoi politiki*, Moscow, 1926, p. 107.

⁵ *Ibid*, p.102.

their produce to the state. The result would be a decline in the very exports which the proposal to give up supporting the parity exchange rate of the *chervonets* was supposed to increase.

What was there to set against all these negative consequences? That lowering the exchange rate would make exports more profitable and enable them to grow. Examining this argument, Yurovsky stressed that while exports increased because their prices had risen the cost of imports would rise too. Therefore, either real wages had to fall, which was rejected then for political reasons, or nominal wages had to be increased, which would raise costs and the general price level. The result of this would be the reappearance of a gap between the exchange rate and the purchasing power of the *chervonets*, which could only be eliminated by revising the exchange rate again. He also emphasised that no one could foresee how exchange rates would move, and there was likely to be a need for intervention in any case to keep the *chervonets* rate at an acceptable level.

The opponents of supporting the parity exchange rate suffered from a narrow approach, ignoring the complex interconnections in the economy. This may be seen in the position formulated by Groman and Strumilin, members of the presidium of Gosplan, in their replies to a questionnaire sent out by Rykov. In the middle of January 1926, Rykov, sent a set of nine questions to leading economists and economic managers, asking them to express with complete frankness their views on the reasons for the economic difficulties and on policy for economic development over the next two to three years.

Strumilin's replies focused on criticisms of the monetary, credit and currency policies of Narkomfin, which in his opinion were the main cause of the increasing economic difficulties. He was particularly indignant about the practice of currency intervention: "In Narkomfin they imagine that a firm exchange rate for our ruble is ensured not by its commodity base, i.e. by "exchange" of the *chervonets* for goods at a firm rate in accordance with the Narkomvnutorg price list, but by the "exchange" for gold at parity"⁶. Strumilin emphasised that maintaining too high an exchange rate prevented the growth of exports and thus of industrial imports. He recognised that lowering the exchange rate would cause prices in the country to rise, but expressed confidence that in a short while this would enable a significant increase in the supply of goods to the market thanks to the expansion of exports and the corresponding imports of raw materials and equipment, after which industrial prices would be bound to decline. Here we see the faith in a future paradise and disregard for the insuperable obstacles on the way to it characteristic of the supporters of unrealistic plans.

Groman's reply seconded Strumilin: "The basis of the firmness of our currency is not gold reserves, not the gold parity, but the growth of our production, the

⁶ Goland, Currency Regulations in the NEP period, *Europe-Asia studies*, vol. 46, no. 8, 1994, p. 1272.

improvement of organisation and the reduction of prices of industrial goods, and thus of agricultural products too.⁷” But there was no serious foundation for this contrast; abandoning the gold parity would just have led to an additional rise in prices. Yet Groman argued that with the foreign trade monopoly it was unnecessary to support the parity exchange rate within the country or to have the *chervonets* quoted on foreign exchanges. From the narrow point of view of foreign trade settlements there was a certain sense in this argument. But Groman ignored the influence of psychological factors, the need to maintain confidence in the *chervonets*.

Different points of view on the desirability of supporting the exchange rate existed not only among specialists but also within the leadership of the country. They appeared at the 18 January session of the Politburo commission on currency policy. On the eve of the meeting all the members were sent Yurovsky’s note, and it was the starting point for the speakers discussing whether currency intervention should be continued. Rykov declared that Yurovsky’s arguments had convinced him of the expediency of intervention “on some scale” to support the exchange rate. Trotsky criticised Yurovsky’s note: “The author of the note approaches the question from a technical monetary rather than a national economic point of view”.⁸

Yurovsky, who was invited to the meeting, proposed in his speech that the main measure to reduce the expenditure on intervention should be a tight credit policy, designed to bring down inflation and the demand for foreign currency. Answering Trotsky’s rebuke for a “technical monetary approach, Yurovsky declared: “The root problem is monetary and credit policy, on which equilibrium in the entire economy depends.” The commission did not follow Yurovsky’s advice, and its decision said nothing about credit policy.

Some days later Yurovsky put forward some new arguments in favour of continuing the previous currency policy. In his reply to Rykov’s questionnaire, which is dated 29 January and signed also by the Commissar of Finance, Bryukhanov, whom Rykov had also asked to reply to his enquiry, he drew attention to the contradictory role of centralised administration and the foreign trade monopoly in the development of the crisis in the economy. On the one hand, it had enabled the state to maintain the parity exchange rate for a long time despite inflation and to prevent the kind of crisis phenomena characteristic of the capitalist economy, like falling production, insolvency, bankruptcy and growing unemployment. On the other hand, protected by the currency legislation and the foreign trade monopoly, a wrong economic policy could be continued longer than would be possible under capitalism. As a result the negative processes spread to more and more sectors and economic difficulties were exacerbated, leading, in particular, to an increasing gap between the exchange rate and the purchasing power of the *chervonets* and unprofitability of exports. Yurovsky

⁷ Ibid, p. 1273.

⁸ Ibid, p. 1274.

then pointed to the dilemma facing the organs directing the country's economic policy, which had to choose between two alternatives. The first he described as "continuing the essentially spontaneous development of the economy in a planned manner on the basis of further credit expansion."⁹ In that case, the author posited, lowering the exchange rate would be inevitable, but it would not eliminate the elements of crisis as the supporters of this move hoped, but "would serve only to initiate the conversion of a potential into an actual crisis."

The second alternative, according to Yurovsky, was as follows: "to use the means of planned action so as to avoid the crisis by making essential reductions where necessary and restoring equilibrium". In more detail, "the crisis is ripe and must inevitably break out generally if we do not make use of the resources of state power which will enable it to be postponed so that it can be avoided, i.e. so crisis can be transformed into lisis,¹⁰ the symptoms in the economy gradually resolved and the widely disturbed equilibrium restored." It was a matter of revising economic plans, reducing credit expansion and changing the general direction of economic policy, in particular, of speeding up the growth of production of means of consumption. These changes, he argued, would restore the profitability of exports by reducing prices.

The advocates of a lower exchange rate wanted precisely avoid the revision of economic policy that Yurovsky proposed and to continue the forced industrialisation line. Consequently, by advancing more and more new arguments in favour of supporting the parity exchange rate he was trying not only to achieve the correct solution of the currency policy problem but also to produce reasons for rejecting excessive rates of industrialisation.

But in some months the government decided to end supporting the parity exchange rate on the free market. It was retained in official external economic transactions. This led to the rise of considerable discrepancy between the official and free exchange rates. The falling rate for chervonets made it more difficult to attract private savings to finance industrialisation on a voluntary basis, without using administrative measures, which grew into coercion and meant the abolition of NEP. It was in the field of currency policy, the most sensitive nerve in the country's entire economy that the first blow at the principles of NEP was struck.

The discussions above are not only of historical interest. Nowadays there is also some controversy in respect to the currency policy. Due to the significant inflow of the foreign currency from export over the last four years (from the end of 2002 to the end of 2006) the nominal exchange rate of dollar to ruble decreased by 17%. The CPI index went up by approximately 51% for the same period. Therefore, the real ruble exchange rate to the dollar was greatly appreciated, and so was the real

⁹ Ibid, p. 1276.

¹⁰ Lisis is a medical term meaning slow reduction of temperature with the illness gradually subsiding, as distinct from crisis.

effective rate of ruble to the currency basket. On one hand, this is positive for the inflation slowdown and de-dollarization of the economy. On the other hand, the competitiveness of the domestic manufacturers is going down both in Russia and abroad. It is not surprising that the industry leaders argue against further ruble appreciation and would like to change the currency policy and devalue the ruble. One of the learning from NEP is that the competitiveness should be improved by reducing the production and selling costs, and real exchange rate devaluation is to be achieved by decreasing inflation rather than through nominal devaluation. However, if these actions do not yield a result, the nominal foreign exchange rate appreciation may be required indeed.

The Evolution of Exchange Rate Regime Choices in Turkey

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1. Introduction

Choosing a foreign exchange (FX) rate regime is a challenging task for the conduct of monetary policy under fiat money standards. Monetary authorities, – generally central banks – try their best to analyze advantages and disadvantages of different alternative regimes, and to find out which one fits best to their policy targets. Unfortunately, there are no straightforward rules or criteria for the selection procedures. A particular regime may be appropriate for a given macroeconomic structure in a certain period of time but no regime choice may be the best option forever because of external and internal shocks. The FX regime choice is also influenced by global financial order. Small-open economies are more reluctant to re-adjust their regimes compatible to main players' choice in the global arena.

From a historical point of view, the world has never had so many different currencies and so many FX rates. Fiat monies –especially after the collapse of fixed exchange rate agreements – and fractional reserve banking may be given as the main sources of this complexity. Inflationary turmoil after the collapse of the Bretton-Woods Agreement gave rise to unbearable volatility of FX rates, threatening the economic stability, not only in developing but also in developed countries, as well. Until the emergence of the European Currency Unit euro, one might argue that the number of fiat monies around the world has peaked. It may be expected that this peak level may not be reached again in the following years. Assuming that an internationally accepted Gold – or the like – standard is not on the agenda at least for the foreseeable future and fiat money would keep its presence, it may be argued that FX rate regime choice will be on the table whenever there is a discussion on monetary policy and economic stability.

In this context, this paper explores why money is an inevitable part of economic and social life in the first section. Then, it briefly describes alternative FX rate regimes. Next section will chronologically overview the evolution of FX regimes

in Turkey. After overviewing the electronic money developments and its impact on the topic, the paper will summarize recent pillars of FX rate developments in Turkey in the final section and make recommendations for the future prospects.

2. Why Do We Need Money?

In the literature, money is defined as the generally and immediately accepted payment instrument. The short answer to ‘the question of what money is’ might better be that it is anything that is widely acceptable and regarded as money.

In a world without transactions costs there would be no money. Primitive way of life with limited social interaction and simple and standard forms of food, shelter and clothing decreases the contribution of money. Clearly, the opposite with banking and financial services, money and capital markets, national and international trade increases the need for a value measurement. This is the answer of the question of why we need money in the first place. As Meltzer (1999) explains: “If there are n commodities, there are at least $(n(n-1))/2$ separate values. The number of bilateral exchange ratios (prices) rises quickly. With $n = 100$ commodities, there are at least 4950 prices to know. At $n = 500$, the number is 124,750, and with 1000 commodities there are at least 499,500 prices. Without a unit of account, trade would be very limited by costs of information. Use of a unit of account to express value reduces the number of prices from $(n(n-1))/2$ to n .”

The alternative of money is barter, and it is extremely costly in societal terms as it limits division of labor and productivity increases are paused. Barter needs a coincidence of wants. The fact that money has continued to be used even in inflationary and hyper-inflationary countries shows how useful it is in reducing the costs of transacting. This proves why we need money even under fragile and unstable economic conditions.

It may be worth noting that private companies printed paper money both in China and Sweden in the emergence period. Nationalization of money started in the nineteenth century after many failures of private monies mainly due to over-issue and financial crises leading to systemic risks, arguably arising from overspending of governments in financing wars. Private monies was generally backed by bullion, mainly gold. Backing paper money with gold lasted until the 1970s despite the short or long-term disturbances from time to time. Governmental money became almost a fashion parallel to national pride motives, even the value has fluctuated greatly.

3. Foreign Exchange Rate Regimes

The FX rate is the price of a particular currency in terms of another or in terms of a certain basket composed of different currencies. Under normal circumstances, closed single money (no bi-metalism or dollarization) economy with no trade with

abroad has no FX rate and face no related problems. The importance of FX rate regimes arises from its potential to serve as a policy target or anchor. Most of the times, it may fulfil leading indicator properties for the perception of economic entities and can also be used as an intervention tool.

In one way or another, generally agreed market fundamentals that affect exchange rates in a free market economy are so many: Current and capital account balances, real income, real interest rates, inflation differentials, consumer preferences, productivity changes, technology, innovations, profitability and risk of investments, product availability, monetary and fiscal policy, trade policy, expectations and speculative opinions about future exchange rates, cyclical fluctuations in economic activity. In the long run, FX transactions originated by flows of goods, service and investment capital, which respond to forces such as inflation rates, investment profitability, consumer tastes, real income, and trade policy are some from the list to play as a role as main determinants of the FX rate.

It is important to underline the fact that the medium of payment function of a currency has determined the FX rate under the gold standard and differences arising from debasement were reflected in rates. Recently, globalization has allowed both store of value and unit of account functions of money to play their roles in FX rate determination, given that no capital controls are imposed.

Table 1: Chronology of Exchange Rate Regimes: 1880–2000

1880–1914	Specie: Gold Standard (bimetallism, silver); currency unions, currency boards, floats.
1919–1945	Gold Exchange Standard; floats, managed floats; currency unions (arrangements); pure floats; managed floats.
1946–1971	Bretton Woods adjustable peg, floats (Canada), Dual/Multiple exchange rates.
1973–2000	Free float, managed float, adjustable pegs, crawling pegs, basket pegs, target zones or bands, fixed exchange rates, currency unions, currency boards.

Source: Bordo (2002).

The above table summarizes a brief history of FX rate regime choices from an historical point of view. In the following sections, details of alternatives for the selection of FX rate regimes will briefly be summarized starting with intermediate arrangements.

3.1 Intermediate Arrangements

Four different types are explored below:

3.1.1 Adjustable Pegs

Fixed exchange rate with central bank support – when necessary – is used. Rates are adjusted whenever it is perceived that they are in disequilibria. The most popular application period was 1945–1972 under the Bretton-Woods Agreement.

3.1.2 Crawling Pegs

Monetary authorities intervene to achieve specific FX rate level, often on a continuous basis. It is possible to declare official daily rates.

3.1.3 Basket Pegs

FX rate under basket pegs are declared in terms of a basket of currencies, opposite to crawling pegs, where the rates are determined separately for every single currency.

3.1.4 Target Zone or Bands

There is a clear commitment that the monetary authority is ready to sell or buy whenever the rates fluctuate beyond the announced or implied zones or bands. Snake-in-the-tunnel is the general structure of FX rate charts.

Table 2: Intermediate Arrangements

Advantages	Disadvantages
<ul style="list-style-type: none"> • Elimination of excessive FX rate risk and so decline in uncertainty • Certain flexibilities with “some credibility” • Alternative nominal aggregates may play a role as a complementary anchor • Excessive fluctuations may be dampened • Control of real appreciation or depreciation • Eases absorption of shocks to economic fundamentals • Exit is not as costly as currency boards and ‘option clauses’ are helpful. 	<ul style="list-style-type: none"> • It may be very costly in terms of intervention if necessary adjustment is delayed. • Short-term capital flows may enforce adjustments. • Encourage risk taking and devaluation may harm economy with open FX positions • Asset and liability dollarization may increase • Demands a consistent level of international reserves • Determination of the ‘allowed’ fluctuations or ‘bands-zones’ level is not an easy task. • Exit may be costly in the short and medium terms. • Increases both the interest and FX rate volatilities • Backward looking provokes inflationary inertia • Lack of capital controls may lead to currency attacks • Needs acceptable fiscal and income policies • Financial system’s strength is a must • Real FX rate fluctuations is costly to accommodate • Devaluations may be large and disruptive, leading to inflationary pressures by pass-through effect

3.2 Float Arrangements

Within the two main subsections, – managed and free float – central bank interventions are rare in the first case but almost abandoned in the second.

3.2.1 Managed Floats

Central banks' intervention is originated to stop speculative attacks and short-term supply and demand imbalances without a clear target level for FX rates.

3.2.2 Free Floats

Under this regime, central banks are completely flexible on their FX operations. Ideally, exchange rate is not taken into consideration in the implementation of monetary policy.

Table 3: Float Arrangements

Advantages	Disadvantages
<ul style="list-style-type: none"> • Existence of discretion in monetary and FX rate policy. • FX interventions frequency falls • Seigniorage opportunities • Market determined nominal exchange rate. • High transaction costs • Decrease the fragility against shocks • Leading indicator role for early warning against fiscal imbalances and mismanagement • May decrease price and wage stickiness • May decrease liability and asset dollarization • Increase the awareness of risk management • Places more emphasis on global integration through increased productivity and competition • Less speculative behaviors in FX markets • Promotes transparency and good governance • Lack of exit strategy and related costs • High international reserves is not a prerequisite • Support financial deepening through increased demand for options and future instruments 	<ul style="list-style-type: none"> • Uncertainties may exist especially in first period of free float arrangements: Adjustment cost. • Lack of an anchor role of FX rate • Increased FX rate volatility and over and undershooting risk • May discourage trade and investments • De jure and de facto contradictions may confuse economic entities • Distortions in resource allocations • May lead to nominal interest rates volatility • Higher inflation bias • Increase the cost of financial hedging • May negatively influence borrowing opportunities • Eliminates FX rate promotions for selective credits • More dependence on central bank competence • As markets are not always efficient, the market-led FX rate may be in disequilibria

Source: Authors' notes.

3.3 Fixed Arrangements

There are two big advantages of the fixed FX rate regime. The first one is that, fixing rates reduces transaction costs and FX rate risk. Secondly, fixing provides a credible nominal anchor for monetary policy.

3.3.1 Currency Board Arrangements

A currency board arrangement (CBA) is a monetary authority that only issues money that is fully backed and convertible into a foreign anchor currency or commodity at a fixed rate when it is demanded.

Table 4: The Some Currency Board Arrangements

Country	Date	Exchange rate / Remarks
Bermuda	1915	Bermuda dollar 1 = US dollar 1 / Loose capital controls
Brunei	1952	Brunei dollar 1 = Singapore dollar 1/Currency board-like
Bosnia	1997	1 convertible mark = German mark 1/ Currency board-like
Estonia	1992	8 Kroons = German mark 1/Currency board-like
Hong Kong	1983	Hong Kong dollar 7.80 = US dollar/ more orthodox since 1998

Source: Hanke and Schuler (1994).

The anchor is chosen for its expected stability and international acceptability with the total elimination of discretion in monetary policy. The only function of the currency board is to exchange its notes and coins for the anchor currency at a fixed rate:

Table 5: Typical Currency Board vs. Typical Central Bank

Typical Currency Board Arrangement	Typical Central Bank
• Usually supplies notes and coins only	• Supplies notes, coins, and deposits
• Fixed exchange rate with reserve currency	• Pegged or floating exchange rate
• Foreign reserves of 100 per cent	• Variable foreign reserves
• Full convertibility	• Limited convertibility
• Rule-bound monetary policy	• Discretionary monetary policy
• Not a lender of last resort	• Lender of last resort
• Does not regulate commercial banks	• Often regulates commercial banks
• Transparent-Protected from political pressure	• Opaque, Politicised
• High credibility	• Low credibility
• Earns seigniorage only from interest	• Earns seigniorage from interest and inflation
• Cannot create inflation	• Can create inflation
• Cannot finance government spending	• Can finance government spending
• No "preconditions" for monetary reform	• "Preconditions" for monetary reform
• Rapid monetary reform	• Slow monetary reform
• Small staff	• Large staff

Source: Hanke and Schuler (1994).

The highly cited studies as stated in Frankel (1999) tend to set some criteria for a successful adoption of a Currency Board Arrangement: If the economy (1) needs to

import monetary stability due to lack of credibility of public institutions and a history of high inflation, (2) desires for further integration with a particular neighbor or trading partner with the political concerns, (3) has high currency substitution, (4) has access to an adequate level of reserves, (5) has a strong, well-supervised financial system, then currency board can be implemented successfully.

Table 6: Currency Board Arrangements

Advantages	Disadvantages
<ul style="list-style-type: none"> Publicly understandable and observable. Enhanced credibility. Drawbacks of bad reputation that stems from poor monetary history of country disappears, It removes uncertainty on FX rates and encourages trade, foreign direct investment. It enhances international confidence leading to lower borrowing costs. The seigniorage from the difference between returns on reserves and the cost of liabilities. Very simple procedures for rule-based monetary policy. Reduced cost of debt management in early stages Promotes fiscal good governance Decrease in nominal interest rates Eliminates the monetization of budget deficits Reduced problem of time inconsistency 	<ul style="list-style-type: none"> Elimination of discretion in monetary and exchange rate policy, The possibility of negative real interest rates in the currency board country, Existence of the high transaction costs and credit risks may cause monetary imbalances. May be deflationary in a growing economy with productivity differentials Existence of asymmetric shocks among countries may be harmful, May not eliminate fiscal mismanagement May lead to unjustified income distribution Risks of unawareness on structural problems Exit strategy is unbearably costly Fragility for external shocks Needs a strong reserve base induced by reserve accumulation capacity Nominal FX rate stickiness May amplify financial sector problems May increase the systemic risk Open to speculative attacks No lender of last resort facilities Shortage of flexibility

Source: Authors' notes.

3.3.2 Dollarization

Dollarization refers to any foreign currency used alongside or instead of the domestic currency. The main types in the literature are cited as unofficial when domestic residents hold some financial wealth in the form of FX, semi-official

when foreign currency is a legal tender and may even dominate bank deposits, but play a secondary role to domestic currency in paying wages, taxes, and everyday expenses (Schuler, 2000), official when foreign currency is accepted as legal tender and liability dollarization when the domestic banking system has high levels of FX debt obligations.

Table 7: The Selected Dollarized Countries

Unofficially Dollarized	Semiofficially Dollarized	Officially Dollarized
Mexico (USD)	Bahamas (USD)	Panama (USD)
Peru (USD)	Cambodia (USD)	Puerto Rico (USD)
Romania (USD)	Liberia (USD)	East Timor (USD)
Belarus (Russian Ruble)	Luxembourg (Belgian Franc)	Liechtenstein (Swiss Franc)

Source: Schuler (2000).

Official dollarization may present more benefits relative to the costs for any country, when these conditions are satisfied: existence of poor history of monetary performance, the smaller the advantage of keeping a national currency, existence of unofficial dollarization (small seigniorage revenue), substance of price stickiness in terms of foreign currency, and devaluation is destructive because of open positions.

Table 8: Dollarization

Advantages	Disadvantages
<ul style="list-style-type: none"> • Decrease in nominal interest rates • Removes the probability of currency crises since it eliminates devaluation risk • Decrease in transaction costs • No surprises for the economic entities • A firm basis for a sound financial sector • Strong credibility • Eliminates nationalistic motives on economic management and places more attention on productivity and profitability 	<ul style="list-style-type: none"> • Exit strategy may extremely be costly • Existence of price and wages stickiness may harm the domestic economic activity • Existence of possible asymmetric shocks • External shocks can only be absorbed by the real economic activity • No lender of last resort facilities • Lack of flexibility • Loss of independence of monetary policy and seigniorage revenue

Source: Authors' notes.

3.3.3 Optimum Currency Areas and Monetary Unions

An optimum currency area (OCA) is an optimal geographic domain of a single currency, or several currencies, whose exchange rates are irrevocably pegged and might be unified (Mongelli, 2002). On the OCA literature, basic prerequisites are generally cited as; flexibility in prices and wages, mobility of factors of production, financial market integration, the degree of economic openness, the diversification in production and consumption, the similarities of inflation rates and political and fiscal integration:

Table 9: Monetary Unions

Advantages	Disadvantages
<ul style="list-style-type: none"> • Elimination of FX rate risk and decrease in nominal interest rates • Enhances the usefulness of money in all functions. • Reduces the costs related to FX reserves, and eliminates the speculative capital flows • Improved price stability • Greater price transparency that will discourage price discrimination, and foster competition • Decreases transaction costs • Access to broader and more transparent financial markets, increasing external financing • Reputation gains for countries with the history of high level of inflation • Reduced macroeconomic fluctuations such as output and employment across the area • Professional management of monetary policy • Elimination of populist motives on the conduct of macroeconomic management 	<ul style="list-style-type: none"> • The loss of monetary policy independence • Some common fiscal restraints reduce the ability of national governments to conduct unsustainable national fiscal policies • The changeover costs from switching to new currency • Serious constraint for countries with high public debt and budget deficits • Inevitability of central bank and bankers competence in order to avoid financial disorder

Source: Authors' notes.

There are differences between “currency union” and “dollarization” arrangements. In a currency union, all countries included in the union have a vote in shaping of monetary policy for the currency union area. In the case of dollarization, however, only the country whose currency is adopted makes the decisions about the monetary policy. Another issue is related to seigniorage income. In the case of dollarization, the country that has dollarized loses seigniorage income that stems from the difference between cost of printing money and purchasing power of issued money. But if a country joins a currency union, it may retain a share of seigniorage income according to criteria such as the relative size of its economy.

After discussing the pros and cons of alternative FX rate regimes, the next section will investigate Turkish preferences among these options.

4. The Evolution of the Exchange Rate Regimes in Turkey

The Turkish Republic has opened the Grand National Assembly in 1920 and declared independence in 1923. The main heritage from the Ottoman Empire was a huge external debt stock without any help for capital formation or an average level of infrastructure. Capital shortage was not the only problem: Human resources were scarce as well. Because of endless wars kept going for many decades through the end of the Empire, basic skills and craftsmanship were missing to trigger growth for welfare enhancement.

Initial conditions were under terrible situation. Serving the basic needs of the society such as bread and butter were prioritized. Industrial revolution was missed and agriculture dominated production structure. Foreign trade and hard currency inflows were quite limited even though the trade balance was in surplus with very low level of import. Institutional building was a dominant preference in order to support law and order. Public sector tried to lead the industrial development. Infrastructure delivered from the Empire was almost nil, as the priority of the Sultan's was to enrich Istanbul, ignoring the welfare in the rest of the country, especially in the mainland Anatolia.

From the exchange rate regimes point of view, the catastrophe after the collapse of the Ottoman Empire was not at its height because money in many surrounding countries at that time including the base money for global trade were backed with gold. The Money Authority of the Ottoman Empire was not dissolved and allowed to circulate a gold-backed currency within the Young Turkish Republic. The managers of the Ottoman Bank have negotiated the right to circulate banknotes within the new national borders and the financial authorities of the Republic have accepted it at least partially. This decision was not a surprise as there was neither a national bank not a financial system after all. The know-how for the design of a national financial architecture was simply missing.

The Ottoman Empire has never had a national central bank. Due to increasing debt burden, the banknote issuing licence has been given to French entities in 1863. Bank-ı Osman-i Şahane was the monetary authority of the Ottoman Empire, which emerged from Bank-ı Osman-i that was founded by British and French joint ventures. The bank kept the licence legally not until the collapse of the Empire and even beyond the declaration of the New Republic. It was a success for the Bank's management team to transfer the financial service monopoly from a collapsing Empire to an emerging Young Republic.

It was obviously a smart move for the financial authorities of the republic as well, because early years of the Republic did not have a monetary disorder or a financial crises as the old banknotes were allowed to circulate and as the Ottoman Bank was kept responsible to keep the money un-inflated. At the same time, the Bank has opened credit lines to the new Republic in order to secure banknote licences. The mutual agreement has reached to extending the licence from 1925 to

1935. Interestingly, the circulation of Ottoman Bank banknotes in Turkey has lasted until 1948 and all the redemption was in gold all through the years.

Preparations for a new Central Bank began in 1926, just one year after the extension of banknote circulation rights of the Ottoman Bank for another 10 years. This duration was used incompletely through mutual agreements and The Central Bank of Turkey (TCMB) Law was enacted in 1930 and banknote issue right has been transferred to the new central bank. In 1932, the TCMB became fully operational and the new national currency has been circulated after all.

Under these circumstances, one might expect a huge volatility on the FX rates. Actually, that was not the case. Pre-emptive judgements for the new financial architect were totally correct and the new order did not fall into the trap of a huge hyper-inflationary period for the sake of a new money issuance. The choice for a smooth pass-through from an imperial monetary system to a national financial architecture prevented a financial chaos that might have erased already scarce resources that are desperately needed for welfare enhancement.

During this pre-Republic transitory period, FX rate regime choice might be called as free floating with some cautions. As there was no identified monetary authority responsible for monetary policy to prevent inflation, money creation was limited through agreements with the Ottoman Bank: The backing of issuance was pre-determined and it was mostly gold (not less than a third!) or first tier government bonds. Semi-bullion standard limited the floating nature of FX rate regime for that period as well. After the First World War, backing the base currencies with gold was a common practise and global FX rate volatility was quite low. As a result, the transitory period has faced a quite FX rate volatility level. The reference currency for this period was Pound Sterling (which has kept its position until 1950 to be replaced by the US dollars) with a rate of GBP 1 = lira 0.888.

The honeymoon of low FX rate volatility ended from a global turmoil: the Great Depression of 1929. The FX rate jumped to GBP 1 = lira 1.125. Having no central bank, the financial authorities reacted to feed up the backing of the banknote circulation and they came up an idea of creating a “banks consortium” to defend the value of the lira after declaring a law on defending the value of the national currency in 1930. The FX buying and selling was strictly regulated with this law, which has shaped the future of financial structure in Turkey for more than 60 years. The Bank’s consortium managed to calm the heightened volatility in already fragile financial system. Capital controls imposed in 1930 had a long-lasting effect until liberalization was given a priority in 1980’s. Those were the years that liberal policies were not being seen as a policy option.

1930 was clearly the end of partial floating of FX rates and it was the first regime shift from floating to fixed FX rate regimes under strict capital controls. Within the following two years, the TCMB law was been enacted. As an interesting anecdote, a certain proportion of the capital of the TCMB was taken from the American-Turkish Investment Corporation against a monopolistic licence

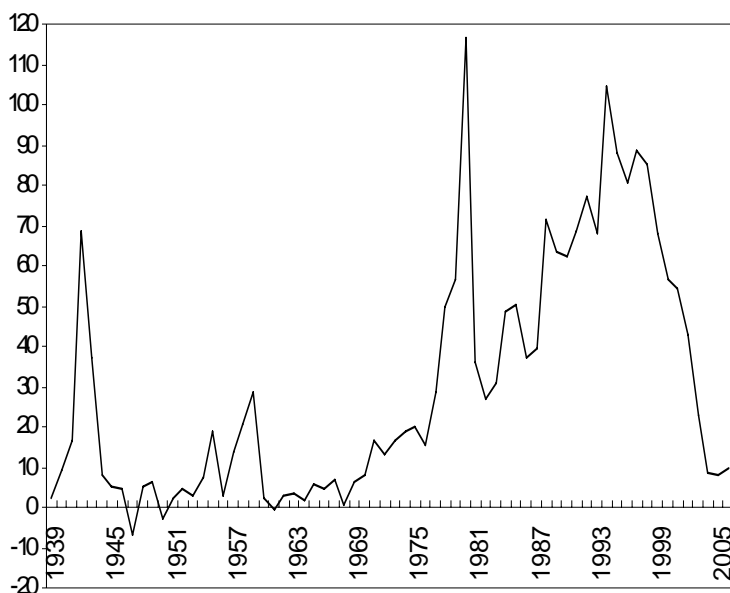
for matches and lighter production, import and distribution. In the first day of 1932, banks consortium's mission to defend the value of Turkish lira against other currencies was transferred to the TCMB, which was held responsible to sustain long-term value of the national currency. In 1933, convertibility of the Turkish lira has been cancelled totally and capital controls became a part of economic policy preferences.

From 1932 to 1938, exchange rate stability has been at its peak even the capital accumulation and financial service existences were at its lowest levels. In fact, this success was intentional. Because, by not over-throwing the Ottoman Bank shaped financial stability and reforming the financial system instead of destructing the old one to create a new system have prevented extra costs that might have used already scarce capital base. It may be argued that the successful timing of a national central bank was the main strategy that has prevented multiple financial chaos and crises in the early years of the Young Republic.

The TCMB was not a public company in the 1931 Law. The share of the Treasury was limited to 15% at most. This ratio increased to 25% in 1932. However, it is premature to argue that the Bank was purely a private company. Because, the public banks have taken a certain amount of shares in the following years and public shares in the TCMB increased to majority levels. In 1964, the TCMB was legally treated as a public economic enterprise and total nationalization came in 1972.

From 1939, the golden age of FX rate stability has started deteriorating because of global events such as the Second World War and local events such as unsustainable fiscal balance. The fiscal pressures were reflected with a legal change in 1938 to open discount windows to public credits up-to nine months. During the war years, even bread was licensed and it was admissible to increase capital controls to defend the value of the Turkish lira. After successfully passing over the war conditions, the first devaluation came at a time without any serious external imbalances. Before the Bretton-Woods Agreements were signed, the authorities decided to capture a competitive edge and devaluated the currency in 1946. It was a regime shift from fixed to adjustable pegs in the FX rates as well. The new rate was increased from USD 1 = 1.30 lira to USD 1 = 2.80 lira. From 1938 to 1948, prices increased more than fourfold and real effective exchange rate climbed sharply. On the other hand, devaluation did not contribute to the price stability because of pass-through, a term that was not being realized by the authorities at that time.

The War brought inflationary pressures to high levels. Turkey experienced double-digit inflation during the war and until the mid-1970s, it was partially under control. However, the CPI jumped to double-digits again and never came back until 2005:

Chart 1: CPI Annual Rate of Change (Using 12 Month Averages)

Source: Central Bank of Turkey.

The second devaluation was a result of heightened imbalances in the domestic economy. Because of excessive infrastructural investment during the 1950s, the sustainable growth balances have been broken and there appeared a parallel (black) market for FX rates. The first wave of devaluation came with a preferential rate for tourist exchanges for USD = 5.25–5.50 Turkish lira. As the spread between official and secondary market rates increased sharply (sometimes up to USD = 20 Turkish lira), devaluation was inevitable and official rates were brought to 1 USD 9 Turkish lira. One mistake of this period was to decrease discount rates from 8.5% to 7%. The impact was decreasing the propensity to save because of negative interest rates and increasing central bank funds to finance public investments.

The 1950s witnessed extreme central banking applications in many aspects. One of them was a decision to open an independent account for reserve requirements and use 20% of the balance to finance public investment from 1953. Once central bank money is taken as a sweetener for government expenditures, other extreme applications followed. In 1955, short-term advances to the Treasury were legalized for the first time with 15% of the budget spending, which turned out to be a trigger for fiscal imbalances based inflationary path to last until 2002. In 1958, the reserve requirement rate determination was transferred to the Bank Credit Regulation Committee (BKTK) and a high wall is built to block efficiency gains in monetary

policy implementations. As a small closed economy, the adjustable peg broke once again in 1958 with another deflation, which was just another signal of heightened imbalances in the economy signalling strong requirements for reforms.

The third devaluation was the result of the second boom cycle of 1961 to 1969 in Turkey, as the first one was from 1950 to 1956. Excessive independence on import for investment goods including machinery created an unsustainable level of current account deficits and official and black market FX rates exploded once again. The devaluation was an adaptive one to equalize the two rates to get rid of the shadow black market dominance of FX rates. The increasing involvement of the BTKT in monetary policy operations and undermining the importance of independent central banking has accumulated huge structural problems. An increasing trend for imports of machinery in order to sustain import substitution based growth strategies complicated the already unsustainable current account imbalances and another devaluation was inevitable in 1970 in order to bring the FX rates to a level that might have served better to close huge and still growing current account imbalances. The USD reached to 15 Turkish lira level.

The year 1970 was the time the TCMB was being fully nationalized. At the same time, the BTKT was dissolved. However, heightened global volatility because of the collapse of the Bretton-Woods system and oil price shocks washed away all the hopes for smooth process of reforming the economy to get rid of fiscal imbalances. Because of import dependence in the energy and transportation with no national oil wealth, the scarcity of hard currency was dominant and reserves diminished fast.

To get rid of the lack of hard currencies, FX risk was nationalized and convertible FX accounts are allowed to keep away savers from FX rate risks:

Table 10: Reserves, FX Convertible Accounts and Net Reserves (million USD)

Years	Reserves	FX Convertible Accounts	Net Reserves
1973	1893	225	1668
1974	1462	145	1317
1975	850	1016	-166
1976	844	1775	-931
1977	398	1978	-1580
1978	560	1877	-1317

Source: Feyzibeyoğlu (1979).

The surprise support from the worker's remittances¹ was not enough to finance all current account deficits. In a later stage, workers were allowed to open FX deposit accounts at the TCMB, which have been accumulated to high levels since then:

Chart 2: Foreign Exchange Deposits by Citizens Abroad (Million USD)



Source: Central Bank of Turkey.

The rest of the devaluations were all trying to re-structure the economy after the devastating impact of first and second oil price shocks. The first oil price shock was tolerated with an opportunistic injection of worker's remittances from abroad and convertible FX accounts were designed to nationalize the FX rate risk in order to defend financial stability and bolster import dependent investment expenditures. Those were the years the IMF became a part of monetary policy implementations and serial stand-by agreements have been signed in order to ease the burden of unbearable cost of current account imbalances. In 1974, the IMF has demanded an adaptive devaluation to create a spread of 2% on the bid-ask prices. In the following years were witnessed quite often devaluations with increased scarcity of

¹ The workforce deficit in West Germany led to a labor force inflow from Turkey around the end of 1960s.

hard currencies: Three times in 1976, two times in 1977, three times in 1978 and three times in 1979. The FX rated level reached to a level of USD= 26.50 Turkish lira at the end of 1979 and the 1980 reforms increased the rate to USD = 70 Turkish lira.

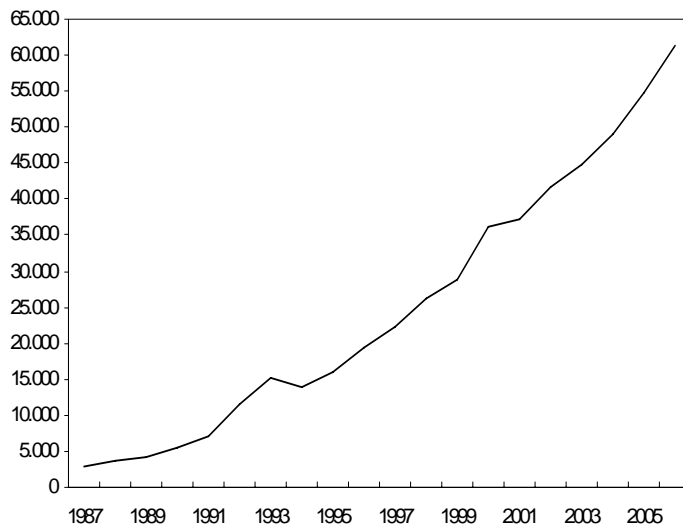
Devaluations without required reforms and paradigm shift were obviously a one-off cure and the second oil shock has killed almost all hope for an exit strategy from the fragility of the economy. Basic consumption goods disappeared from the shelves and until the reform package of 1980, black-market FX rates have gained dominance. Spreads were exceptionally high and almost all devaluations failed to fulfil the gap between official and black market rates. Even the fixed FX rate regime was not dismantled; there was a regime shift with 1980 economic reforms to exit from import substitution based growth strategies to expert-led growth. Also, financial liberalization began with these reforms.

Interest rate settlement was also liberalized so that market mechanism was empowered. The adjustable peg FX rate regime was left in 1981 and FX rates are published on a daily basis, which meant a change to crawling-peg FX rate regime. The 1980 reforms already transferred the authority to settle FX rates from the Council of Ministers to the Ministry of Finance. In 1981, the Finance Ministry transferred this authority to the TCMB and the FX rate regime changed permanently. This date was the end of multiple FX rate implementations as well. All preferential rates were cancelled. There were 164 devaluations in 1981 and from 1982 daily settlement of FX rates institutionalized, which is still being going on. Those were the years to subsidize exports with competitive FX rates to prevent another balance of payment crisis. With the help of the IMF stand-by agreements, the main target was to open the economy to global markets. To achieve this target, de jure convertibility was declared in 1984 even it was 1989 that Turkey erased all kind of capital controls. This year, banks were allowed to offer FX accounts to their customers:

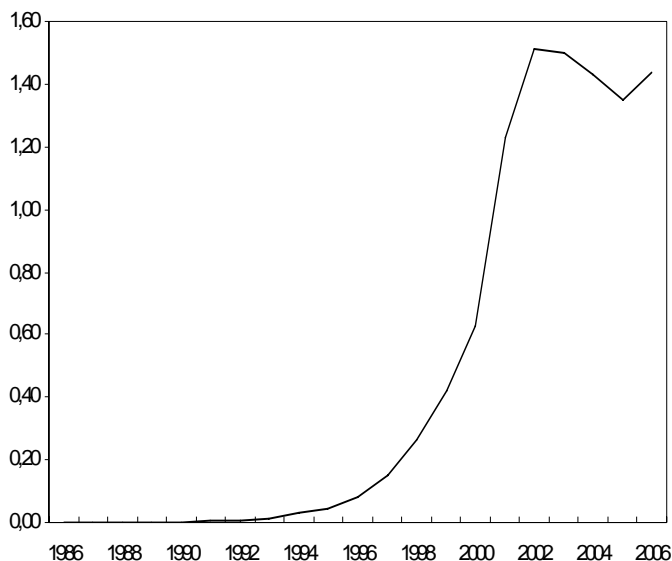
In 1983, partial capital control elimination came into force. Banks were allowed to execute payments in hard currencies, open deposit accounts, distributing FX corporate credits. It was the beginning of privatization of FX rate risk in Turkey.

In 1988, FX and banknote markets were established within the Markets Department at the TCMB and with Degree 32, all capital controls were eliminated in 1989. This period was the beginning of increasing involvement of the TCMB in the FX markets. By law, 20% of all hard currency earnings were forced to be sold to the TCMB, which kept almost a sustainable monetary expansion. Other than that direct intervention to the FX market started to become a common practice from 1988 and it was almost a daily practice from 1994. The FX rate developments since then are shown in chart 4:

Chart 3: FX Deposits (USD, Annual average)



Source: Central Bank of Turkey.

Chart 4: USD Ask (Annual average, YTL)

Source: Central Bank of Turkey.

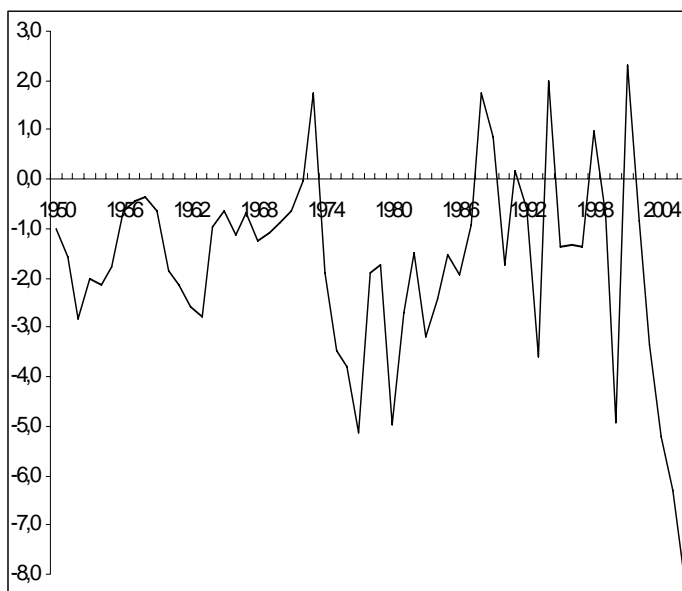
As many central banks around the World, the TCMB has also tried monetary targeting in the 1990s. Due to political instability, dis-inflation has never come true. In the 1970's, Turkey kept experiencing high and volatile inflation. The first Iraqi War did not help to change already persisting imbalances in the economy. In 1993, with a fiscal policy mistake, public receivables and loans were cancelled among public enterprises and the TCMB balance sheet had a public sector credit boom. Such a monetary expansion coupled with major debt mismanagement strategies by the then government led to a financial crisis in the beginning of the 1994 and Turkey became a rare example of devaluation of 13.6% under crawling peg FX rate regimes.

The impact of the 1994 crises on the monetary policy was so strong that monetary reforms were inevitable: The TCMB Law has been changed to limit advances to the Treasury and decrease the amount annually to cancel it within 5 years. Marketization that has started in 1987 by creating a Treasury borrowing mechanism based on regular auctions followed by the establishment of Interbank money and FX markets and open market operations desk has played a critical role in the 1994 crises. The systemic risk concept has been undermined and chain-reaction of expectation mismanagement has increased the price the economy has paid. After the crisis, the TCMB decided to publish indicative FX rates, which was collected from the market markers and announced without any adjustment. A

surprise in the above-mentioned involvement of the TCMB was to use forward FX intervention in 1996 with an aim to ease election uncertainties. Because of the Thai experience (during the far-east crises, it was understood that the level of cash reserves in Thailand were quite lower than the official announcements and expectations deteriorated sharply just after markets realized the reality) with forward rate contracts, the TCMB never used this instrument again.

Still, there was no political stability after the 1994 crises and the official monetary policy strategy was to maintain monetary and financial stability through means of monetary policy so that the Treasury can borrow without disrupting the economic stability. At the same time crawling-peg regime has been institutionalized with minor changes on the settlement of official rates. As a usual suspect for the currency crises, unsustainable current account deficits played a critical role for 1994 crises as well:

Chart 5: Current Account Balance/GNP



Source: Central Bank of Turkey.

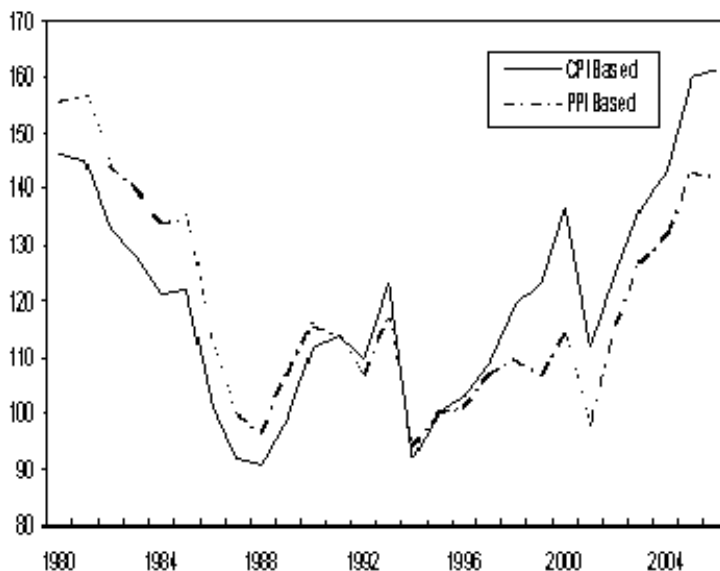
In the period of November 1995 until December 1999, the exchange rate policy conducted by the Central Bank gave emphasis to especially achieving and

sustaining stability in the financial markets². The crawling peg regime has adjusted somewhat close to a managed float with increased involvement of the TCMB in the FX markets. Within this framework, the exchange rate policy aimed at minimizing fluctuations in the real exchange rates. According to the stand-by agreement signed with the IMF at the beginning of 1995, the increase in the FX basket was targeted to increase by as much as the monthly inflation rates that were also projected in this agreement.

The FX rate policy of the period was to devalue the Turkish lira daily in line with the inflation against a currency basket consisting of 1.00 USD and 1.50 DEM³. We may assume that the period was highly shaped by the local events such as the Bolu Earthquake in 1999 and global events such as Far East and Russian financial crises in 1997 and 1998. With political deficiencies to target the local and global fragilities of the economy, monetary policy has no option other than trying to calm sudden rises in the financial stress to help the Treasury to maintain debt management operations. During the period, the cash balance of the Treasury was lacking a month's redemptions and the TCMB open position was in negative territory because of worker's accounts. Decreasing deviation in reel effective exchange rate was also a priority:

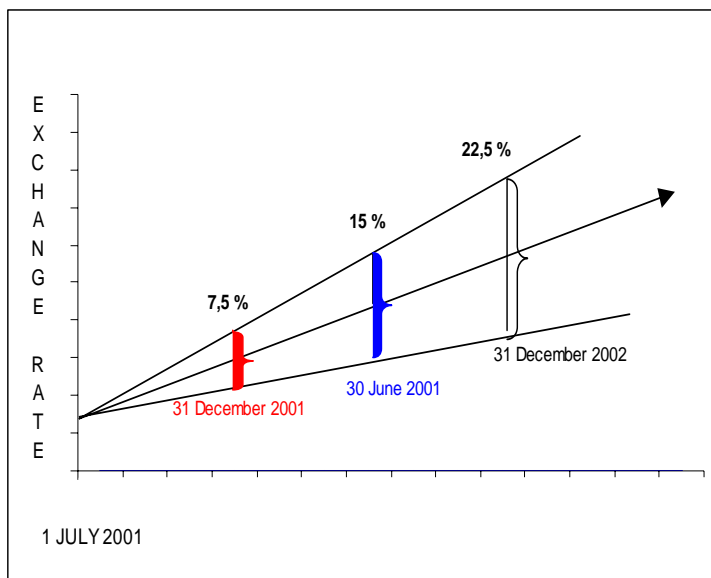
² In addition to the financial stability concern, the Central Bank also aimed at both controlling inflation to some extent and curbing negative effects on the foreign trade balance.

³ In 1999, the Central Bank replaced the Deutsche mark with the euro in the basket, so that the basket consisted of USD 1.00 and EUR 0.77.

Chart 6: Real Effective Exchange Rate Indices (1995=100)

Source: Central Bank of Turkey.

In 2000, along with the execution of a Stand-by-Agreement with IMF, the exchange rate basket for the following 12 months was announced on a daily basis as a precondition of Exchange Rate Based Stabilization (EBRS) Program. The managed float regime was replaced with tablita regime. With the daily announcement of exchange rate basket, provision of an anchor for inflation expectations has been aimed. A gradual shift toward a more flexible exchange rate regime was intended to begin on July 1, 2001, with the introduction of a progressively widening band around a central exchange rate path. The width of the band was expected to gradually expand from 7.5% in July/December 2001 to 15% in January/June 2002, to 22.5% in July-December 2002. The exchange rate was expected to become freely floating beginning from 2003. Chart 7 exhibits the exit strategy of 2000 EBRS program:

Chart 7: 2000 Exchange Rate Based Stabilization Program

Source: Central Bank of Turkey.

However, the financial crisis in February 2001 increased the cost of continuing the pre-announced exchange rate regime and free floating became effective just after the crisis, almost a year earlier than programmed.

The post mortem analysis of the reasons of the collapse of ERBS demonstrates some deficiencies regarding the design of the stabilization program, some execution failures of structural reforms, the strength of the dollar against the euro and the jump in the oil prices as the main culprits. When the design of the program is evaluated, 4 billion dollars financial support of the IMF in 2000 could be easily observed as inadequate compared to Treasury's operation for restructuring state and intervened banks⁴. Additionally the inexistence of a contingent funding facility in the beginning of the program was a concern when the structure of ERBS programs considered. In other words, those programs are also called quasi-currency board arrangement and designing a contingent funding facility could easily reduce the likelihood of a liquidity crisis.

Those aforementioned problems, delays and unwillingness in the reform process opened the door the questionings of Government's will to implement the

⁴ The operation amounted to 17.4% of GNP in 2000.

reforms in its agenda. Along with those inquiries, the deterioration of some macroeconomic variables such as appreciation of domestic currency rooted surge in imports⁵, harmed the credibility of the peg's sustainability. All those deficiencies regarding the design of the program, implementation failures of structural reforms and exogenous factors caused failure of stabilization efforts in 2001 and the exchange rate was allowed to be determined freely in the FX market after February 2001 and afterwards.

After the crisis, the TCMB started to implement floating exchange rate regime. Although the year 2002 was the first year of floating exchange rate regime and it was completely new and unknown for all market participants, the intervention was quite rare and it was limited to extremely volatile movements that were not justifiable through fundamentals including market sentiment. The TCMB announced that it would intervene in the markets only in cases of excess volatility, without affecting the long-run equilibrium level of the exchange rates. The three limited FX interventions of the TCMB in 2002 indicated that the Central Bank did not target any exchange rate level. The TCMB started FX purchase auctions at the beginning of April 2002, taking into consideration the stability in FX markets in the first quarter of 2002, strong signals about reverse currency substitution and the fact that strong FX reserves would lead to strengthened confidence in the Central Bank policies and the economic program. The TCMB has been sharing with the public the general framework of the current exchange rate policy and FX buying auctions in the press releases since the start of 2002. As also stated in these press releases;

(i) In the current floating exchange rate regime, exchange rates are determined by supply and demand conditions in the market and the Central Bank does not have any exchange rate target.

(ii) Since there is no exchange rate level to maintain in countries with floating exchange rate regimes, the level of foreign currency reserves is much less significant compared to countries with fixed or flexible exchange rate regimes. However, especially in emerging economies such as Turkey, a strong FX reserves position is significant in removing the unfavorable effects of potential internal and external shocks and boosting confidence in the country's economy. In addition, taking into account the foreign debt payments of the Treasury and the need to gradually reduce the number of high-cost remittance accounts in the long-term, which are peculiar to Turkey and make up a significant part of the liabilities side of the TCMB's balance sheet, the TCMB holds FX buying auctions to build up reserves at times where FX supply constantly increases compared to FX demand.

⁵ The rise in imports had its roots in the unpredicted oil price hike and terms of trade deterioration.

(iii) The economic transformation process experienced after the 2001 crisis has enabled significant achievements in macroeconomic stabilization and helped reduce the “dollarization” effect created by unstable macroeconomic policies and high inflation in the past. Despite some deviations from this main tendency due to exogenous shocks and changes in risk perceptions, decisive implementation of economic program has always enabled a return to the main tendency. This process, combined with favorable developments in the balance of payments, has supported the increase in FX supply in the economy.

(iv) In this framework, in order to minimize the impact on supply and demand conditions in the FX market, the TCMB, which follows a moderate reserve-raising policy, has conducted its FX buying via auctions, whose terms and conditions are announced with due notice, since 1 April 2002.

(v) Meanwhile, the Central Bank will continue to closely monitor the volatility in exchange rates and may directly intervene in the markets in the event of excessive volatility that might occur. These volatility interventions are not only carried out by considering past data with a mechanical rule, but by evaluating all aspects of realized and potential volatilities.

The TCMB announced in January 2002 that it would gradually abandon its intermediary role in the FX and foreign currency markets. Through this policy, it was intended that the undertaking of transactions risks by the market participants would lead to a price formation mechanism that fully reflected the risk perceptions. Accordingly, the TCMB abandoned its intermediary role in FX deposits against the Turkish lira deposits market and the forward FX purchase-sale market on March 1, 2002, and the foreign banknotes purchase-sale against the Turkish lira market on July 1, 2002 and the FX purchase-sale for the Turkish lira market on September 2, 2002. This was the end of an era of marketization under the TCMB supervision initiative that has begun in 1987.

Some of the late events affecting the FX rates in Turkey may be counted as follows: 2003 was shaped by the Operation Iraqi Freedom. The TCMB announced that FX deposits in terms of USD were supplied to eliminate the shortage in FX markets and interest rates on FX deposits were decreased from 12% to 8%. On the other hand, it was announced that foreign currency banknote demand in the banking sector would be satisfied via FX and banknote markets. On March 24, 2003, interest rates on FX deposits were further decreased from 8% to 6% as additional support for the banking sector. The measures prevented a potential market turmoil that could have endangered price stability.

Volatility increased in April 2004 due to the expectations of a possible rise in interest rates in the United States and uncertainty about Turkey’s accession into the EU and the Cyprus talks. On May 11, 2004, the Central Bank directly intervened into the FX market after observing excessive volatility caused by reduced FX liquidity arising from the currency substitution process and anxiety created in the market as a result of unfavorable domestic and external developments.

The Central Bank resumed FX buying auctions on December 22, 2004. Unlike previous buying programs, however, the Central Bank announced an annual auction program in order to minimize the effects of buying auctions on the FX market, hoping to only slightly affect FX supply and demand and to preserve the basic principles of the floating exchange rate regime.

The floating exchange rate regime continued to be operative in the year 2005. The total daily amount of FX buying auctions for the year 2005 was determined as USD 15 million and an additional selling option up to the 200% of the total amount sold in the auction was granted to the winner institutions. On the other hand, in addition to the FX auctions, as a reaction to the excess volatility of the FX rates, the Central Bank intervened in the FX markets six times in 2005. Starting from October 21, 2005, the data on direct FX purchase or sale interventions have started to be published on the website of the Central Bank for the purpose of transparency.

The annual auction program for 2006 was announced in consistence with the aforementioned general framework. The maximum daily amount that can be bought was determined as USD 60 million, with USD 20 million of auction amount and USD 40 million of optional selling amount (200 % of the total amount sold), to be effective as of the 2nd of January 2006. However, in line with the decline in FX supply due to global liquidity conditions, the depth of the FX market was lost and volatilities were observed in exchange rates. Therefore, the Bank decided to suspend daily FX buying auctions for a certain period of time, starting from the 16th of May 2006. Moreover, as a response to the excessive volatility in exchange rates observed in 2006, the TCMB directly intervened in the market via one FX buying intervention and three FX selling interventions.

Following the measures taken by the TCMB against the volatility in financial markets in May and June 2006 and improved global liquidity conditions, the FX market has become relatively stable. For this reason, the TCMB has decided to resume the FX buying auctions, which were suspended on the 16th of May 2006, as of the 10th of November 2006. Accordingly, the maximum daily amount to be purchased in the auctions has been set at USD 45 million, with USD 15 million for auction amount, and USD 30 million for optional selling amount (200% of the total amount sold).

In the period of 2002–2006, the total amount of foreign currency purchased via auctions and interventions is USD 9,7 billion, while the total amount sold is USD 3,1 billion for the whole of 2006. The total amounts of foreign currency purchased and sold by the Central Bank are shown year by year in the table 11:

Table 11: The TCMB's Net FX Purchases and Sales (2002–2006; million USD)

Year	FX Buying Auctions	FX Selling Auctions	FX Buying Interventions	FX Selling Interventions	Total Net FX Buying
2002	795	-	16	12	799
2003	5,652	-	4,229	-	9,881
2004	4,104	-	1,283	9	5,378
2005	7,442	-	14,565	-	22,007
2006	4,296	1,000	5,441	2,105	6,632
TOTAL	22,289	1,000	25,534	2,126	44,697

Source: The Central Bank of Turkey.

The TCMB continues to implement floating exchange rates regime in 2007. According to the moderate reserve accumulation policy under the floating exchange rate regime, the TCMB will continue the FX purchase auctions in 2007, as well, in a way to ensure that the fundamental principles and operation of the floating exchange rates regime are adhered to.

In the next section, a potential paradigm shift for the selection of FX rate regimes that might fit best at a particular period will be investigated. Global conjuncture may have a greater impact on peripheral currencies in the not-far future.

5. Electronic Money and the Future of FX Rate Regime Choices

The evolution of money has reached a new phase in the last decade with the developments in payment systems innovations and electronic purse technology. The main motives of these changes are being supported by two basic themes. The first one is the ever lasting increases in power of computing, which is theorized as Moore's Law of self-doubling of computer-power in less than every two years. The second one is the ever-lasting decreases of telecommunication and networking cost.

The central banking definition of electronic money (e-money) was given by the European Central Bank (ECB) as "an electronic store of monetary value on a technical device that may be widely used for making payments to undertakings other than the issuer without necessarily involving bank accounts in the transaction, but acting as a prepaid bearer instrument." (ECB 1998) This definition underlines certain aspects of e-money:

1. It stores monetary value on a *technical device* with a capacity to be used widely for making payments to undertakings other than the issuer. Then, it excludes Local Exchange Transaction Systems and service vouchers.
2. It has a role as a prepaid bearer instrument, excluding account-based electronic payment instruments such as credit and debit cards.
3. It is used to cover payments to undertakings other than the issuer, which is essential to differentiate e-money products from single purpose prepaid cards.
4. Its ability to by-pass bank accounts or any other financial service providers' authorization. By doing so, it covers non-accountable e-money proposals as well by allowing "finality of payment" on e-money transactions.

Credit Cards, large value Interbank funds transfer systems, giros, automated clearing house services, direct debit and credit systems, new means to access credit card payments and home banking systems, debit cards, pos terminals, ATM and ATM cards, phone cards, transit cards, club cards, electronic fund transfers and Swift facilities, electronic banking products, computer chips embedded in a smart card including university cards are all excluded from the definition of e-money and can only be classified as background technologies for a full scale issue of e-money.

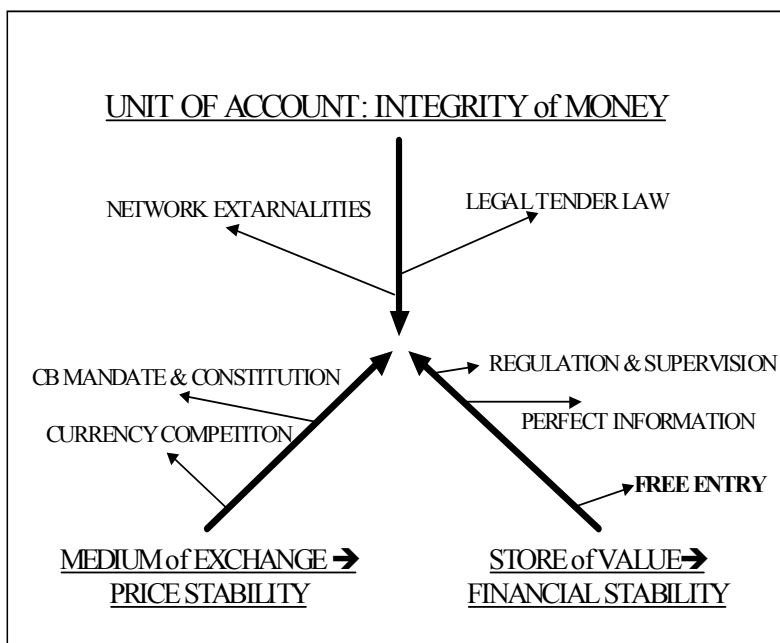
On the other hand, this definition is unsatisfactory because, it overemphasizes the technical distinction between account-based and token-based systems. It also does not distinguish clearly enough two quite distinct kinds of e-money issuance strategies "representative" such as e-dollar and e-euro and "independent" e-money, such as e-gold and basket or index-based schemes.

The impact of e-money might be the most challenging when it is as non-bank money, that is, money issued without reference to banking reserves. If e-money is introduced as independent money, not a representation of any conventional currency, it leads to revolutionize the competition among monetary policy frameworks and as a result it leads to extra FX rates other than rates among conventional currencies.

This impact may well be different for developed and developing countries: For developed countries, it may provoke 'currency competition' among core currencies like the US dollar and the euro, or perhaps between these traditional currencies and new, privately issued monies (if the performance of the central banks is seen as unsatisfactory by money users). For developing countries, it may facilitate and speed up currency substitution to dollarization and/or euroization.

The most striking dimension of the e-money technology is its potential for a "once and for all" demise of conventional money because once e-money replaces conventional monies, the technology will be able to sustain a full scale circulation of electronic monetary value issue for all end-users in a global scale.

The implications of e-money on conventional money may be analyzed with the help of a chart:

Chart 8: Money and E-Money

Source: Görmez (2000).

On the unit of account function, e-money decreases the network externalities as information gathering cheapens and as the construction and operating cost of networks decreases. Even the legal tender laws are not influenced by the technology, the cost of defending bad money will increase eventually, which has been sharpened by currency attacks as well. As a result, only strong currencies with a quantified spectrum of cover –the quality of backing- will survive while others will be under direct threat of good monies through asset and liability dollarization in the first stage and monetary unions in the final stage.

On the medium of exchange function, e-money will impose the central banks a clear mandate by the constitution to fight inflation in the first place and conditionally support growth policies unless there are contradictory to price stability. Otherwise, currency substitution will narrow the number of transactions conducted on a particular currency, which can lead to the demise through full dollarization or monetary unions in the following phases. E-money extends the reach of currency substitution even for micropayments through conventional and mobile networks and unless capital controls are imposed on the networks it is inevitable that “the good money will drive out the bad”.

In terms of store of value, e-money applications will enhance free entry by lowering the cost of financial service provision. Obviously, the comparative

advantages of certain institution's expertise will not be hampered in the very short run, especially in terms of wealth management and portfolio advice. But, examples such as Paypal –an e-mail based internet payment solution and Egg –an internet bank in the UK – proves that the cost of gaining a critical mass of customers has been eased seriously in financial services. Brick and mortar cost of traditional financial service providers are replaced with bits and bytes cost, which is relatively cheaper. Networking and online customer relations would lead to better quality of information management and this is advantageous for both customers and service providers.

These implications arise the problem of the spectrum of a particular currency's cover. What the cover means may best be described as the backing of a currency. It should better be kept in mind that when there comes a time for a global financial order where different kinds of contestable monies compete each other; the winner will be the one with the best spectrum of cover both in the medium and long run. The better the cover in the short run supports the medium of exchange function of money but for the medium and long run, store of value function could be sustained with relatively stable backing and cover.

Chart 9: Spectrum of Cover



Source: Görmez (2000).

What backs a currency in the present time is its purchasing power, its ability to get a product, a service and/or an asset in a given period with a guarantee of irrevocable payment, because fiat money has no intrinsic value. Imposing taxation could decrease the nominal amount of money and that's why, backing of money is mainly shaped by tax (law) enforcement. Taxation is a kind of revenue that has no economic activity that the collector is involved. However, in the long-run, any money can only and only be backed by profit based productivity that will support a tax base to be enough for basic cost of societal services and promises. The public sector is the biggest spender in almost all developed and developing countries and private sector is not mature enough to fully provide services such as defence and health, which are main unprofitable activities in terms of mass-production.

With regards spectrum of cover –or backing of a currency-, it may be argued in lights of above-mentioned argument that any currency is backed with what it can buy in the very short-run, whereas the cover is most influenced by the level of

taxation on an annual base. On the other hand, profit originating economic activity can provide the best cover for a currency in the long run. Hence, under competing currencies – whether polarized or not – framework with no capital controls imposed, the critical indicator for the value of a currency is the long-run economic performance that will support the cost of unavoidable societal services through generating profits without hampering capital base for production. As a step forward, it may be argued that the current value of a currency may also be judged as the discounted value of future profits that a given economy seems to provide in the long run. Attacks that came under light especially in the far-east currency crises and during the convergence of the euro area currencies shed some light on the favor of this argument.

Once the value of a currency becomes quantifiable, it is easier to analyze what the price of it will be in terms of another currency. Free market players would best decide on the level of FX rates in a given time. Any movement of the rates would arise when there are judgemental differences among market players and unless information asymmetries leads to huge discrepancies; then, FX rates will fluctuate narrowly without hurting the economic activity.

This phase is where e-money applications will play their role in terms of FX rate regime choices and exchange rate determination. Clearly, it would be imaginary to expect a perfect digital barter technology in the foreseeable future. Hence, competing currencies with no capital controls could serve the societies as information economising denominators. Their price in terms of each other would be decided according to their future-profit generating power. Speculative and manipulative motives would not be expected to disappear in the near future. However; as the depth of certain currencies increases through unofficial and official dollarization and/or currency unions, polarization would be inevitable. Because of liquidity effect through money and capital markets operations in terms of store of value and availability and convertibility effect through e-money solutions would allow good money to drive out bad. Personal computers, palms, mobile phones, personal digital assistances, automated teller machines, credit and debit card infrastructures, international micro payment technologies, interoperability of national and international wholesale and retail payment systems would all help to widen the on-line real-time circulation of any good money to end users anywhere and anytime in the world.

The impact of e-money on the FX rate regimes, then, seems to decrease the number of alternatives in favor of free floats. Fixed rate regimes other than the monetary unions would be unbearably costly. Probably, this danger would be the main source of fiscal rules imposed in the euro area, namely Maastricht Criteria to eliminate potential mismanagement of individual fiscal policies, which could, in the end, endanger the integrity of the euro.

Then, FX rate regime selection becomes a “life and death” issue in economic management under a matured and well-designed globally competing e-money

environment. Free market players would heavily punish unsustainable preferences and any potential currency attack would end with the demise of the national (international) currency. As the cost of defending against an attack needs to cover not only the store of value but also the medium of exchange function, currently declared unit of account would lose its effectiveness. Even capital controls are imposed; financial innovation could always find alternative solutions to supply sound money to funny money areas as long as the economy is not closed to international trade with virtual and conventional border surveillance.

4. Conclusions and Recommendations

Since the declaration of Independence from the Ottoman Empire, Turkey has tried all kind of exchange rate regimes from strictly fixed to free float. Interestingly, during the emergence of the new Republic, it was free float that has allowed sustaining financial stability and after more than 70 years of trying all alternatives, free floating has become the favorite once again.

The first change of the regime came in 1932 when the TCMB became operative. Free float regime is replaced with fixed rates. The second regime shift occurred in 1948 when Turkey joined to the Bretton-Woods and applied adjustable pegs until 1981. Crawling peg came into affect to last until the 1994 crises. Managed float was the later choice as the FX rate regime. 2000 was the year the ERBS program was activated, which failed with 2001 crises and since then free float is back on the stage. Table 11 summarizes the evolution of the FX rate regime choice in Turkey:

Table 11: Evolution of the FX Rate Regime Choice in Turkey

Period	Exchange Rate Regime
1923–1930	Free Float
1931–1948	Fixed
1949–1980	Adjustable Peg
1980–1994	Crawling Peg
1994–1999	Managed Float
1999–2000	Tablita
2001Up-to-Date	Free Float

Source: Authors' notes.

Recently, Turkey is a candidate for the European Union (EU) membership and if the membership is realized YTL will be dissolved in favor of the euro. Until then, free float is expected to continue.

On the other hand, money is a societal need such as weight and length standards. As the existence of especially hard currencies such as the US dollar, Japanese Yen and the euro seems to be certain for the near future, FX rate regime choices might still be a discussion topic in the following years among central bankers, academicians and practitioners. As it is generally agreed, no single FX rate regime might serve an economy best forever. E-money technologies seem to have a potential to influence these discussions. A closed economy should have no problem of FX rate regime choice. Once a particular economy gets open to international trade, then, FX rates would inevitably become an issue and the discussion of FX rate regime choice is expected to continue.

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Dinar Exchange Rate in the Kingdom of Serbia 1882–1914¹

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1. Introduction

After winning political independence in 1878 and proclaiming the Kingdom in 1882, Serbia was faced with a number of economic challenges, primarily with regard to the choice of an applicable exchange rate standard. The majority of countries in the world had by that time already switched from silver and bimetal to the gold standard, which as a strong nominal anchor, called for implementation of responsible monetary and fiscal policies. Countries could abandon the gold parity only at times of war and during financial crises, but had to restore it as soon as the adverse circumstances were over.

As opposed to core countries, periphery countries pursued the gold standard regime with less success. Then, as now, this was essentially an issue of credibility. In some of the periphery countries, periods of suspension lasted longer than periods of observing the principle of convertibility into gold, whereas in other countries convertibility into gold remained an unattainable objective altogether.

Although the original intention was to introduce the gold standard, Serbia, much like other periphery countries of the time, had no developed fiscal and monetary institutions that would enable such a move. During the 1880s, Serbia was an economically undeveloped country mainly engaged in agricultural production. Trade and industry were still in their early stages of development, and agricultural production was the only developed activity². Almost all industrial products were imported from the neighbouring Austro-Hungarian Empire, which at the same time

¹ Reviewer: Branko Hinic. Acknowledgements to Sanja Borkovic and Olivera Jovanovic from the Economic Analyses and Research Department for their contribution in preparation of this paper and processing of the voluminous statistics and archive material.

² According to 1884 census, out of a total of 1.90 million inhabitants, 84.11% engaged in agricultural activity, 6.56% in industry, 2.36% in trade and transport, while the remaining percentage engaged in other activities; Pantić, M. Dusan (1910), p. 161.

imported most of Serbia's exports, primarily cattle and agricultural products. Although Serbia had run a foreign trade surplus since 1888, its overall balance of payments was negative in almost all years until 1903 as a result of rising obligations in respect of repayment of external government debt and negligible foreign capital investments.

Although the Law on Money enacted in 1878 set out the procedure for minting gold coins, it at the same time permitted minting of silver coins to the prejudice of the gold-based monetary system that was to be introduced. The first gold-backed 100-dinar banknotes were issued immediately after the establishment of the National Bank in 1884. However, as these banknotes could not be retained in circulation, silver-backed 10-dinar banknotes were issued in 1885, marking the introduction of bimetallism. This remained the basis of Serbia's monetary system all the way through to the end of the First World War.

Although its price was somewhat lower in international money markets than at home, the dinar was a relatively stable currency during this period. Its exchange rate against the French franc and the Balkan currencies remained unchanged, while its price compared to other currencies declined somewhat: 1 koruna = 1.05 dinars in gold, 1 German mark = 1.234 dinars, 1 pound sterling = 25.252 dinars. In spite of numerous difficulties, such as poor productive capacity of the country, widening budget deficit, rising external debt and internal political disputes, this was a period of relative financial stability. The obligation to convert paper money into gold or silver money was continually met, except in two instances – at the outbreak of the Balkan Wars and the First World War.

2. Minting of Domestic Coins and Introduction of the National Currency

After successful political liberation, Serbia took the first steps towards establishing its own monetary system.

Serbian copper coins from 1868. While still formally under Ottoman rule, Serbia resumed minting of its national currency in 1868 after more than four centuries³ with the aim of withdrawing foreign copper coins from circulation. All copper Austrian kreuzer coins were replaced in only 15 days.

³ Before 1868, as many as 43 currencies were in use in Serbia: 10 types of gold, 28 types of silver and 5 types of copper coins. Such large number of foreign currencies and frequent variations in their exchange rates created many problems, in that each business transaction had to contain a special clause on the type of money to be used. Exchange transactions were performed by money changers as of 1812. Except for the first exchange rate list, the exchange rates of foreign copper money in circulation in Serbia until 1868 were not prescribed. It was left to the market to form the exchange rates for foreign copper coins, Austrian in particular, against foreign silver and gold coins.

Serbian silver coins from 1873 and the adoption of rules of the Latin Monetary Union. Minting of Serbian silver coins in conformity with the rules of the Latin Monetary Union was planned even before Serbia was fully liberated. The Law on Minting Silver Coins in 1873 set out the dinar as the national monetary unit which should stand in the ratio of 1:1 with the French franc. The Law also prescribed that the dinar coin should be minted of silver with the fineness of 835/1000 and have the weight of 10, 5 and 2.5 grams, in the denominations of 2, 1 and 0.50 dinars, respectively. The year 1875 was imprinted on the coins as the year of issue. The government held the exclusive right to mint money.

Serbian gold coins from 1878 – towards the introduction of the gold standard. The law on minting of Serbian gold coins was enacted after Serbia proclaimed its independence in 1878. The law prescribed minting of 20- and 10-dinar gold coins, as well as minting of small silver and copper coins, which went to the prejudice of the gold-based monetary system that was to be introduced.

In difference to the Latin Monetary Union, it was planned that the government alone should have the right to mint not only silver and copper, but gold money as well⁴. This brought the government a seigniorage of 1.25 million dinars, as the nominal value of money was 14.80 million dinars and minting costs equalled 13.55 million.

The mismatch between the quantity of gold coins in circulation, as the currency base, and money made from other metals, which was to serve as small change only, gave rise to agio on gold and further complicated the exchange rate system. Further, in addition to Serbian coins, there were still a substantial number of Austrian ducats, forints, talers and other foreign coins in circulation. This money would enter Serbia during autumn season, as payment for Serbian exports.

⁴ In member countries of the Latin Monetary Union, the right to mint silver and copper coins was reserved for the government only, while the right to mint gold coins was not reserved for the government only, but was also open to private individuals, subject to payment of a special tax.

Table 1: Serbian Money in Circulation before Establishment of the National Bank in 1884 (in Dinars)

1868 and 1869	Pursuant to 1868 Law	in copper	734,737
1875	Pursuant to 1873 Law	in silver	6,000,000
1879 and 1882	Pursuant to 1878 Law	in gold	10,000,000
1880	Pursuant to 1878 Law	in silver	3,600,000
1880	Pursuant to 1878 Law	in copper	1,200,000
1883 and 1884	Pursuant to 1883 Law	in nickel	3,200,000
Total:			24,734,737

Source: NBS Archive.

Such currency situation urgently called for establishment of an issuing bank that would resolve issues relating to currency and “upgrade trade and economic activity by means of inexpensive credits”⁵. Based on available quantities of gold, the National Bank of Serbia would issue paper banknotes with metal backing. A proportionate increase in the quantity of paper banknotes compared to the value of metal backing would increase domestic capital two to three times, thereby making it profitable for the National Bank of Serbia to extend loans at lower interest rates and, in the process, topple the cost of borrowing in the country.

3. Issuing of Banknotes

The main feature of money issue by the National Bank of Serbia before the First World War was bimetallism – parallel circulation of banknotes redeemable in either gold or silver. The bank issued banknotes against both gold and silver backing, but the amount of gold-backed banknotes in circulation was negligible compared to the silver-backed ones which grew from year to year. Immediately after being put into circulation, the silver-backed banknotes became the main and the most frequently used instrument of payment, so when we talk about banknotes in circulation, we are referring mainly to the silver-backed ones.

⁵ Due to difficulties relating to credit availability, the quantity of metal coins in circulation could not fully meet the demand. Credits were hard to get, and the lending rate charged by money bureaus in Belgrade was between 11 and 12% p.a., and much higher in provincial Serbia. The majority of households were unable to borrow from money bureaus, and usurers at times charged interest of as much as 50%.

100-dinar gold-backed banknote from 1884. The National Bank was founded in 1884 and was authorized to issue the first 100-dinar gold-backed banknotes, and later also 50, 500 and 1,000-dinar gold-backed banknotes⁶.

The Law read as follows: “All banknotes placed into circulation shall have backing in gold and other securities, both trade-related and financial, that can easily and safely be converted into gold. ... The bank shall never place more banknotes into circulation than 2.5 times the amount of gold it holds in its vaults. Not more than one quarter of gold can be replaced with silver”⁷.

At the same time, the first interest rate at which the Bank was to discount bills was set at 5.5%, while the rate on deposits was set at 6.5%.

However, the banknote was not overly well received and did not remain in circulation for long, but was, rather, immediately converted into gold. Such non-acceptance was due to the fact that banknotes had been practically nonexistent in the national trade until then, that their denomination was too high and that there was *agio* on gold.

50-dinar gold-backed banknote from 1885. As the denomination of the 100-dinar banknote was too high, it was expected that the 50-dinar banknote would manage to remain in circulation. However, this banknote, placed into circulation in February 1885, was not received any better. It frequently happened that these two banknotes were exchanged for coins even before leaving the bank.

Abandoning the gold standard regime. When it became apparent that neither of the two banknotes managed to remain in circulation, not even in Belgrade, the National Bank requested permission from the minister of finance to print 10-dinar gold-backed banknotes. This met with more opposition than was expected, because the government had intended to issue the same denomination banknote in its own name. It is for this reason that the minister of finance opposed decisively the Bank’s intention to issue gold-backed 10-dinar banknotes.

For almost a year, the Bank operated but without making much headway. Its income was barely sufficient to cover its costs, while projections for 1885 envisaged a balance of payments deficit. All issued banknotes were immediately exchanged for metal and returned to the Bank. It was clear that nothing could be done without a 10-dinar banknote but it was equally clear that the Government would not allow the issuing of smaller gold-backed banknotes. In view of this, the Bank accepted to issue a silver-backed 10-dinar banknote rather than to remain without a 10-dinar banknote altogether. This marked the beginning of bimetallism that continued to be the basis of Serbia’s monetary system all the way through to the end of the First World War.

⁶ On the eve of the First Serbian-Turkish War, the state coffers were empty and there was an initiative to issue national paper money. In January 1876 a decision was even enacted to issue paper money. This money was printed in July 1876, but was never placed into circulation.

⁷ Law on the National Bank, 1883.

Silver-backed 10-dinar banknote from 1885. The 1885 Law introduced a silver-backed 10-dinar banknote, prescribing that “the National Bank shall exchange each of its 10-dinar banknotes against silver, and its 50, 100, 500 and 1,000-dinar banknotes against gold, at full nominal value without any deductions, as soon as the banknote is presented for redemption at its main cash vault. The bank shall never place more banknotes into circulation than 2.5 times the amount of gold it holds in its vaults. Not more than one quarter of gold can be replaced with silver”⁸.

As the circulation of the silver-backed 10-dinar banknote kept rising, this banknote came to account for an average of 95% of the money supply in the subsequent years. The silver-backed banknote was only very rarely exchanged for silver and usually when small cash was in short supply. This gave it a notable advantage over gold-backed banknotes. The share of gold-backed banknotes in total circulation throughout the pre-war period stood at around 5%, although the government tried to promote their use in different ways.

A rise in circulation of silver-backed banknotes boosted all other operations of the National Bank: lending to the economic sector and government, interventions in the gold market and strengthening of the metal base. The quantity of silver-backed banknotes in circulation rose by approximately 4 million annually. The rate of circulation was highest in autumn, at the peak of the agricultural season.

Therefore, demand for currency in the national system was mainly satisfied with the silver-backed banknote and silver coins (for small change only), while gold coins, of which only a small quantity was in circulation, were used in international payments.

However, demand for currency kept growing, driven not only by activities in trade and crafts, but also by the government which needed to finance the budget deficit. Despite the fact that the entire amount of silver coins that was in circulation at the time could not even remotely satisfy the demand for liquid assets, the activities of the National Bank and the large quantity of silver-backed banknotes in circulation were frequent targets of criticism.

Namely, in early 1890s, there was a rise in *agio* on gold, following a surge in circulation of silver-backed banknotes. The two phenomena became linked in the minds of the general public, although *agio* increased not because of a rise in circulation but as a consequence of a downfall in agricultural output during a number of years, disordered public finances, substantial foreign borrowing and an unfavourable political situation.

The emergence of *agio* gave rise to a wave of debates on how to proceed. Among other things, it was proposed that a *gold-backed 20-dinar banknote* be introduced, as an efficient way to suppress *agio*. Although the National Bank was allowed to issue this banknote in 1896, it was not issued until 1907 as the Bank believed that the failure of the gold-backed banknote was not due to its high

⁸ Law on the National Bank, 1885.

denomination only. When the gold-backed 20-dinar banknote was issued, it became evident that it could not be maintained in circulation long enough. It entered into circulation only once the limit on the quantity of silver-backed banknotes used in export-related activities was reached. There was no agio at that time, and the gold-backed banknote circulated along the silver-backed one. Its circulation during the exports season would thus reach close to 12 million dinars, but as the exports season neared its end, the quantity of gold-backed banknotes in circulation would dwindle. The belief that 20-dinar gold-backed banknote would contribute to suppressing agio turned out to be ill-founded, as it proved impossible to maintain any significant quantity of these banknotes in circulation.

4. Agio

Due to Serbia's poor production capacities and increasingly widening budget deficit and government foreign debt, gold reserves could no longer sustain the convertibility of domestic currency in gold at fixed parity. Currency exchange was performed against an additional payment of agio. As a difference between domestic money (silver-backed 10-dinar banknotes) and gold which was used for the settlement of international obligations, agio was actually an indicator of depreciation of the dinar against gold.

Gold came into the country as payment for its exports. However, as industrial production was underdeveloped, nearly all industrial products had to be obtained from abroad, which is why gold never remained for long in the country. Serbia traded the most with Austro-Hungarian Monarchy, and through it, with other European countries⁹. Foreign trade deficit registered in early 1880s was mainly attributable to a huge deficit arising from trade with this country¹⁰. Such a situation persisted until 1888 due to the fact that imports from the Dual Monarchy grew at a faster pace than Serbian exports into it. After that, Serbia began to receive an inflow of gold arising from trade. Note should also be taken of a significant inflow arising from the transit of foreign goods through Serbia, which picked up in the second half of 1880s when the new railway system was built. However, ever larger repayments of the government external debt resulted in the balance of payments deficit and outflow of gold which reflected on agio.

⁹ By the Trade Agreement from 1881, the Austro-Hungarian Monarchy protected its imports of Serbian agricultural products from foreign competition, and at the same time its exports of industrial products in the Serbian market. Formally, these were cross-border trade benefits. For instance, customs duty on oxen from Serbia was 4 forints, whereas on oxen from Germany, it was 12.75 forints.

¹⁰ The trade deficit also stemmed from a precipitous drop in exports to Bosnia (which fell under the economic sway of Austro-Hungarian Monarchy after signing a secret convention), and later on from a drop in exports to Turkey and Bulgaria.

The level of agio varied in the course of the year – during the export season gold was brought into country, its supply was larger and agio in consequence declined. As exports weakened, gold became more and more expensive, and agio rose.

Following the establishment of the National Bank and release of silver-backed banknotes, agio began increasing. It came close to 4 dinars per napoleon d'or. Adverse economic conditions, weak exports of cattle and agricultural products, on the one hand, and robust imports of industrial products and problematic financing of mounting budget deficit, on the other, induced an increase in agio.

During the 1880s, agio equaled 3–4%, which was somewhat lower than in the preceding period¹¹. It peaked between 1893 and 1903 when the silver-backed 10-dinar banknote dominated circulation. In 1894, agio hit record high of 18%. As the issuing institution, the National Bank of Serbia was responsible for the circulation and stability of national money, and a large number of its critics held it responsible for the agio hike.

Interest rates of the National Bank. The use of interest rate by the National Bank of Serbia for stepping up the mechanism of adjustment to changes in the balance of payments was not efficient. Upward revision of interest rate on loans redeemable in gold did not reduce downward pressures on gold reserves, since interest rates of the National Bank were by around 5% lower than the market interest rates.

During application of the gold standard regime, the central bank practice very often clashed with theory¹². Discount rates were not always revised in the appropriate direction or to a sufficient degree. Instead, central banks resorted to interest rate smoothing. This is confirmed by the fact that changes in lending were often negatively correlated with changes in gold reserves¹³.

Data on the National Bank's interest rate movements attest to stability. Namely, from the founding of the National Bank until the end of the First World War, changes in interest rates on all loans extended by the Bank ranged from 2% to 3% p.p. Such interest rate policy was in line with the National Bank's strategic goals: to supply the economy with money and to lower the market interest rate.

The first discount rate of the National Bank was 5.5% and interest rate on Lombard loans 6.5%. After less than six months, both rates were raised by 1.5 percentage points with a view to preserving metal backing. Shortly thereafter, metal backing strengthened and interest rates declined to 6%. In the course of the

¹¹ During 1860s and 1870s, agio reached 6% and 5%, respectively.

¹² In theory, if a country faces a balance of payments deficit and hence, outflow of gold, gold reserves of the central bank tend to plummet. In such cases, the central bank is likely to raise the discount rate so as to reduce the volume of lending. Due to this, money supply dwindles and the level of prices drops. The adjustment process would be supported by higher shorter-term interest rates that would attract capital from abroad.

¹³ Goodfriend, Marvin (1988).

next seven years, discount rate ranged from 5.5% to 6.5%, while the Lombard rate moved between 5% and 8.5%. After this period, in 1893, discount rate was set at the level of 6% and remained unchanged for 38 years, while the Lombard rate experienced minor fluctuations and hovered between 7% and 8.5%.

A more drastic measure – total discontinuation of gold-backed lending – was implemented only in 1908, during the Annexation crisis, when Serbia witnessed major outflow of gold prompted by fears of the outbreak of war.

Direct interventions of the National Bank through sale of gold. The National Bank could not eliminate agio by trading in gold, but could ease its fluctuations. The Bank purchased gold during the autumn season when there was enough of it in circulation, and sold gold usually in March when it was scarce and when the agio went up.

Direct interventions of the National Bank through sale of gold got into the limelight in the early 1890s when they provoked heavy criticism by the government and the public. Namely, in 1890, agio began edging up and the National Bank decided to sell 10,000 napoleons d'or to traders at an exchange rate lower than the market rate – with an agio of 0.48 dinars. As agio did not decline but rose instead, the National Bank intervened by selling additional 5,000 napoleondors with a 0.95 dinar agio. Nearly 50,000 napoleons d'or were sold to the government in the same year and that is how the Bank managed to contain agio in 1891 below 1 dinar.

Nevertheless, in early 1892 agio started spiraling higher. As early as in April, exchange rate of napoleon d'or stood at 212.90 dinars. The Bank decided to sell 20,000 napoleons d'or at a price lower by 0.10 dinars than the market price. The aim was to resume the sale at a price lower than the market rate by 0.05 dinars once the prices declined.

In autumn that year, agio plummeted to 0.80 dinars, but shortly thereafter started edging up only to reach 3.00 dinars on the back of smaller inflow of gold occasioned by weaker export performance. Met by sharp criticism and accusations that it creates agio, by the end of October, the Bank had to discontinue its activities aimed at suppressing agio. The government decided to take control and resolve the problem of agio by limiting the amount of silver-backed 10-dinar banknotes in circulation.

Limited circulation of silver-backed banknotes. Since agio was additionally paid for gold purchased by silver-backed banknotes, large amount of silver-backed banknotes in circulation was thought to have been the main reason behind agio. Consequently, the bank was asked to reduce the amount of silver-backed banknotes in circulation and to increase the amount of gold-backed ones.

The Bank opposed such request in vain explaining that the conditions for sustainability of gold-backed banknotes in circulation were not yet met. The Bank argued that gold-backed banknotes would be repeatedly exchanged for gold, which would eventually result in stripping off the Bank of its gold-backing. The Bank

stressed that “agio was not as much affected by the silver-backed banknotes, as by the negative international balance and bad public finance; it would take an improvement of the overall economic environment for the agio to disappear and the currency to stabilize”¹⁴. Analysis of movements in agio and total value of silver-backed banknotes in circulation shows that agio was at its lowest when circulating banknotes were at their highest, and vice versa.

In the debate on limiting the circulation of silver-backed banknotes, the Bank and the government differed in their interpretation of legal provisions pertaining to metallic backing of the monetary issue. Namely, the Bank’s understanding of these legal provisions allowed for the use of gold for backing silver banknotes, which led to a situation where metallic backing and monetary circulation were in a completely inverse proportion: gold prevailed in the structure of backing, while silver banknotes accounted for around 95% of circulating banknotes.

The government was, by contrast, of the opinion that gold backing could represent a base only for the issue of banknotes redeemable in gold, and that the issue of banknotes redeemable in silver depended exclusively on silver backing. This meant that 20 million dinars in silver-backed 10-dinar banknotes were in excess of the permitted level. At the time, in 1893, around 30 million dinars were in circulation in the form of silver-backed 10-dinar banknotes, and the silver backing amounted to 4 million dinars, implying that only 10 million dinars could have been issued in silver-backed banknotes. The government insisted that the withdrawal of silver-backed banknotes be performed in the course of five years which called for a 20% cut in the volume of lending p.a.

Deflationary policy implemented at the time took its toll on the lending by monetary bureaus and the economy practically came to a standstill. The agio hit its peak of 18% in 1894 in the face of the ongoing sales of gold.

The government came to realize its mistake and resumed its earlier practice in 1896 according to which the metal backing for banknotes redeemable in silver could be in silver or gold, or both metals. At the same time, however, the maximum amount of banknotes redeemable in silver was set at 25 million dinars, irrespective of the level of backing. Limiting the overall circulation of banknotes redeemable in silver proved to be a bad decision, and its consequences manifested the following year when the extension of credit for autumn farming activities was halted at the height of the season. For this reason, the limit was raised to 30 million dinars in 1898, and remained unchanged until 1908, when a Law was issued to extend the National Bank’s privilege for another 25 years and to make the quantity of total circulating banknotes redeemable in silver dependent upon total amount of paid-in capital in proportion 1 to 5. That year, the National Bank’s paid-in capital equaled 7.5 million dinars in gold, implying that the amount of circulating

¹⁴ Monograph of the Privileged National Bank of the Kingdom of Serbia 1884–1909, pp. 155–161.

banknotes redeemable in silver could have reached 37.5 million dinars, or ultimately, 41.25 million dinars if an additional 10% increase was approved by the government, which was possible in extraordinary or emergency circumstances. As the same Law envisaged that the whole capital in the amount of 10 million dinars had to be paid in until 1913, circulating banknotes redeemable in silver could have reached 50, that is, 55 million dinars that year.

Extension of the privilege to the National Bank in 1908 proved to be of paramount significance since reserves of the monetary bureaus were depleted and the discount terminated amid the Annexation Crisis and fears of the outbreak of war. Increase in the issue of silver-backed money in 1908 had immediate positive effects and helped Serbia to overcome the crisis.

In vindication of its position, the National Bank repeatedly insisted on debating which type of backing was better for the issuing of banknotes, instead of offering an explanation for the amount of banknotes in circulation in excess of the amount needed¹⁵. Owing to its predominantly agrarian character, economic activity in Serbia picked up in the second half of the year. It was the time when attempts were made to strike balance between the requisite and actual amount of currency in circulation, and agio declined. As opposed to this, in the first half of the year, economic activity slowed down, and as money supply was not reduced, banknotes redeemable in silver squeezed out banknotes redeemable in gold and agio went up.

Attempts to curtail agio by limiting the amount of silver-backed banknotes induced not only a slowdown in economic activity, but also a disagio of 0.5% in the course of 1905. Disagio, i.e. additional charge on gold had to be paid from time to time all the way until 1908. Such a phenomenon has never been registered ever since the introduction of gold-backed currency in international payments!

6. The Rationale behind Growth in Agio

The National Bank refused to take the blame for bolstering agio and strongly opposed limiting of the amount of silver-backed banknotes in circulation arguing that agio reached its peak at a time when restrictions on monetary circulation were at their height. The National Bank kept underlining that the main reasons behind the growth in agio in this period were:

1. government borrowing abroad, i.e. external debt repayment;
2. government borrowing from the National Bank, as well as
3. unstable political circumstances.

The state of public finances was largely shaped by agio movements. Budget expenditures outstripped the revenues and the government was forced to look for additional funds so as cover the deficit either by borrowing abroad or by finding sources of finance in the country, primarily by borrowing from the National Bank.

¹⁵ Dugalic, Veroljub et al. (2004), p. 38.

This had a negative effect on the level of gold reserves and indirectly, on the stability of the domestic currency. Once the public finances were put in order, the agio fell back.

Government borrowing broad. After borrowing relatively small amounts abroad during the 1860s and 1870s for the purpose of financing war for the national liberation from the Turks¹⁶, the first somewhat larger foreign loan that Serbia took in 1881 was intended for construction of the railroad network. A 10 million French franc loan (with the issue rate of 74.5%) was taken from the Union Generale, Paris. Repayment term was 50 years, and annual annuities equaled 5.4 million dinars redeemable in gold.

Another loan agreement was concluded with the Union Generale in the same year – the so-called Lottery Loan (or Bontu Loan). The loan was intended for the regulation of government finance, but the overall effect of cooperation with the French joint stock company after its bankruptcy was calamitous for Serbia

After the Railroad and Lottery Loans, government finances deteriorated: old loans were not repaid, and the new ones, for their major part, were not disbursed in full. This continued to negatively affect the terms under which Serbia borrowed abroad for some time after the downfall of the Union Generale.

External debt servicing was a significant burden on a country of the Serbian overall economic capacities at the time. Purchase of gold for the repayment of external debt raised its price and agio went up. In the period from 1880 to 1887, budget revenue and expenditure stood at 202.1 million dinars and 302.5 million dinars, respectively. Government permanent debt to creditors equaled 254.1 million dinars, whereas temporary debt stood at 32.1 million dinars¹⁷.

By the end of the 1880s, it became clear that government finance could be put in order only by finding new sources of income that could cover growing government expenditure and the piled up temporary debt. Tax reform of 1884 failed to produce the expected results. The structure of budget expenditure was such that its reduction could not be counted on. Debt repayment and expenses of the Ministry of Military Affairs accounted for two thirds of government expenditures. As more significant sources of government revenues were pledged as

¹⁶ Serbia addressed foreign creditors for the first time in 1862. Against a guarantee issued by Russia, Serbia was granted a loan worth 150,000 ducats in London, at 6% interest rate and 2% in respect of repayment. After early repayment of that loan, two more were taken: one in London and the other one in Russia. When it gained independence at the Berlin Congress in 1878, Serbia's external and internal debt stood at 39.5 million dinars and 24.7 million dinars, respectively.

¹⁷ During the 1880s, budget deficit was financed by the so-called temporary, i.e. short-term loans. Obligations under these loans were recorded within a separate, extraordinary budget, and there were no sources of revenue for their coverage. As all other expenditures posted in the so-called regular budget, this short-term government debt had to be settled immediately.

guarantee under external loans, the pledge first had to be repurchased from foreigners (repurchase of monopoly on tobacco, railroad exploitation, and salt).

Owing to the repurchase of monopoly on salt, tobacco and railroad exploitation, government revenues considerably picked up in the early 1890s. Apart from this, in 1895 the government signed an agreement on debt conversion with representatives of the three creditor banks: Ottoman Bank from Paris, Berlin Trade Company and Lenderbank from Vienna. At the time, Serbia paid annually 20.8 million dinars redeemable in gold for the purpose of servicing 15 external loans concluded between 1876 and 1894; total remaining debt equaled 370 million dinars. Debt conversion, which enabled the lowering of interest rate and extension of repayment term, significantly facilitated the servicing of government debt at annual level. On the one hand, annual annuities declined by 4.9 million dinars, and on the other, total amount of debt rose by 44.7 million dinars.

The Serbian government revenues gradually picked up by the end of the 19th century. This is mainly attributable to a more timely tax collection and state monopolies, and the revenue increased on account of both the rise in the prices of salt and tobacco and the introduction of new monopolies. Nevertheless, increased government revenue was not sufficient to cover expenditures, which made a radical turnabout in the management of public finance inevitable.

Turnabout in the public finance management in 1902. A radical turnabout in the management of public finance took place in 1902, when, on the insistence of Dr Laza Pacu, the Law on Budget was adopted. Pursuant to this Law it was not permitted to post any unrealistic items on the revenue side. A budget deficit was recorded again in the following year, but after that the budget was either in balance or in surplus. Serbia received an inflow of gold which was retained in the country owing to the 60 million dinar external loan (Monopoly Loan, 1902), used almost in full for the settlement of government domestic debt, as well as owing to a number of bumper years, favorable prices of exported products and the fact that the government did not have to set aside any substantial amounts for procurement from abroad. Agio was cut down to below 1 dinar and after 1903 never came close to its earlier levels.

During the years from 1906 to 1910, with no exception at all, Serbia recorded a budget surplus. Agio almost disappeared and the stability of prices was restored. Economic growth continued into 1911, which saw a surplus on the foreign trade balance and an unprecedented budget surplus of 14.7 million dinars. Similar results were achieved in the following year. However, economic growth was halted by the onset of the Balkan War. Due to large-value procurements of military equipment, agio went up and began fluctuating.

As domestic resources did not suffice, in September 1913, the Serbian government entered with a consortium of French banks into a loan agreement in the amount of 250 million dinars redeemable in gold, at a 5% interest rate and with

a 50-year repayment term. The loan was disbursed in 1914 and helped to keep a balanced budget even in the year the First World War broke out.

Government borrowing from the National Bank. Government borrowing from the National Bank before the First World War can be divided into two distinct periods:

1. from the establishment of the Bank until 1903, and
2. from 1904 through to the outbreak of the war.

Borrowing until 1903. Since the budget constantly ran a deficit for 25 years (1878–1903), the government frequently resorted to borrowing from the National Bank. Government borrowing was conditional upon circulation of silver-backed banknotes. In 1884, government debt accounted for 38.9% of the money in circulation, only to reach 50.9% two years later. In the subsequent period, the share of government debt in the money in circulation declined somewhat, owing to accelerated increase in the quantity of issued banknotes.

The quantity of silver-backed banknotes in circulation rose from 40,240 dinars in 1885 to 26.96 million dinars in 1892. Agio on gold increased as well, and the National Bank was accused that its interventions in the gold market were the main contributor to this rise. In 1896 it was resolved to limit the quantity of silver-backed banknotes in circulation, but this seriously affected economic flows. As a consequence, in 1898 the government was allowed to borrow from the National Bank 10 million dinars above the limit set for the quantity of money in circulation. Government debt with the National Bank already accounted for a significant share of the quantity of money in circulation, and in 1898 it doubled on a year earlier to 15.9 million dinars, almost threefold the amount of borrowing by all money bureaus from the issuing bank.

In 1890, the government was extended another loan of 2 million dinars, subject to same terms as those approved in the case of the earlier 10-million dinar loan. This loan also exceeded the limit on the quantity of money in circulation and was extended against provision of metal backing.

It is important to note that the National Bank did not only lend to the government but also extended credits to municipalities, counties and regions, for financing utility works.

Definition of relations between the National Bank and the government in 1904. The 1904 law established a range of principles to be applied in the National Bank's relation with the government. From this time through to the start of the First World War, government borrowing from the National Bank was temporary and short-term in character. The law set up the principle of full observance of contractual relations with the Bank. This enabled the National Bank to be more successful in implementing measures aimed at stabilization of the dinar and the agio was soon suppressed.

The operations of the National Bank in this period had a decisive effect on striking a fiscal balance. Lending to government became temporary and short-term in character, as can be seen from data on government obligations in respect of the disbursed 10-million dinar credit: in 1904 the government owed 4.1 million dinars in this respect, in 1905 its debt was 3.4 million dinars, while in the subsequent two years, 1906 and 1907, it ran no debt with the central bank at all.

In 1908, the National Bank granted another borrowing option to the government – the right to use temporary, quarterly advances in respect of extraordinary coupons in the amount of 10 million dinars, but the government did not resort to this form of borrowing until the outbreak of the Balkan War in 1913. Moreover, the so-called temporary exchange was introduced as another special form of lending to the government. In this way, the government could exchange gold in the National Bank in return for a corresponding amount of silver-backed banknotes, subject to no restrictions, and, vice versa – it could obtain gold in return for silver-backed banknotes, without any deductions whatsoever. Issuance of banknotes in respect of temporary exchange was exempted from the 40% backing requirement. This allowed the government to exchange gold for silver-backed banknotes without sustaining loss on account of agio and, at the same time, helped balance the supply of gold in the market and strengthen the metal base for banknote issuance. This solution, as it later turned out, enabled a simple and efficient financing of budget expenses in times of emergency.

Strong economic upswing in the 1909–1911 period led to full stabilization of economic circumstances and state finances. Not even the first Balkan War of 1912 managed to disrupt this upward trend. During 1911, agio ranged between the negligible 0.05 and 0.15 dinars per napoleon d’or and disappeared altogether in January and February of the subsequent year. After the army was mobilized, agio rose to 0.85 dinars per napoleon d’or and leveled off at 0.75 dinars in late 1912.

This economic expansion ended in 1913, in the aftermath of the war and low yields in agricultural production. As fiscal revenue declined, the government increased its borrowing from the National Bank.

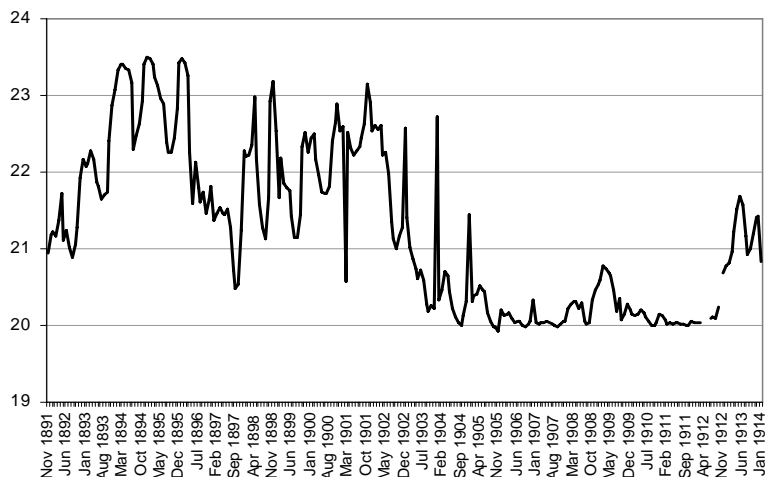
On the eve of the First World War, government debt with the National Bank equaled around 10 million dinars. Temporary exchange account stood at 47.8 million, while government claims in silver amounted to 25.3 million. Pre-war net government obligations amounted to 32.5 million. During the war they rose substantially, as large fiscal expenditures during World War I were partly financed from the National Bank asset holdings.

* * *

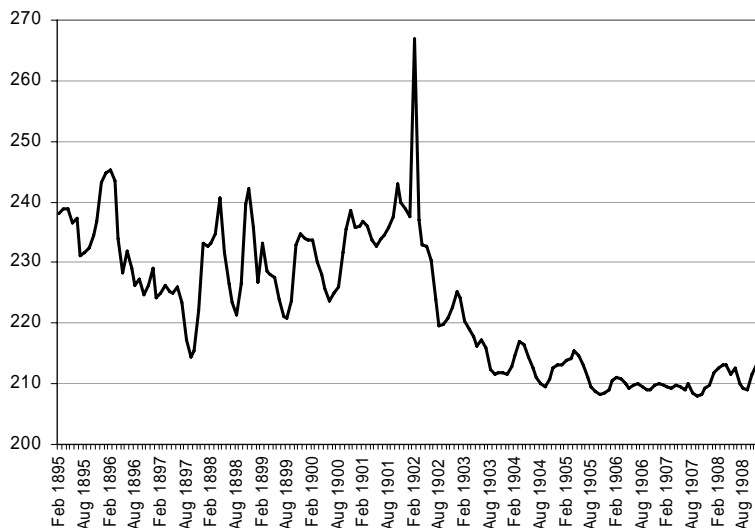
“...Economic science and practice have both proven that currency issues are the result of economic and fiscal circumstances particular to a specific country and that they get resolved on their own, not as a result of implementation of any laws

but as a result of the increase in economic welfare. If a country has small foreign debt, if it runs a positive external account balance and its state finances are in good shape, currency issues are easily resolved. However, if the state budget is constantly in deficit and more is owed than received, the currency gets disrupted and impossible to regulate, and then no laws will be of any avail. If we centre all our efforts on eliminating the factors causing and sustaining currency disruption, then the currency itself will reach its equilibrium level”¹⁸.

¹⁸ Monograph of the Privileged National Bank of the Kingdom of Serbia 1884–1908, p. 100.

Chart 1: Exchange Rate for 20-Dinar Gold Coins (Nov. 1891–Jan. 1914)

Source: Calculated based on daily data published in "Serbian Newspapers" – for the period before 1899 and after 1908; Statistical Yearbook of the Kingdom of Serbia (1913) – for the period 1899–1908.

Chart 2: 100 Austrian Forints in Dinars, Feb. 1895–Dec. 1908

Source: Based on daily data published in "Serbian Newspapers" – for the period before 1899; Statistical Yearbook of the Kingdom of Serbia (1913) – for the period after 1899.

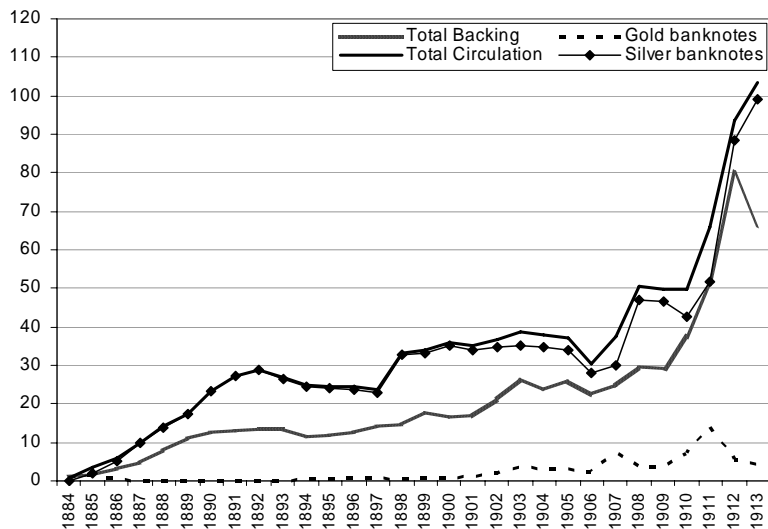
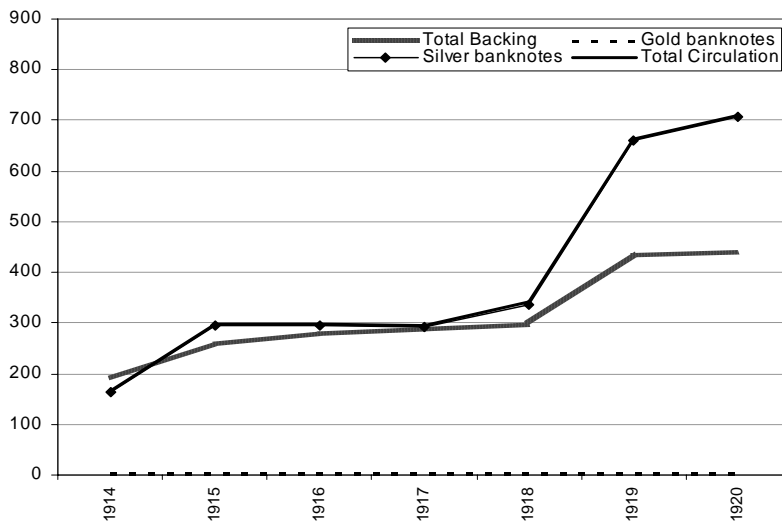
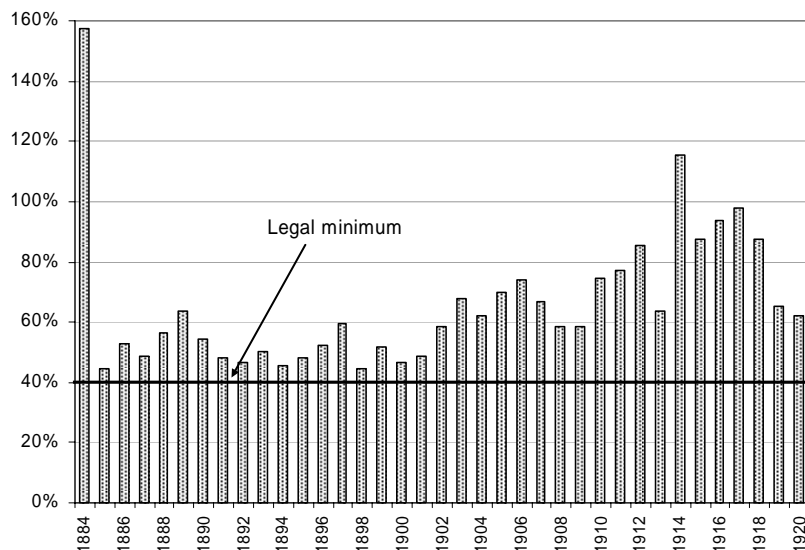
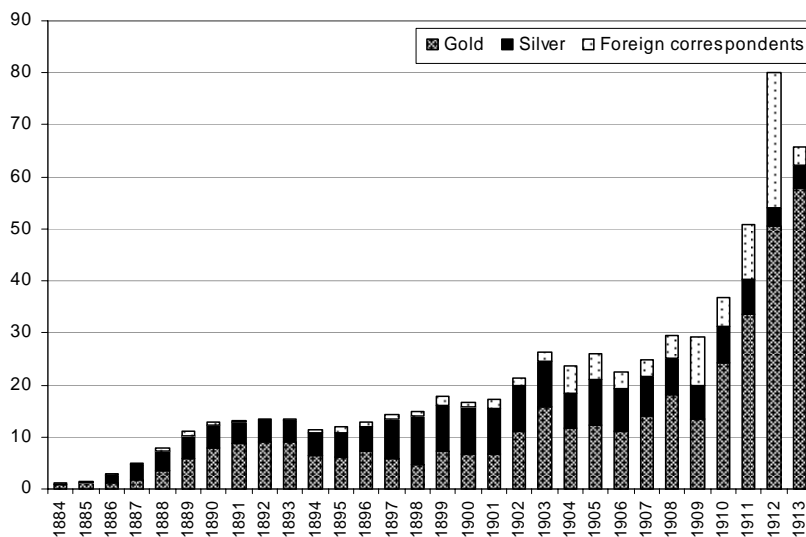
*Chart 3: Backing and Circulation (1884–1913)**in million dinars**Source: NBS Archive.**Chart 4: Backing and Circulation (1914–1920)**in million dinars**Source: NBS Archive.*

Chart 5: Percentage of Gold and Silver Backing for Banknotes, 1884–1920

Source: NBS Archive.

Chart 6: Banknote Backing, 1884–1913

in million dinars



Source: NBS Archive.

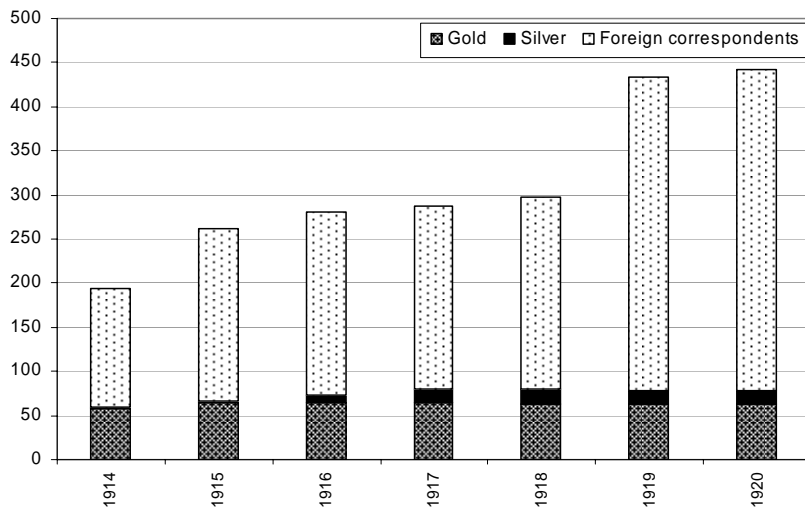
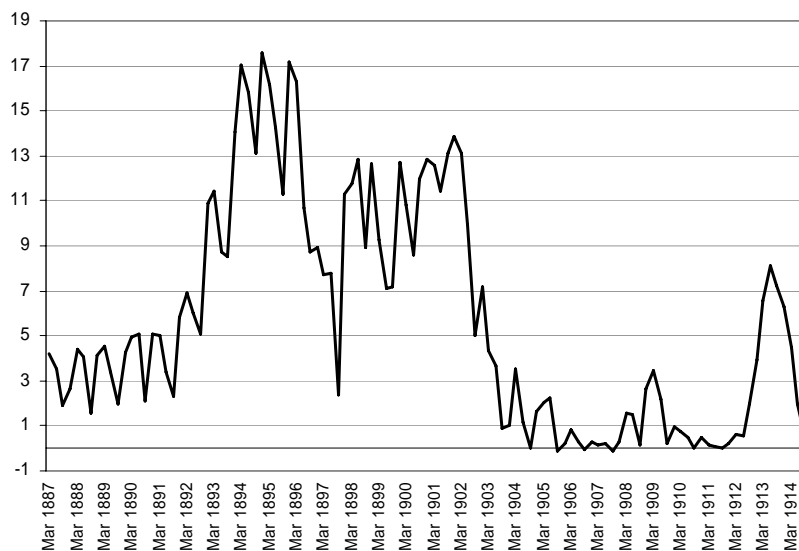
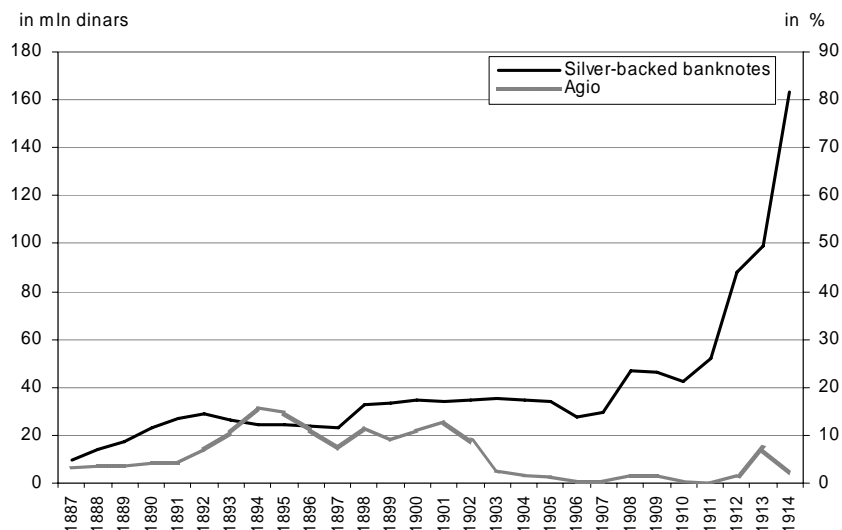
*Chart 7: Banknote Backing, 1914–1920**in million dinars**Source: NBS Archive.**Chart 8: Agio Movements, in %, 1887–1914**Note: Based on napoleon d'or movements.**Source: NBS Archive.*

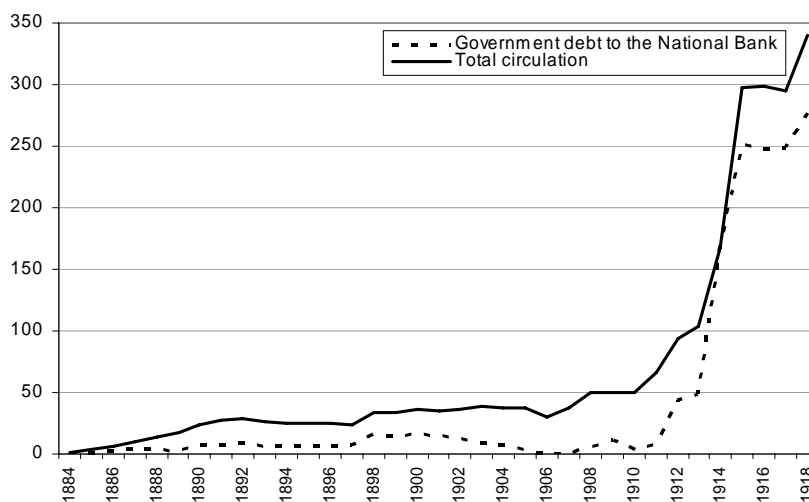
Chart 9: Circulation of Silver-Backed Banknotes and Average Agio, 1887–1914



Source: NBS Archive.

Chart 10: Government Debt to the Privileged National Bank of the Kingdom of Serbia and Total Circulation

in million dinars (1884–1918)



Source: NBS Archive.

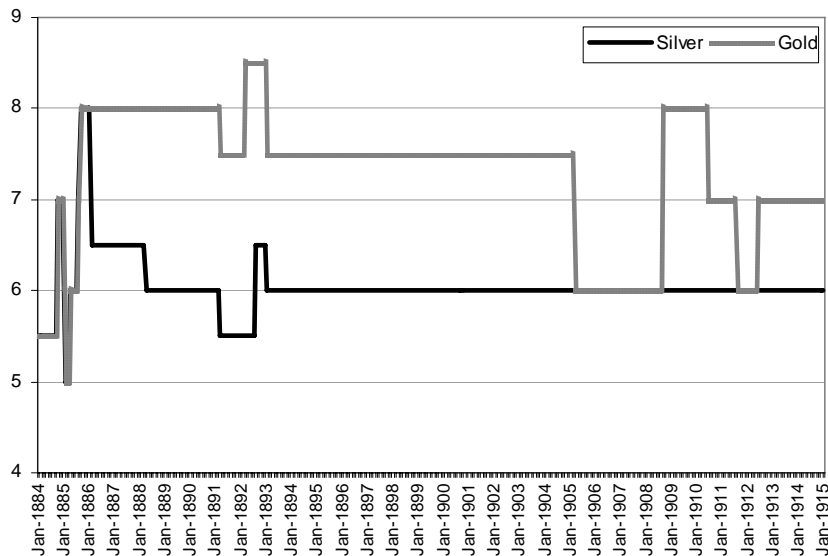
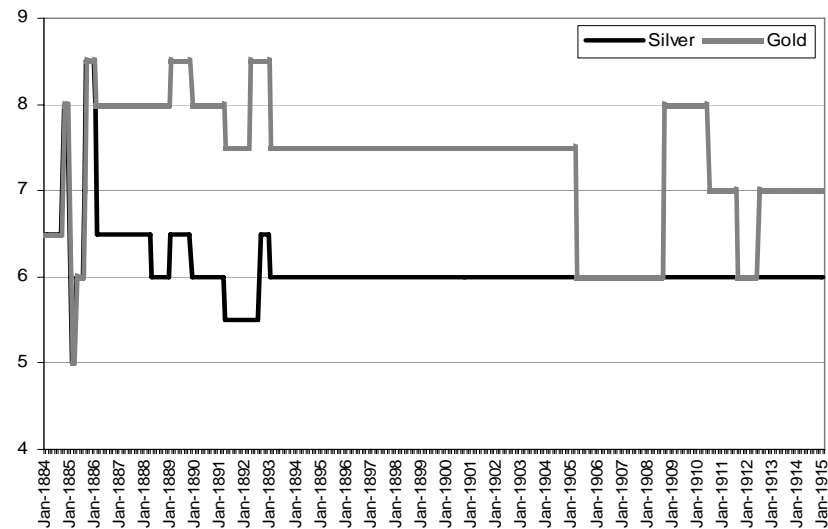
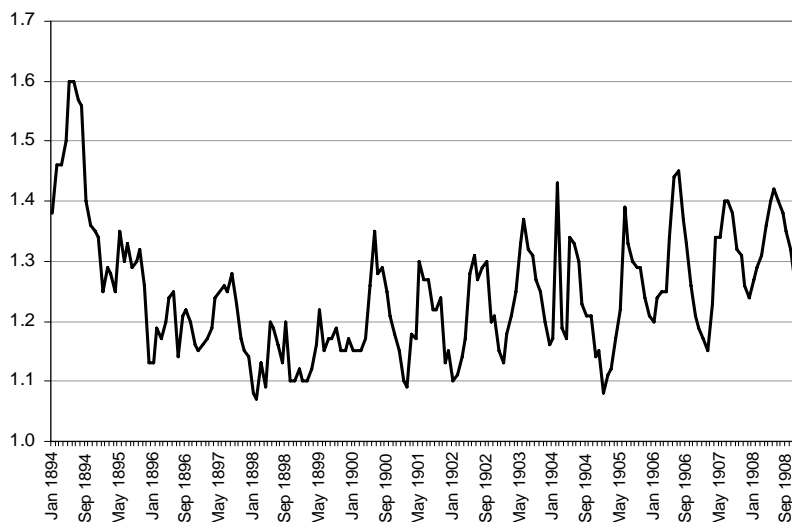
*Chart 11: Discount Rate, Annual Level, 1884–1915**in %**Source: NBS Archive.**Chart 12: Lombard Rate, Annual Level, 1884–1915**in %**Source: NBS Archive.*

Table 2: Prices of the Main Foodstuffs, in Dinars, 1869–1908

Year	100 kilos						1 litre			1 kilo				
	Wheat	Corn	Rye	Beans	Wheat flour	Corn flour	Wine	Plum brandy	Grape brandy	Bread	Beef	Mutton	Pork	Grease
1869	11.25	7.05	6.23	13.77	13.63	8.05	0.19	0.25	0.31	0.16	0.45	0.41	0.52	1.12
1870	12.81	9.26	7.29	14.05	16.01	10.55	0.22	0.31	0.37	0.18	0.48	0.45	0.52	1.09
1871	16.53	12.77	9.16	16.91	20.30	14.79	0.20	0.26	0.34	0.22	0.46	0.41	0.52	1.17
1872	22.15	15.86	11.91	21.48	25.87	18.53	0.23	0.26	0.35	0.27	0.47	0.43	0.59	1.50
1873	21.65	15.19	11.66	24.94	25.56	17.54	0.33	0.29	0.40	0.27	0.50	0.47	0.66	1.57
1874	17.30	14.84	11.59	25.50	20.84	16.09	0.24	0.34	0.42	0.23	0.50	0.48	0.66	1.64
1875	13.88	10.69	10.26	25.41	16.70	12.18	0.27	0.37	0.47	0.19	0.50	0.48	0.67	1.43
1876	15.32	9.45	9.98	16.54	18.63	11.18	0.21	0.22	0.35	0.21	0.48	0.46	0.60	1.39
1877	18.52	12.52	11.90	19.99	21.87	14.42	0.31	0.32	0.43	0.24	0.48	0.47	0.62	1.39
1878	17.59	12.95	12.13	21.13	20.39	14.70	0.33	0.25	0.48	0.23	0.46	0.43	0.59	1.39
1879	16.72	11.98	11.68	20.65	19.85	13.72	0.20	0.24	0.37	0.21	0.50	0.45	0.52	1.11
1880	19.53	16.27	15.11	26.36	22.95	18.42	0.18	0.25	0.33	0.24	0.49	0.45	0.60	1.34
1881	17.73	11.17	12.37	24.52	20.66	13.09	0.22	0.30	0.41	0.23	0.51	0.47	0.59	1.18
1882	15.95	12.29	11.31	27.26	18.87	14.11	0.23	0.34	0.48	0.22	0.60	0.52	0.69	1.41
1883	13.59	9.53	9.02	17.34	15.80	10.84	0.23	0.36	0.52	0.18	0.63	0.56	0.70	1.25
1884	14.76	11.18	10.14	20.02	18.54	13.08	0.28	0.34	0.57	0.23	0.78	0.70	0.86	1.44
1885	12.88	9.63	9.30	13.29	16.51	11.67	0.25	0.28	0.49	0.19	0.62	0.54	0.65	1.09
1886	15.20	10.19	9.89	14.41	18.34	12.01	0.24	0.24	0.43	0.20	0.53	0.46	0.57	1.03
1887	13.88	9.93	9.46	17.84	17.20	12.93	0.25	0.23	0.41	0.19	0.54	0.47	0.63	1.23
1888	10.70	9.25	7.41	24.97	13.68	11.26	0.18	0.22	0.35	0.16	0.53	0.50	0.65	1.30
1889	11.58	9.13	8.38	24.14	14.29	10.92	0.23	0.34	0.46	0.17	0.51	0.47	0.62	1.29
1890	13.37	9.97	9.75	21.33	16.19	11.75	0.26	0.42	0.58	0.19	0.51	0.45	0.60	1.18
1891	15.94	11.45	12.47	25.21	19.31	13.70	0.39	0.61	0.80	0.22	0.63	0.54	0.69	1.26
1892	12.44	8.62	10.39	18.15	16.12	10.65	0.40	0.55	0.77	0.20	0.70	0.58	0.72	1.17
1893	10.35	7.45	7.97	10.83	13.39	9.20	0.50	0.51	0.83	0.17	0.74	0.59	0.70	1.12
1894	10.14	9.23	7.45	10.59	13.37	10.95	0.65	0.41	0.82	0.17	0.70	0.55	0.68	1.10
1895	11.02	11.32	8.28	14.88	14.02	13.16	0.61	0.40	0.75	0.18	0.64	0.50	0.65	1.17
1896	10.42	7.21	7.17	15.65	13.13	8.97	0.48	0.41	0.70	0.17	0.55	0.45	0.56	0.94
1897	15.85	9.95	9.69	17.35	20.29	12.10	0.44	0.39	0.67	0.23	0.58	0.47	0.66	1.17
1898	17.69	11.37	10.76	17.17	22.66	13.41	0.59	0.38	0.76	0.25	0.59	0.50	0.72	1.51
1899	13.87	7.98	9.18	11.39	18.38	9.70	0.58	0.39	0.82	0.21	0.62	0.51	0.70	1.26
1900	11.23	8.80	8.45	11.74	14.29	10.14	0.57	0.43	0.87	0.20	0.63	0.53	0.69	1.19
1901	12.63	9.71	9.25	12.90	15.84	11.34	0.66	0.56	1.02	0.21	0.63	0.51	0.67	1.17
1902	13.60	11.31	9.99	15.23	17.48	13.11	0.68	0.54	1.03	0.22	0.63	0.51	0.71	1.44
1903	12.32	11.82	9.76	18.14	15.89	13.35	0.66	0.52	0.94	0.21	0.66	0.55	0.81	1.73
1904	13.83	13.17	10.25	22.07	17.30	15.45	0.72	0.54	0.94	0.19	0.70	0.58	0.82	1.65
1905	13.86	14.11	10.99	29.43	17.98	16.26	0.66	0.45	0.90	0.19	0.73	0.62	0.90	1.77
1906	11.77	9.61	9.27	23.80	21.52	11.57	0.59	0.45	0.85	0.21	0.75	0.64	0.80	1.47
1907	15.44	10.93	11.65	19.06	24.47	12.80	0.62	0.49	0.83	0.25	0.66	0.58	0.73	1.16
1908	17.04	12.42	12.66	18.21	29.27	14.63	0.60	0.50	0.85	0.28	0.64	0.57	0.79	1.38

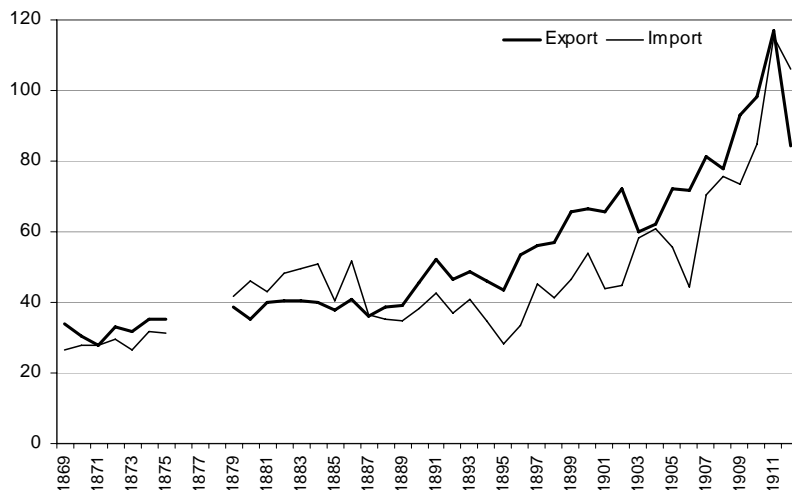
Source: Statistical Yearbooks of the Kingdom of Serbia.

Chart 13: Average Daily Wages, in Dinars (1894–1908)

Source: *Statistical Yearbooks of the Kingdom of Serbia.*

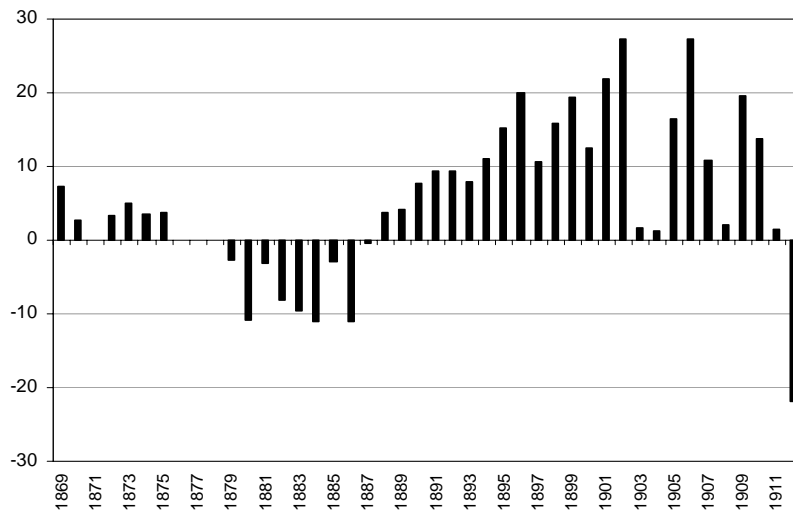
Chart 14: Export and Import, 1869–1912

in million dinars



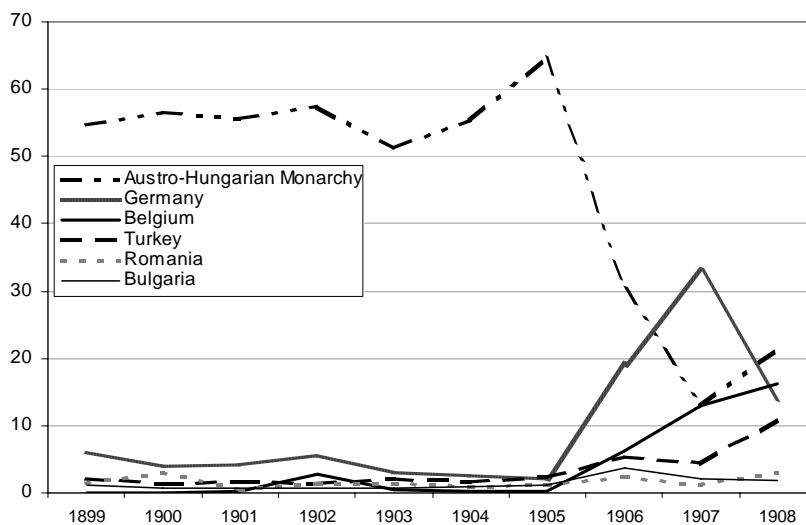
Note: Statistics on foreign trade was not kept during the wars for national liberation (1876–1878).

Source: *Statistical Yearbooks of the Kingdom of Serbia.*

*Chart 15: Trade Balance 1869–1912**in million dinars*

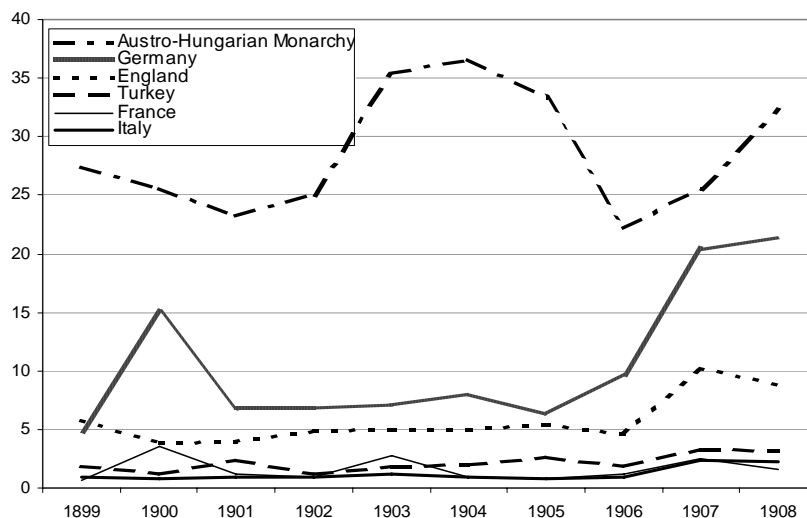
Note: Statistics on foreign trade was not kept during the wars for national liberation (1876–1878).

Source: Statistical Yearbooks of the Kingdom of Serbia.

Chart 16: Leading Countries in Terms of Serbian Exports, in million dinars, 1899–1908

Source: Statistical Yearbooks of the Kingdom of Serbia.

Chart 17: Leading Countries in Terms of Serbian Imports, 1899–1908
in million dinars



Source: *Statistical Yearbooks of the Kingdom of Serbia*.

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Foreign Exchange Policy in the Kingdom of Yugoslavia during and after the Great Depression

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1. Introduction

Yugoslav government pursued quite liberal economic policy after the First World War. However, during the Great Depression both the government and the National Bank management were forced to rely on state intervention measures that had seen no precedent in the practice that far. These interventions were only aimed for maintaining the exchange rate stability of domestic currency. One of the key problems was a sudden foreign exchange shortage in current account transactions of the balance of payments.

The first part of the paper outlines briefly a short period of implementing the gold exchange standard in the Kingdom of Yugoslavia. In 1931, following five years of actual stabilisation of the national currency, the dinar convertibility was stipulated by law. However, the gold exchange standard implementation lasted for merely 101 days in the conditions of economic crisis.

Second part of the paper considers the reasons for a sudden decrease in the state's foreign exchange earnings during the Great Depression. One of the reasons was certainly a drop in the earnings from exports of goods and services, which was primarily a result of signing numerous bilateral clearing agreements. Another important reason for the decrease in the state's foreign exchange earnings was the fact that German reparation payments had been suspended. At the same time, the state budget was additionally burdened by obligations in foreign exchange induced by a ruling of the Permanent International Court of Justice in The Hague concerning the currency in which Yugoslavia was to repay the debts of the Kingdom of Serbia.

Third part of the paper elaborates on the dinar stabilisation key measures: temporary restrictions of imports of certain types of goods and services and temporary suspension of foreign debt repayments which, in turn, led to signing a number of conventions with foreign bond holders related to the state loans of the Kingdom of Yugoslavia.

The concluding part of the paper researches to what extent the policy of exchange rate stabilisation of the dinar during Great Depression was successful.

2. The Gold Exchange Standard

The exchange rate of the dinar at the end of 1918 and during 1919 is difficult to assess as the dinar re-emerged on the world's money markets not before May 1920. Once the First World War was finished, Switzerland took the lead on the world's foreign exchange market thanks to the stability of its currency and the freedom and flexibility of currency trade and exchange that remained intact even during the war. This is why shortly after the war and in the absence of gold in monetary transactions Swiss franc became the currency which other European currencies' stability could be most easily compared against; it also explains why Geneva and Zurich became main international foreign exchange markets. In the period May-October 1920, the exchange rate of the dinar fluctuated on the Zurich money market between 20.41 and 33.65 Swiss francs against 100 dinars. As from October 1920, the dinar sharp slump began, induced by the inflationary, deficit financing of state expenditures and replacing the former crown of the Habsburg Monarchy. Monetary circulation had soared compared to the previous year by 4.5 times and amounted to 3.4 billion dinars! From October 1920 to January 1923, the exchange rate of the dinar fell from 20.41 to 3.69 Swiss francs against 100 dinars.¹ At the same time this was the lowest exchange rate of the dinar recorded at the Swiss money markets between the two world wars.

Apart from the replacement of the crown by the dinar and the inflation of money in circulation that had been systematically induced by the state through loans obtained from the National Bank as from the liberation till the end of 1921, the conduct of private capital also influenced greatly the drop of the exchange rate of the dinar in the first post-war years. Large amounts of money in circulation created an illusion of the existence of abundant capital, which then led to an economic boost in industry, trade and banking. Various share holding companies were set up but not through investing capital but rather by means of letters of exchange and loans. In an inflationary environment, where numerous construction works were undertaken, supported by the nominal interest rate stability that led to the fall in the real interest rate.² It was precisely the private capital that induced the large fall of the exchange rate of the dinar during 1922, as by that time the state had already ceased to take loans from the National Bank.

¹ Narodna banka Kraljevine Jugoslavije: *Narodna banka 1884 – 1934 (National Bank 1884 – 1934)*, Belgrade, 1934, p. 165 (in Serbian).

² S. Secerov: *Nase finansije 1918 – 1925 (Our finances 1918 – 1925)*, Progress, Belgrade, 1926 (in Serbian).

2.1. Deflationary Policy

As from 1922, inflation-based crediting of industry and trade along with the deficit financing of state expenditures ceased, and a period of conducting a deflationary policy started. The policy began by settling the issue of the state loans from the National Bank, and it continued through the National Bank's restrictive monetary policy. As early as in the beginning of 1923, the National Bank exhausted the regular legal amount of banknotes that were in circulation, so there were no possibilities for increasing bank loans to commercial banks. According to the National Bank Law from 1920, the regular amount of banknotes in circulation was not to surpass the triple value of the Bank's gold and foreign exchange reserves. So, the first post-war commercial banking crisis in the country started with the National Banks' restrictive monetary policy. Bankers protested angrily against the National Bank's restrictions. They demanded that the Law should be altered, as they argued that increasing funds allocated to industry and trade would not harm the dinar whatsoever. However, the National Bank contended that not every economic transaction should be unconditionally considered to be productive, as many industrial share holding associations were mushrooming with no real financial foundation.

During the period from 1923 to 1924, there were no new bank loans and the process of general price growth was stopped. Out of economic necessity, commercial banks and industrial companies were forced to start conducting themselves in a more realistic way and to dispense with all the unprofitable business dealings that money had been squandered on without thinking. Therefore, private capital adapted itself to a situation in which attaching value to the domestic currency had become the prime means of daily economic conduct. Owing to a quick response to these new economic conditions, commercial banks managed to go through the crisis unscathed till the beginning of 1925 when the National Bank started granting new credits. Admittedly, several industrial firms and banks went bankrupt but not as much due to the crisis but rather due to their own "unwise business operations".³

The new economic measures immediately reflected on the value of the dinar. The currency started recovering and till the end of 1924 the exchange rate of the dinar in Zurich was 7.45 Swiss francs for 100 dinars.

2.2. Buying off the Thirds of Foreign Exchange Earnings from Exports

Deflationary policy was implemented in the Kingdom of Serbs, Croats and Slovenes until the mid 1925, when the exchange rate of the dinar on the Zurich

³ Z. Topalovic: "Dinarsko pitanje" ("The Dinar Issue"), *Valutna reforma u Jugoslaviji*, Napredak, Beograd, 1930, p. 9, 10 (in Serbian).

money market stood at 9.12 Swiss francs against 100 dinars. It was at this point that the National Bank and the Ministry of Finance decided to suspend measures aimed at strengthening the dinar exchange rate, as deflation threatened to paralyse domestic economy. As state finances were in order, the fiscal 1924/25 year ended with a surplus in state budget, prices had stabilised and commercial banks continued their normal functioning, all the conditions for the exchange rate stabilisation of the dinar on the world money markets had been met.

In order to stabilise the exchange rate of the dinar it was necessary but not enough to maintain its purchasing power on a proper level at home. There was also a need to maintain its exchange rate against leading European currencies abroad, with the help of certain foreign exchange measures. For maintaining the exchange rate of the dinar against major European currencies the National Bank had to possess certain financial resources, that is, a sufficient level of foreign exchange reserves. According to the Decree on the transactions with foreign exchange, brought on 31 December 1922, the National Bank secured foreign currency reserves through buying off the thirds of foreign exchange earnings from exports. Exporters of all major export products (such as all kinds of wheat, flour, bran, livestock, meat, fat, meat products, cheese, processed leather, wood, all wooden items, processed and dry fruits, excluding jam, eggs, chicken, hemp, cement, rock for cement production) were under obligation to deposit one third of their earnings to the National Bank by means of authorised monetary bureaus for buying foreign exchange.⁴ The National Bank then used the foreign exchange collected in such a way to finance government payments abroad and interventions on money markets.

By means of buying off the thirds of foreign exchange earnings from exports, a foreign exchange reserve amounting to around 216 million dinars was created in 1923. In order to strengthen the dinar exchange rate this reserve was used for money market interventions in Geneva and Zurich. However, as early as in 1924, with the exports revenue growth, the Bank turned out to have merely sufficient dinar funds to buy off a third of foreign exchange earnings, which in turn could have only negative influence on its capacities for interventions on foreign exchange markets. Therefore, the dinar circulation was to be adapted to the foreign trade needs but there was no relevant legislation to do that at the time. That is why in August 1925, a new legal interpretation of the Article 20 of the Kingdom of Serbs, Croats and Slovenes National Bank Law stipulated that banknotes issued by the Bank for buying foreign exchange abroad were no longer encompassed by the

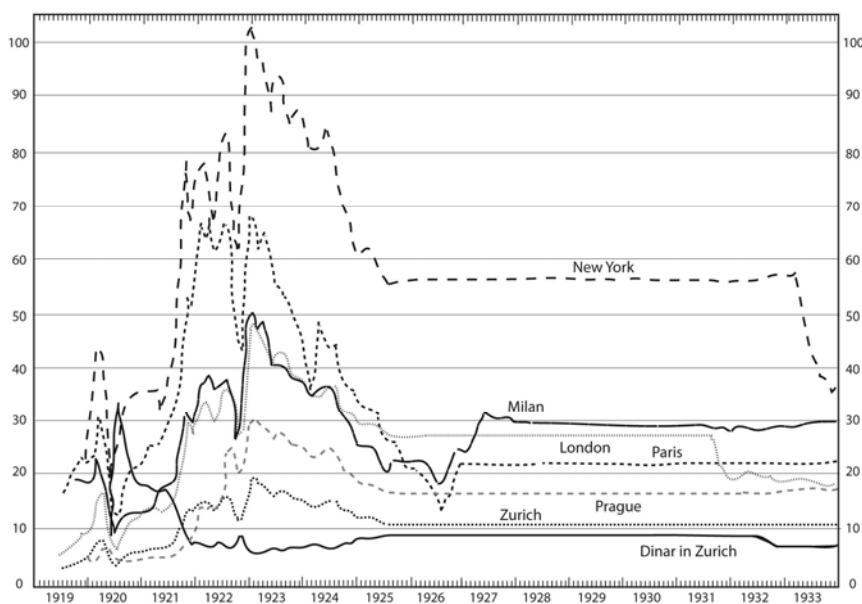
⁴ G. Brasic, *Devizno-vatutni propisi i njihov uticaj na spoljnu trgovinu (Foreign Currency Regulations and their Influence on Foreign Trade)*, Stamparija Drag. Gregoric, Belgrade, 1939, p. 11 (in Serbian).

regular banknote contingent. By means of this, the National Bank secured the necessary flexibility enabling its foreign exchange interventions.

2.3. *De Facto* Dinar Stabilisation

Period of *de facto* dinar stabilisation started with this new legal interpretation of Article 20 of the National Bank Law. The period lasted for entire six years, from August 1925 till 28 June 1931. In the meantime all the pre-war and war debts had been regulated, which influenced favourably the state's creditworthiness abroad and indirectly also the trust in the Yugoslav currency. Owing to its interventions on world money markets the National Bank managed to maintain the exchange rate of the dinar in the range between 9.12 and 9.13 Swiss francs against 100 dinars.

*Chart 1: Foreign Currencies Exchange Rate Changes on the Belgrade Foreign Exchange Market and Dinar Exchange Rate in Zürich (1919–1934)**



*Note: *Lines correspond to exchange rates for 100 dinars, 10 Swiss francs, 10 Czechoslovakian crowns, 10 French francs, 2 English shillings, 10 Italian liras and 1 US dollar.*

Source: V. Dugalic, A. Mitrovic, D. Gnjatovic, National Bank 1884–2004, Yugoslav Survey, Belgrade, 2004, p. 127.

Stable government finances aided to maintain the value of the dinar during the period of its *de facto* stabilisation. Sudden increase in government expenditures which accompanied the reconstruction after the war, was stopped in the 1923/1924 fiscal year. By that time, the state apparatus had been set up, the need for stringent border security measures had ceased and new state loans both in the country and abroad, were not incurred till 1931. In the period between the 1923/24 and 1929/30 fiscal years, government expenditures grew relatively slowly and stood at the level of 10.2 to 11.8 billion dinars. At the same time, government revenues rose from 9.8 to 13.4 billion dinars. Revenues generated from all sources grew alike, both from direct and indirect taxes and from the state economy. The government revenues structure did not change significantly. Fiscal revenue (generated from direct and indirect taxes) accounted for two thirds of the entire government revenues whilst revenues from the state economy constituted around one third of total government revenues. Revenues generated from indirect taxes, including monopolies and sales tax, made up three fourths of the total fiscal revenue, whereas direct taxes constituted one fourth of the total amount.⁵ The increase in the government revenues was partially a proof of strengthening of the economic power of the population and economic growth during the observed period, whilst at the same time resulting from the tax system unification and modernisation.

2.4. *De Iure* Dinar Stabilisation

After the First World War all the European countries tended to maintain their respective currencies stable, as money could not act as a unit of account whilst its value was fluctuating chaotically. For the first time after the war the European business establishment that had operated devoid of any currency fluctuation issues in the pre-war period, faced grave business dysfunctions through oscillations in currency values. In the same way the war called for enormous funds, the restoration of the war-ravaged lands also required spending of huge amounts. The restoration periods varied over different countries. With the stabilisation of economic conditions and state finances across Europe the conditions for national currencies stabilisation were created too. The currency stabilisation was an indispensable step towards returning to the gold standard. However, there was no real going back to the gold standard as gold no longer *de facto* featured in transactions. During the First World War, the full currency convertibility, that is, currency exchangeability for gold was abandoned. Once currencies got stabilised after the war the value of money was again attached to gold but this time it did not envisage the exchange of banknotes for the metal. Either gold bullions (Gold Bullion Standard) or combinations of gold and foreign exchange (Gold

⁵ Ministarstvo finansija, Ministarstvo finansija 1918 – 1938 (Ministry of Finance 1918 – 1938), Belgrade, 1939, p. 29 (in Serbian).

Exchange Standard) could serve as foundation/guarantee for banknotes in circulation. Currencies were compared against each other, not against the quantity of gold which they used to be exchanged for.

Following a period of *de facto* currency stabilisation, European countries undertook legal measures towards their *de iure* stabilisation.⁶ To stabilise currency legally meant establishing the value of national currency against a certain quantity of gold. Every country that undertook this measure gave an additional stability element in foreign transactions. Currency stabilisation was either preceded by a long-term gradual strengthening of gold and foreign exchange reserves of the central bank or by means of huge foreign loans thus creating conditions for an instant and considerable strengthening of gold and foreign exchange reserves of the central bank.

Managing to maintain the unchanged exchange rate of the dinar for a number of years, Yugoslavia was amongst the last European countries to start *de iure* stabilisation of its currency in 1931. *De iure* currency stabilisation envisaged unconditionally that the total banknote contingent that was in circulation had to be covered for by a legally prescribed amount of gold and foreign exchange reserves. In order to secure such a guarantee, the Yugoslav government took a stabilisation loan from French banking consortium on 8 May 1931. The nominal value of the loan was 1.025 million of French francs in gold, with the interest rate of 7% and a 40-year repayment period. The market price of the loan was 82% of its nominal value.⁷

On 11 May 1931, the Law on Money was brought and it stipulated that the value of dinar equalled to 26.5 milligrams of pure gold. It was also legislated that the National Bank was to cover in foreign currency and gold 35% of all money in circulation. Also, the national bank was under obligation to exchange all amounts surpassing 250 million of dinars for either golden bullions or foreign exchange. According to this law, the exports of gold and foreign exchange were free, that is, the foreign exchange regime of restrictions was formally abolished. When the Law on Money came officially into effect on 28 June 1931, the gold exchange standard was formally established in the Kingdom of Yugoslavia for the first time.

Sadly, after hardly three months of applying the Law on Money (after 101 days), at the moment when both economic and financial crises were already seriously afflicting the country, the Yugoslav government was forced just like other

⁶ Amongst the first European countries to start *de iure* stabilisation of their respective currencies were Belgium in 1926; England, Denmark, Switzerland, Italy in 1927; Norway, France in 1928 and Czechoslovakia in 1929. R. Nurkse, *International Currency Experience*, League of Nations, Geneva, 1944.

⁷ Ministarstvo finansija, Zakon o odobrenju međunarodnog stabilizacionog zajma 7% od 1931. godine (Law on granting international stabilisation loan of 7% from 1931), Belgrade, 1931 (in Serbian).

European governments to reintroduce restrictions in both domestic currency and foreign exchange transactions.⁸ On 7 October 1931, a new Book of rules regulating foreign exchange transactions was brought; it sustained various amendments and stayed valid till the end of the period in between the two world wars.⁹ The stipulations in this Book of Rules legislated exclusively for monetary transactions whereas trade in goods remained free.

3. Causes of Foreign Exchange Shortage

Until the First World War the Kingdom of Yugoslavia had not breached any provisions of valid trade agreements by means of introducing various foreign trade restrictions. However, after the war many countries, the Kingdom of Yugoslavia being one of them, started flouting both old and new trade agreements out of necessity. Still, an important fact is that all the countries tended to adapt practical implementation of these agreements to legal environments created by trade and contractual relations, all up until a great agrarian crisis broke out, followed by a general economic crisis.

3.1. International Trade Control

As the world's agrarian crisis was getting more and more serious the tendency to liberate the international trade of numerous exports and imports war-induced restrictions was abruptly abolished.

Stringent import and export controls were indispensable national defence measures during and immediately after the war. It was paramount to ensure during the war that strategic products should not end up in enemies' hands, that is, it was necessary to make sure these products got to the allies' countries. Also, it was to be ensured that limited financial and transport resources should be used for transporting imported goods that were of paramount importance in war times.

After the German capitulation and announcing the truce all non-European countries, including Northern European countries and Great Britain started abolishing the majority of foreign trade control measures rapidly. Even though, classic trade protection measures such as customs duties based on either value or

⁸ For example the British pound officially suffered over 30% value loss in autumn 1931, followed by many other currencies. On causes of such massive suspension of the gold exchange standard during the Great Depression, see Ch. P. Kindleberger, *A Financial History of Western Europe*, George Allen and Unwin, London, 1987.

⁹ D. Gnjatovic, "Sto in en dan dinarske konvertibilnosti" (101 days of the Dinar convertibility), *Prispevki za novejšo zgodovino*, Vol. XLVI, No. 2, 2006, p. 29 (in Slovenian).

weight of goods had become regular and constant on a considerably higher level than it was the case before the war concerning customs protective measures.

In Central and Eastern European countries import and export controls lasted several years after the war too. It took some more time to stabilise economic and political environment in these regions. In the beginning there was not enough food for domestic population, therefore food was not to be exported; all up to 1922 there were war conflicts and it was only in 1923 that new countries' borders were definitely established. Thus, it was not before 1924 that conditions for returning to free trade were met in Central and Eastern European countries.

Releasing world's trade flows from administrative obstacles led to a bloom in international trade. In the period from 1926 to 1929 the value of the world's trade was higher than that in 1913 by 40%. Increase in export-generated income created an opportunity for agrarian countries to pay off new foreign loans and for rich industrial countries new capital placement opportunities. In this way agriculture also enjoyed some of the crediting privileges that up till the world war had been an exclusive industry privilege. International annuity payments went up between 1923 and 1929 from 2,200 to 3,700 billion US dollars in gold, which speaks enough on the volume of booming international crediting in the 1920s.¹⁰ The US became the most important creditor and American monetary public was exposed to a deluge of foreign loan bonds. Crediting became a new world's religion that was rapidly gathering followers worldwide. Both industry and agriculture were being credited, but also public and private spending. The world was living "on credit" and at the expense of some future expected income.

However, when the crisis broke out the situation changed significantly. Starting from 1928, in order to protect their agricultural and other producers countries were starting to introduce import restrictive measures regarding quantity of goods imported, asking for import permits and prohibiting the imports of some products. Countries whose economy depended primarily on exports were seriously affected by these import limitations and restrictions. As the crisis was increasing, the restrictive measures threatened to paralyse foreign trade amongst many countries completely, so starting from January 1932 a number of bilateral clearing agreements were signed. These agreements were in essence the last defence against chronic foreign exchange shortage incurred in many countries by world's trade decline.

¹⁰ M. Nedeljkovic, Problem dugova u danasnjoj privredi ("The Problem of Debts in Today's Economy"), *Privredni letopis Zaduzbine Nikole Spasica*, Belgrade, 1936, p. 234 (in Serbian).

3.2. Fall in Export Earnings

In the period from 1929 to 1932, earnings of exports of goods and services of the Kingdom of Yugoslavia fell from 7.9 billion to 3.0 billion dinars. This drastic drop of earnings was primarily a consequence of switching to bilateral clearing agreements type of trade. At the same time, Yugoslavia was deprived from important earnings from emigrants' remittances, which dropped from 880 to 206 million dinars.

During the Great Depression, the Kingdom of Yugoslavia was forced to sign bilateral clearing agreements with Austria, Czechoslovakia, Belgium, Luxembourg, Italy, France, Switzerland and Germany. International trade in the years of crisis was facilitated owing to these clearing agreements. But given that these agreements were signed with almost all important trade partners, the state could no longer count on one half of its total foreign exchange earnings generated from exports. Also, as the crisis was progressing emigrants were sending less and less money to the country.

Table 1: Earnings on Current Account of the Balance of Payments of the Kingdom of Yugoslavia (1926–1936), in Million of Dinars

1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
7,818	6,400	6,445	7,922	6,780	4,801	3,056	3,378	3,387	4,030	4,376
1,670	3,544	1,628	2,135	1,136	857	612	712	799	838	936
1,340	1,337	1,308	1,570	1,340	573	206	122	120	288	264
589	557	400	682	600	0	0	0	0	0	0
751	780	908	888	740	573	206	122	120	288	264
0	0	0	0	14	11	2	0	94	0	0
10,828	11,281	9,381	11,627	9,270	6,242	3,876	4,212	4,391	5,156	5,603

Source: O. Kovac: Spoljnoekonomska ravnoteza i privredni rast, IV izdanje (External Balance and Economic Growth, IV Edition), Savremena administracija, Belgrade, 1985, p. 320, 321.

3.3. German Reparation Payments' Suspension

On 30 February 1921, the Reparation commission decided that the Kingdom of Serbs, Croats and Slovenes was to be awarded in damages 120 billion German marks in gold as a compensation for damage incurred by Germany to Serbia. Though the Kingdom managed to collect merely 0.2% of the awarded damages before the suspension of reparation payments was imposed, the foreign exchange generated by these payments was still an important source of government revenues.

Germany was under obligation to compensate within 30 years for the war damage it had incurred during the war.¹¹ Reparation payments proved to be too heavy a burden for the German state budget so the government asked repeatedly in 1921, 1922 and 1923 for the reparation debt to be reduced and deadlines to be extended. Overburdened by paying off its reparation debt, German government found no scope for paying off its other state debts and on 31 January 1924, Germany officially stopped paying off its foreign debts "at least until war reparations were completely settled".¹² In order to protect the international payments system from collapsing the Reparation commission set up an International Financial Expert Committee on 14 November 1923 to rearrange the German reparation payments plan in line with German objective economic conditions. The German reparation payment plan formed by the Committee on 31 July 1924 was named after its chairman Charles Dawes – Dawes' Plan.

Dawes' German reparation payment plan was based on a successive increase in annual reparation debt rates beyond the basic 2.5 billion Reichsmarks annuity and in line with the projected increase in German national income.¹³ In order to calculate precisely amounts of respective reparation debt annual rates the so called prosperity index was used and it was decided upon based on statistical indicators for the year before: German railway trade volume, German foreign trade volume, sugar, beer, alcohol and tobacco consumption, German budget revenue and expenditure ratio, indicators showing the level of coal and lignite consumption in Germany. It was foreseen that reparation debt payments should take roughly 62 years, and whether it was going to be a correct prediction or not depended on actual results in German economic progress. In order to ensure the implementation of the Dawes' Plan a series

¹¹ The Reparation Commission was set up by Article 233 of the Versailles Peace Treaty, Official Gazette of the Kingdom of Serbs, Croats and Slovenes, No 119 a, 1920, p. 80.

¹² R. Artonovic: *Reparacije i Nemacka: Na cemu nas je rat ostavio?* (Reparation and Germany: Where did the War Leave Us?), *Ekonomist*, Belgrade, No. 1–2, 1928, p. 37 (in Serbian).

¹³ R. Artonovic: *Reparacije i Nemacka: Dawesov Plan i njegove primene* (Reparation and Germany: Dawes' Plan and Its Implementation), *Ekonomist*, Belgrade, no. 3–4, 1928, p. 116 (in Serbian).

of administrative institutions were established across Germany which had the role of international monitors and political controllers.

After less than four years of the Dawes' plan implementation it turned out that the plan and its solutions were unbearable burden for Germany. German economy was undergoing a deep depression at the time which came as a result of the 1921/1923 crises and was accompanied by one of the most destructive hyperinflations known in the modern economic history. In order to resolve the reparation post First World War problem the Reparation Commission established a new committee on 16 September 1928 that comprised independent financial experts headed by Owen Young who created a new German reparation payment plan. The Young's committee produced on 7 June 1929 in Paris a report on its work along with the German reparation payment plan and a series of accompanying documents. At a conference held in The Hague on 20 January 1930 the interested countries' governments accepted Young's expert committee's report along with a new German reparation payment plan.¹⁴

Young's German reparation payment plan was based on commercialising the relation between the reparation debtors and creditors. German reparation debt was partially written off and the rest was split in 58 annuities of a new international loan which were payable in either a foreign convertible currency or Reichsmarks on the gold mark parity. Every reparation debt annuity was split in a fixed and a variable part. It was foreseen that Germany must keep paying the fixed part of the debt on a regular basis whilst in periods of extreme economic difficulties it was possible to delay paying off the variable annuity part. Further, the possibility of mobilising the fixed annuity part was foreseen too. That is trade in the fixed part of German reparation debt state bonds, conducted in the same way as any other trade in securities done on capital markets. Given that Young's reparation plan laid down the exact amount of the reparation debt and its settlement deadline it was no longer necessary to measure the progress of German economy annually, and therefore the prosperity index was cancelled.

Young's plan foresaw the reparation debt deadline extension till 1988. According to the plan, in the period from 1929 to 1988 the Kingdom of Yugoslavia was to receive war damages of 3.9 billion Reichsmarks in total; up till 1966 it was envisaged that the country should be receiving 84 million Reichsmarks annually and then 22.7 million Reichsmarks per year successively until the final settlement of the debt. However, the grave financial and banking crisis that Germany was going through during the Great Depression caused all war reparation payments to be suspended in 1931. Thus, the Kingdom of Yugoslavia was deprived of its one annual income totalling 600 million dinnars in foreign exchange.

¹⁴ The documents referring to post World War I German reparation debt issue, signed in The Hague on January 30th 1930, are known in the International contracts corpus as "The Hague agreements". "The Hague agreements" were published in the Kingdom of Yugoslavia Official Gazette No. 124-XLVII, 1930.

3.4. External Debt Repayments to France in French Golden Francs

The Kingdom of Yugoslavia's foreign financial obligations soared in 1930, following the loan revalorisation that Serbia made in France between 1895 and 1913.¹⁵ Contracts regarding loans stipulated that all loans should be paid off in French currency. Until 1930, war years included, the Kingdom of Serbia, and later the Kingdom of Yugoslavia dutifully met its contractual loan obligations and paid annually exactly the sums of money prescribed by the loan terms and conditions. However, as early as in 1924 French porters (Serbian state loan bond holders) started complaining against payments in paper French francs, requiring any further payments to be calculated exclusively in gold French francs. At the time when the loans were made the Gold standard was in power and it went without saying that there was by no means relevance as to whether the loans were being paid off in French francs – that is in banknotes that could be converted in gold, or in golden coins. After the world war the situation changed, the paper French franc had become legal tender, thus losing 80% of its pre-war golden value. Naturally the Kingdom did not hold itself liable for the French currency fall, which resulted in the issue of foreign loans made by the Kingdom of Serbia in France ending up before the Permanent International Court of Justice in The Hague.

The Court accepted the French porters' view and made a ruling on 12 July 1929 stipulating that the loans should be revalorised and further paid in gold. The Yugoslav government signed a Convention with French bond holders the following year of 1930, which stated that all the remaining debts should be revalorised. Under the Convention's provisions Yugoslav government was under obligation to start paying off of loans taken in France, starting from 1 April 1930, and to the gold French francs equivalent value. By means of this, the remaining part of the debt was five times multiplied as a post-war paper French franc was worth 0.20% of the pre-war golden currency. Admittedly, according to the amortisation plan, the government was not to start paying the debt off 100% in gold before 1 April 1958; in the meantime the debt was to be paid partially in gold and partially in paper French franc notes with the proviso that the golden share was to be gradually increased from 55% in 1930 to 100% in 1958. The year 1972 was

¹⁵ The Kingdom of Serbia took five loans in France: Conversion (1895), Monopoly (1902), Railway and military armament (1906), Railway and the completion of military armament (1909) and a loan to cover Balkan Wars expenses (1913). D. Gnjatovic, *Stari drzavni dugovi, prilog ekonomskoj i politickoj istoriji Srbije i Jugoslavije 1862 – 1941 (Old State Debts, Contribution to Economic and Political History of Serbia and Yugoslavia)*, Yugoslav Survey, Belgrade, 1991 (in Serbian).

set as a final deadline for the debt settlement and the paying off process was to be conducted in line with the amortisation plan.

Serbian pre-war loan revalorisation led to a disproportionate pressure on the state budget.¹⁶ Whilst in the fiscal year 1929/30 it was necessary to allocate 895.4 million dinars for the purpose of paying off of foreign state loans, 1,016.9 million dinars were allocated in the following fiscal year of 1930/31, and 1,220.2 million in the fiscal 1931/32 year. We can only imagine what an enormous burden such increased state loan repayments imposed on the country's foreign exchange earnings, especially in the times when these earnings were falling precipitously. In the fiscal 1929/30 year, 7.7% of the country's foreign exchange earnings were spent on foreign loan repayments, the amount rose to 11% in 1930/31 and even to 19% in 1931/32. In the fiscal 1932/33 year, as much as 32.9% of the country's foreign exchange earnings were to be allocated to foreign debt repayments, as foreign debt annuities had raised to 1.277,2 million dinars whilst foreign exchange earnings slumped to merely 3.9 billion dinars.

4. The Dinar Exchange Rate Stabilisation Measures

The Kingdom of Yugoslavia advocated a liberal foreign trade policy in between the wars. Such policy could not prevent other countries' foreign trade barriers' harming influences during the period of the Great Depression. Food exports were prohibited only during first post-war years, in which there was not enough domestically produced food to meet the local population's needs. Starting from as early as 1920, the government applied a series of restrictive foreign exchange measures by means of which it protected the domestic currency exclusively, exerting no influence whatsoever over either the structure or the direction of foreign trade.

4.1. Temporary Import Controls Concerning Certain Types of Goods between 1936 and 1938

Conditions under which international trade was conducted depended on bilateral trade agreement provisions. After the world war, all the trade agreements concluded between the Kingdom of Serbia and its later allied (and friendly) countries stayed in power and their validity was extended to the whole territory of the Kingdom of Yugoslavia. Some of these contracts

¹⁶ Ministarstvo finansija, *Ministarstvo finansija 1918 – 1938*, (*Ministry of Finance 1918 – 1938*), Belgrade, 1939, p. 35 (in Serbian).

remained in power in the unchanged form even in between the wars, whilst some others were changed. The Kingdom of Yugoslavia concluded after the war new contracts with its former hostile countries and countries that were constituted from these (Czechoslovakia, Poland). The Kingdom of Yugoslavia's most significant trading partners were: Italy, Austria, Czechoslovakia, Germany, Greece and Hungary. Individual agreements were breached by the Yugoslav side during the Great Depression only in response to the agreements having been previously breached by the other signatories.

Yugoslavia was a country that did not impose restrictions on the importation of goods even for the duration of the Great Depression. Restrictive measures were introduced only in money transactions. The trade in goods, however, remained restriction-free up until 1936, at least regarding the countries that Yugoslavia had signed no bilateral goods related clearing agreements with. It was not before June 1936 that the government imposed certain import controls with a view to preventing unnecessary imports, that is, unnecessary spending of foreign exchange. A list was drawn up comprising products that were free to be imported only once a permit issued by the National Bank was secured. By means of this, importers were indirectly forced to first consider allowed options from the list regarding the importation of goods from the so called clearing countries. Partial goods importation control was abolished in 1938.

4.2. Temporary Suspension of Foreign Debt Repayments and Foreign Debt Rescheduling

Whilst foreign trade flows could be more or less protected by compensation arrangements, no solution was found during the crisis to protect international financial capital against an extreme decline. Debtor-countries, whose income was plummeting drastically, simply had no sources from which to pay off their debts. Latin American countries started on 1 January 1931 a series of foreign debt payment suspensions. From the region, only Argentina continued paying its external financial obligations during the crisis. In Europe, Germany suspended its foreign debt payments in 1924, and in 1931 it stopped reparation payments as well. It was followed by the winning countries that stopped paying their mutual interally debts. Also, many countries called upon their creditors asking for a reduction in their debt burden. These decisions had devastating consequences on the world's financial capital. In the period from 1929 to 1935 international annuity payments dropped by two thirds, which was the same rate at which the world's trade value calculated in gold fell. Between 1929 and 1934, the United States and Great Britain, world's largest creditors, lost respectively 71% and 58% of their foreign

long term investments income.¹⁷ A number of governments rose against international financial capital that fought to its last breath for maintaining its rights to collect debts regardless of the debtors' weakened debt repayment possibilities.

Facing foreign exchange shortage in the time when foreign loan repayments obligations increased, Yugoslav government decided, in October 1932, to suspend temporarily all payments in foreign currency and launch negotiations with foreign creditors on reducing debt repayment burden. It should be stated that the decision on temporary debt payment suspension referred to foreign loans payable in foreign exchange only.

Under the Convention signed with foreign state loan bond holders in July 1933, Yugoslavia concluded a series of refinancing agreements regarding taking new loans in order to pay off the old ones. Under these agreements Yugoslavia was under obligation to pay off in foreign currency 10% of the annuity value that was payable within the prescribed three-year period, whilst 90% of it would be paid in new state bonds issued at 5% interest rate (the so called funding loan). Those bond holders who did not want 90% of the nominal value of their vouchers to be paid in new funding bonds had an option to be paid in dinars. By means of making this new state Funding loan Yugoslavia secured means to pay off its foreign financial obligations that were due from 14 October 1932 till October 13th 1935. Owing to this expensive financial operation, the country's foreign debt obligations payable in those three years were reduced from around 1.22 billion dinars to 120 million dinars.

Even when the deadline expired in October 1935 it was not possible for Yugoslavia to go back to earlier difficult conditions under which foreign loans had been paid. That is why funding bonds were re-issued in 1936, under a new Convention signed with bond holders. The Convention referred to a two-year period, from October 1935 till October 1937. It was agreed that 15% of the payable bonds' value was going to be paid in foreign exchange, whilst 45% would be paid through new funding bond issue. The remaining part of the debt was written off. The country's obligation to pay off its debts in foreign exchange was thus slightly increased whilst almost one third of all dues payable within three years was written off. The last Convention with state bond holders was signed in 1938, to pay 45% of debts due in a two year period, from October 1937 to October 1939, while the remaining part of those debts were written off.

¹⁷ G. Brasic, *op. cit.*, p. 42.

5. Concluding Remarks

Starting from 1938 the Kingdom of Yugoslavia began abolishing foreign trade and foreign exchange restrictive measures. It was an unquestionable sign of the restrictive measures conducted that far having yielded beneficial results. However, political turmoil preceding the Second World War forced the government and the National Bank once again to relinquish economic liberalism.

When the last Convention with bond holders was signed in 1938 the state terminated the expensive practice of funding bond issues, that is, the practice of incurring new debts in order to settle old ones. By this time foreign exchange earnings generated from exports of goods and services had improved somewhat, primarily thanks to an increase in exports of goods. Clearing agreements with Switzerland, Belgium and France were abandoned but clearing agreements with main trade partners still remained in power, such as with Italy, Austria and Germany. The structure of goods exported by Yugoslavia remained unchanged in the post-crisis years. Ten most important products participated in total export at the rate of 63.7% and 64.2% respectively in the years 1930 and 1938, and these products were wheat, corn, fruit, tobacco, pork, meat, eggs, cut timber, copper, and ores.¹⁸ Just before outbreak of the Second World War, Germany had the most favourable position amongst the trading partners of Yugoslavia. The bilateral clearing agreement enabled Germany to obtain abundant interest-free crediting of imports from Yugoslavia.

Not once and not even during the times of the most severe crisis, the state did stop paying its internal loans or its foreign loan tranches payable in dinars. Owing to this, the Belgrade stock exchange did not stop working once, apart from the fact that between 1930 and 1933 state securities' prices were on the decrease. However, as early as in 1935/1936 the prices went up back to the pre-crisis level.

Owing to restrictive foreign exchange measures applied during the Great Depression, the dinar lost only 28.5% of its value against the Swiss franc, as established by its *de facto* and later *de iure* stabilisation. Over the years 1931 and 1932 the dinar exchange rate was falling against the Swiss franc only to get stabilised in January 1933. Since then and up till the end of the in-between war period the dinar was one of the most stable world currencies, its value standing at the Zurich money market unchanged at the rate of seven Swiss francs against 100 dinars. Restrictive fiscal policy undoubtedly contributed to the dinar stability in the period.

Facing a crisis, the government was forced to cope with a sudden drop of fiscal revenue. In only two years, from 1930/31 till 1932/ 33, government revenues

¹⁸ O. Kovac. Op. cit., p. 324.

were reduced to their fourth. Three successive fiscal years (1931/32, 1932/33 and 1933/34) ended with rather small deficits; however, due to a rigorous restrictive fiscal policy the state finances weathered the period without any major turmoil. Once the crisis was overcome, government revenues started growing again, affording at the same time the growth of government expenditure, but still exclusively within the limits allowed by the growth of government revenues.

The money in circulation, which had been reduced by one fifth during the crisis, was now after the crisis standing again at the same level it was at in the time of the dinar's *de facto* stabilisation. However, just like in other European countries, on the eve of the outbreak of the Second World War, in Yugoslavia there was a sudden rise in inflationary tendencies and the quantity of money in circulation. Therefore, political climate once again became the cause of instability of the national currencies.

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Paths of Monetary Transition and Modernization: Exchange Rate Regimes and Monetary Policy in Southeastern Europe including Turkey from the 1990s to 2006¹

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After looking at basic demographic and economic characteristics of the region since communism, the paper offers an analytical overview over the development of exchange rate regimes and monetary policy frameworks in Southeastern Europe incl. Turkey since the early 1990s. The following ten countries/non-sovereign territories are analyzed here: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Kosovo, the Republic of Macedonia, Montenegro, Romania, Serbia, Turkey. Over the last two decades, the population of the entire region – except for that of Kosovo and Turkey – has shrunk. In contrast to the past, Turkey today is economically much larger than the rest of Southeastern Europe taken together. This latter area had suffered temporary but major setbacks due to economic transition and the wars of Yugoslav succession, but it is now on a robust catching-up route. Four countries (Bosnia-Herzegovina, Bulgaria, Croatia and Macedonia) feature hard pegs and nominal exchange rate anchors, four others (Albania, Romania, Serbia and Turkey) conduct loosely managed floats and formal or informal inflation targeting, two countries/territories (Kosovo and Montenegro) boast unilaterally euroized regimes. Individual countries'/territories' economic developments in recent years (late 1990s – end-2006) and current monetary and exchange rate policies, instruments, issues and outcomes are focused on in more detail. Inflation is found to have been

¹ This paper is an extension and update of an earlier study entitled “Exchange Rate Arrangements and Monetary Policy in: Southeastern Europe and Turkey: Some Stylized Facts”, published in Focus on European Economic Integration, no. 2/2004, OeNB.

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on a declining trend across the region until around 2003/2004, since when it has been stagnating or witnessing some up-ticks, partly under the impact of gathering credit booms. In a number of cases, low inflation performance can be put down to the stabilizing influence of the exchange rate as an external anchor. But some countries applying inflation targeting have boasted remarkable disinflation recently. Therefore, one can conclude that various monetary strategies are being quite successfully practiced across the region. Overall monetary and economic policy soundness, credibility and perseverance may be the key to success here. In recent years, prudent fiscal policies and general policy discipline, favored by IMF and EU surveillance, have assisted central banks in pursuing their goals.

1. Introduction

The following article attempts to give an analytical survey of the evolution of exchange rate regimes and monetary policy frameworks in Southeastern Europe and Turkey from the onset of transition (the early 1990s) until 2006. Given this topic and the fact that Serbia (as a subject of international law) includes the province of Kosovo (UN administered) and therefore comprises two separately managed currency areas, in the following these two political entities will be dealt with separately. Accordingly, nine countries and one non-sovereign territory are analyzed here: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo/Kosova, the Republic of Macedonia, Montenegro, Romania, Serbia, Turkey. In the following, when all ten or a lesser number of political entities of the region – including Kosovo – are dealt with, for simplicity the term “countries” will be used, although the author is of course aware that Kosovo is not (fully) sovereign.

To start with, chapter 2 provides a general long-term comparative overview (reaching back to the mid-1980s) of demographic, economic and per capita income developments in the region. chapter 3 presents a global descriptive outline of the topic (as from the early 1990s) which also sketches the institutional importance of the euro as economic anchor for these countries. Chapter 4 focuses more on the de facto role of the euro in Southeastern Europe, on euro legacy currencies circulating in and outside banking sectors (up to end-2001), the effect of the euro cash changeover (of end-2001) and on euro-denominated deposits (up to 2005). Individual countries' economic performance and monetary and exchange rate policies, instruments, issues and outcomes since the mid-1990s up to late 2006 are dealt with in somewhat more detail in Chapter 5. Chapter 6 gives a summarizing comparison of major results of the preceding chapters and draws some overall conclusions.

2. Basic Traits of the Region's Countries/Territories

Compared to the European Union, the Southeastern European countries are economically small to miniscule players. As can be seen from tables 1 and 2, Southeastern Europe – without Turkey – comprises a territory of about 14% the size of the EU-27's territory, its population in 2005 came to 11% of that of the EU-27 and its GDP equaled just 1.6% of the GDP of the EU-27 (converted on the basis of current exchange rates)³. The largest former socialist country of the region, Romania, commands an economic size of 0.7% of that of the EU-27. The smallest country, Montenegro, accounts for 0.015% of the EU-27's GDP. Average per capita GDP in Southeastern Europe without Turkey comes to about 15% of the average level of the Union.

Table 1: Southeastern European Countries' Demography and Its Development over the Last Twenty Years

Country/Territory/Region	Territory (km ²)	Population (million inhabitants)			
		mid-1980s	1992	1999	2005
Albania	28700	3.02	3.36	3.37	3.14
Bosnia and Herzegovina	51100	4.27	4.38	3.73	3.85
Bulgaria	111000	8.96	8.47	8.19	7.74
Croatia	56500	4.64	4.79	4.55	4.44
Kosovo (Serbia)	10900	1.72	1.95	2.05	2.40
FYR Macedonia	25700	1.99	2.17	2.02	2.04
Montenegro	13800	0.59	0.62	0.60	0.63
Romania	238400	23.18	22.76	22.46	21.62
Serbia (without Kosovo)	77500	7.82	8.03	7.76	7.45
SEE without Turkey	613600	56.19	56.53	54.73	53.30
Turkey	779500	51.61	60.73	66.30	72.07
SEE with Turkey	1393100	107.80	117.26	121.03	125.37
<i>Memorandum items</i>					
EU27	4322500	466.42	474.42	482.13	491.69
USA	9809160	238.74	255.61	278.23	296.41

Source: National Statistics, Eurostat, Der Fischer Weltalmanach – various issues, wiw.

Adding Turkey changes the equation quite a bit. Not only in terms of territory, but also with respect to population and economic clout does Turkey outweigh all other Southeastern European countries taken together. Turkey's GDP per capita is somewhat higher than Southeastern Europe's average. Including Turkey, the region's territory comes to 32% of that of the EU-27, its population would reach

³ If purchasing power parities were used, the ratio would be more than twice as large (Gligorov, Podkaminer et al. 2006, vi; see also Gligorov 2004, 52).

26%; but again, the size of the regional economy would remain relatively modest – some 4.3% of that of the EU-27.⁴

Table 2: Southeastern European Countries' Estimated GDP and per Capita Income and Dynamics over the Last Twenty Years

Country/Territory/Region	GDP (in ECU/EUR bn) ¹⁾				GDP per capita (ECU/EUR) ¹⁾			
	mid-1980s*	1992	1999	2005	mid-1980s*	1992	1999	2005
Albania	1.9	0.84	3.32	6.72	630	250	990	2140
Bosnia and Herzegovina	9.1	2.90	4.59	7.54	2130	660	1230	1960
Bulgaria	24.5	8.82	12.56	21.45	2730	1040	1530	2770
Croatia	18.5	6.60	18.68	30.95	3990	1380	4110	6970
Kosovo (Serbia)	2.2	0.8*	1.05*	2.16*	1280*	410*	510*	900*
FYR Macedonia	3.9	1.63	3.45	4.63	1960	750	1710	2270
Montenegro	1.4	0.7*	1.00*	1.64	2370*	1130*	1670*	2600
Romania	40.5	19.86	33.49	79.26	1750	870	1490	3670
Serbia (without Kosovo)	23.9	9.7	13.10	19.47	3050	1210	1690	2610
SEE without Turkey	125.9	51.85	91.24	175.66	2240	920	1670	3300
Turkey	57.1	81.05	176.88	291.12	1110	1330	2670	4040
SEE with Turkey	182.3	132.90	268.12	466.78	1690	1130	2220	3720
<i>Memorandum items</i>								
EU27	-	-	8536.35	10947.71	-	-	17710	22270
USA	4210.05	4813.17	8177.63	9992.51	17630	18830	29390	33710

* estimate based on data in selected issues of The Stateman's Yearbook and Der Fischer Weltalmanach, estimates particularly for Kosovo are subject to substantial uncertainties

1) measurement of GDP and GDP per capita on the basis of current exchange rates; estimate: mid-1980s: 1 ECU = 0.93 USD (approx. average); 1992: 1 ECU = 1.23 USD

Source: National Statistics, Eurostat, The Stateman's Yearbook, Der Fischer Weltalmanach, L'état du monde – various issues, wiw.

A glance at developments over the last twenty years (table 1) reveals that all countries of the region – except for Kosovo and Turkey – have featured declining populations since the early 1990s, i.e. since the beginning of transition. Even after economic growth had returned and partly accelerated in the early years of the new millennium, demography continued its downward trend. In contrast, Turkey and Kosovo witnessed strongly growing populations over the entire period since the mid-1980s. Thus, diverging *demographic trends* have Southeastern Europe (without Turkey) on a shrinking path and Turkey on a swiftly expanding one.

A comparison of long-term economic growth trends (table 2) yields even more accentuated results.⁵ Although it had also experienced repeated economic upheavals, Turkey had not witnessed the depth and pain of the transition recession all the other Southeastern European countries had to go through in the early 1990s.

⁴ The size would exceed 8% if purchasing power parities were taken into account.

⁵ Given that table 2 is based on current exchange rates, and not on purchasing power parities, appreciation pressures that have become dominant among the currencies of the region in recent years can more easily express themselves and have an impact on GDP measurement in floating exchange rate regimes (like Romania's and Turkey's in 2005) than in tighter regimes. But this does not decisively alter the major picture.

Turkey had also not been affected to that degree by the repercussions of the violent disintegration of former socialist Yugoslavia and the wars that this had entailed (1991–95 and 1999). While Turkey's (estimated) GDP had been less than half of that of the rest of Southeastern Europe (taken together) in the mid-1980s, by 1999 that relationship was (almost) reversed. Around the turn of the millennium, however, most of the other countries embarked on a stormy catching up process, have since then grown faster than Turkey, and by 2005 had made up some lost ground, especially in terms of per capita income. Given Central European experiences, the catching up will probably continue in the coming years and the average per capita income of the other countries might eventually become equal to Turkey's again. In terms of national GDP, though, given divergent demographic dynamics, the other countries of the region will probably not catch up with Turkey in the foreseeable future.

Disregarding Turkey and looking in more detail at the other countries of the region which are quite heterogeneous, it is evident that their economies had all plunged considerably between the mid-1980s and 1992, and that by 1999 no country's national GDP – except Albania's and Croatia's – had yet caught up with the pre-transition level. Given the strong growth after 1999, most Southeastern European countries regained their average standard of living of the second half of the 1980s in the early years of the new millennium – about one and a half decades later. However, Bosnia and Herzegovina and Serbia had not reached their pre-transition standards of living even by 2005 and Bulgaria had only just made it that year.

While Croatia has successfully defended its status as the richest country of the Balkans, boasting a per capita income comparable to Central European levels, the star of economic recovery among the largest Southeastern European countries appears to be Romania, which almost doubled its national GDP in the two decades to 2005 (though its point of departure arguably was quite bleak). The greatest catching up performance overall is however accomplished by Albania, which more than tripled its per capita GDP in this period. Whereas the Albanians had been the poorest of the region under communism (near-total isolation from the rest of the world under the Hoxha regime), the Kosovars are the poorest today, followed by the Bosnians.

3. Outline of Exchange Rate Regimes and Monetary Policy Frameworks in the Region

The euro plays an important *de jure* and/or *de facto*⁶ role for the economies and economic policies of Southeastern European countries. Five of the ten analyzed countries – namely successor countries/territories to the former Socialist Federative

⁶ See next chapter.

Republic of Yugoslavia – changed their currencies in the 1990s. Six of the ten countries have geared their monetary policy to an external anchor. This external anchor is – without exception – the euro, as shown in table 3. Two of these six (Bosnia and Herzegovina, Bulgaria) run currency boards, two (non-sovereign) territories (Montenegro, Kosovo) have adopted the euro as their legal tender. The Republic of Macedonia has pegged its currency to the euro, Croatia has conducted a tightly managed float (with the euro as reference).

Four countries (Albania, Romania, Serbia, Turkey) have practiced managed or loosely managed floats, coupled with money growth targeting, most recently (2005 and 2006) three of them have opted for inflation targeting frameworks (table 3). In early 2005, Romania switched from a reference basket for its float, in which the euro had the largest weight, to the euro as sole reference currency. In August 2005, the country opted for inflation targeting and loosened its managed float. In early 2003, Serbia abandoned its previously tightly managed float and started to pursue what was characterized as a euro-oriented real exchange rate anchor. In February 2006, Serbia further loosened its float in preparation for the introduction of informal inflation targeting through “inflation objectives” in September 2006. Turkey has also been running an inflation targeting regime since January 2006. Albania has continued to stick to money growth targets coupled with informal inflation goals.

The currencies of seven countries (Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Montenegro, Romania as well as Turkey) are fully (or almost fully) convertible. Two other countries⁷ (the Republic of Macedonia’s and Serbia’s) currencies are convertible for current account transactions. The Albanian currency does not yet feature unrestricted current account convertibility (IMF 2006, 44) 7.

⁷ For more information on the – quite eventful – historical background of economic developments in the countries of the Western Balkans see Barisitz 1999.

Table 3: Southeastern European Countries' and Territories' Monetary Characteristics

Country/ territory	Currency (since); previous	Exchange rate regime (since); previous	Convertibility	Monetary policy framework (since); previous
<i>Albania</i>	Albanian lek (ALL)	Loosely managed float (early 1990s), major reference currencies: EUR (up to 1/1/1999: DEM), USD	Not yet unrestricted current account convertibility (IMF Art. XIV status)	Informal inflation targeting through money growth targeting (1998)
<i>Bosnia and Herzegovina</i>	Konvertibilna marka (BAM, June 1998); YUM (redenominated) and HRK (used regionally), DEM (country-wide) (until Dec. 1999); YUD (until early 1990s)	Currency board, peg to EUR (up to 1/1/1999: DEM) (formally introduced: August 1997, de facto since mid-1998); multiple currencies	Full convertibility	Nominal exchange rate anchor EUR (DEM) (August 1997)
<i>Bulgaria</i>	Bulgarian lev (BGN, redenominated July 1999)	Currency board, peg to EUR (up to 1/1/1999: to DEM) (since July 1997); managed float	Full convertibility (IMF Art. VIII acceptance Sept. 1998)	Nominal exchange rate anchor EUR (DEM) (July 1997); money growth targeting
<i>Croatia</i>	Croatian kuna (HRK) (May 1994); Croatian dinar (transitional); YUD	Tightly managed float, reference currency: EUR (up to 1/1/1999: DEM) (since Oct. 1993)	Almost full convertibility (IMF Art. VIII acceptance May 1995)	Nominal exchange rate anchor EUR (DEM) (Oct. 1993)
<i>Kosovo/ Kosova (Serbia)</i>	All foreign currencies legalized for transactions, EUR (DEM) predominant, YUM used regionally (Sept. 1999); YUM, YUD		Full convertibility	EUR legal tender (September 1999)
<i>Republic of Macedonia</i>	Macedonian denar (MKD, April 1992); YUD	De facto peg to EUR (exchange rate target, up to 1/1/1999: DEM) (since Oct. 1995); managed float	Current account convertibility (IMF Art. VIII acceptance: June 1998)	Nominal exchange rate anchor EUR (Oct. 1995); money growth targeting
<i>Monte-negro</i>	Unilaterally euroized/EUR (November 2000); November 1999-2000 EUR (DEM) parallel currency to YUM; before that YUM, YUD		Full convertibility	EUR legal tender (November 1999/2000)
<i>Romania</i>	Romanian leu (RON, redenominated July 2005)	Loosely managed float (Aug. 2005); managed float (1991), reference currency: EUR (since early 2005); previously: reference basket: EUR (75%), USD (25%) (early 2004), EUR (60%), USD (40%) (early 2002); before that: reference currency: USD	Almost full convertibility (IMF Art. VIII acceptance: March 1998)	Inflation targeting (August 2005); Money growth targeting (early 1990s)

Table 3 continued: Southeastern European Countries' and Territories' Monetary Characteristics

Country/ territory	Currency (since); previous	Exchange rate regime (since); previous	Convertibility	Monetary policy framework (since); previous
Serbia <i>(without Kosovo/ Kosova)</i>	Serbian dinar (RSD); previously called Yugoslav dinar (YUM, redenominated January 1994; YUD)	Loosely managed float (Feb. 2006); managed float (Jan. 2003), previously tightly managed float, reference currency: EUR (Dec. 2000); peg to EUR (DEM)	Current account convertibility (IMF Art. VIII acceptance: May 2002)	Informal inflation targeting through “inflation objectives” (Sept. 2006); real exchange rate anchor (Jan. 2003), previously nominal anchor EUR (DEM) (1994)
Turkey	Turkish lira (YTL, redenominated January 2005)	Loosely managed float (February 2001); crawling peg, reference basket: USD (56%), EUR (44%) (Dec. 1999); managed float (early 1998)	Full convertibility (IMF Art. VIII acceptance: March 1990)	Inflation targeting (Jan. 2006); Money growth targeting, informal inflation targeting (Feb. 2001); exchange rate anchor (USD/EUR basket); monetary targeting

Source: Author's compilation.

Based on the above information, in the following a very rough attempt is made to discern what might be long-term regional exchange rate regime trends. In the first half of the 1990s most exchange rate arrangements corresponded to managed or loosely managed floats. A number of countries/territories (in the Western Balkans) that were either not yet independent or had just become independent (Bosnia-Herzegovina, Kosovo, Montenegro and Serbia) remained dominated by the Yugoslav dinar. From the early 1990s until the beginning of 2001 most Southeastern European countries' currency regimes (except that of Albania) appeared to be steadily moving into the orbit of the euro.

Since early 2001 (the time of the floating of the Turkish lira) however, two diverging tendencies seem to have emerged: A number of smaller countries (the largest one being Bulgaria) are holding on to the euro as a nominal anchor (from tightly managed float to unilateral euroization). In contrast, a smaller number of mostly larger countries (incl. Romania and Turkey) have progressively opted for inflation targeting (at least of an informal kind) and have thus loosened up their currency regimes and connections to the euro and reverted to loosely managed floats. Another aspect is that in crisis situations, currency regimes tend to temporarily loosen, or in some cases, to collapse – upon which the market may establish a more realistic realignment (as happened in Albania in 1997, in Bulgaria in 1996–1997, and in Serbia in late 2000 and early 2003). Then the situation tends to stabilize again and new, often – but not always – tighter, regimes tend to be installed.

4. De facto Euroization in Southeastern Europe

Southeastern European countries are among the transition countries where the levels of foreign currency held by residents are highest. Holdings of foreign exchange in the region are primarily of euros and to a smaller extent of US dollars, Swiss francs etc. In this sense one can also speak of de facto euroization (or “official” euroization) – as opposed to unilateral de jure euroization (or “inofficial” euroization), which is reality in the Republic of Montenegro, or as opposed to the de jure introduction of the euro as dominant legal tender in the Province of Kosovo, with the UN provisional administration having been the decision-making body in this case.

In the mid-1990s the Bundesbank, using various methods, estimated the amount of German mark cash held outside Germany to come to 30–40% of total German currency in circulation, corresponding to ECU (EUR) 32–45 billion (Seitz, 1995). This was often quoted as the main estimate of euro/German mark holdings abroad. Most of the money was deemed to circulate in EU neighboring regions, including Central and Southeastern Europe and the Mediterranean. In the course of the 12 months preceding the euro cash changeover at end-2001, foreign exchange bank deposits in euro legacy currencies (i.e. German mark, Austrian schilling, French franc etc.) in 20 reporting countries neighboring the EU, including Southeastern Europe and Turkey, increased by EUR 9.2 billion to EUR 41.7 billion. In order to strengthen their respective banking systems, many countries promoted euro conversion by paying into bank accounts instead of exchanging cash over the counter. And in the months following the cash changeover, banks did not generally experience large withdrawals.

The EUR 60 billion of euro banknotes shipped by banks to destinations outside the euro area from December 2001 to December 2006 provide an updated approximate indicator of the amount of euro banknotes circulating abroad. This accounts for around a tenth of the total volume of euros in circulation. To give some details on the implications and effects of the cash changeover: Turkey and Croatia led (in absolute terms) all the EU’s eastern and southern neighbors as regards euro-denominated bank accounts at end-2001. In Turkey they amounted to over EUR 12 billion, in Croatia to around EUR 8 billion. The share of euro-denominated deposits in total deposits rose in Croatia from 56% in December 2000 to 62% in December 2001, then declined again to 55% in early 2005. In Bosnia the respective share expanded from 38% to 50%, before receding to 40%; in Bulgaria the evolution was from 12% via 18% to 11% and in Turkey from 12% via 15% down to 10%. In Kosovo and Montenegro, the share was, of course, above 90% and in Serbia it was also very high (84% in mid-2004) (ECB 2003, 52; ECB 2005, 58).

This change implies that the sum of cash euros in circulation in the region decreased; on the other hand, banks benefited from the surge of euro deposits,

which also bears witness to the enhanced trust the public of various countries has harbored in the banking sector. Given that the banking sectors of most Southeastern European countries are in majority ownership of financial institutions of euro area countries, it is also likely that financial links between banks of EU neighboring regions and of the euro area have further strengthened.

Outside bank accounts, on the whole about EUR 19 billion of euro legacy currencies were exchanged for euro cash. On the other hand, up to EUR 10 billion of legacy currencies may have been exchanged for other international currencies, mainly the US dollar, implying a switch from currency substitution based on the euro to currency substitution based on other international currencies. But since 2002 and given the euro's persistent appreciation with respect to the US dollar, the common European currency seems to have gained ground and popularity in the region. According to surveys commissioned by the Oesterreichische Nationalbank in Croatia and in Central European countries since late 2002, the euro has been perceived as more stable than the American currency and the share of the euro in cash holdings by individuals has been on an upward trend over the years in most countries. This is also likely to hold for other parts of Southeastern Europe (see also Ritzberger-Grünwald, Stix 2007).

5. Individual Countries'/Territories' Economic Developments and Current Monetary Policy Issues

5.1 Albania

Table 4: Albania: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	13.3	6.5	5.8	5.5	5.0
General government budget balance (% of GDP)	-10.1	-9.2	-4.3	-3.6	-3.2
Current account balance (% of GDP)	-7.2	-7.4	-8.0	-6.6	-7.4
Net FDI inflows (% of GDP)	3.6	3.9	3.0	3.0	3.1
Gross foreign debt (end-year, % of GDP)	30.6	31.8	24.1	20.1	19.1
Gross reserves of central bank (excl. gold, end-year, % of GDP)	9.8	16.5	17.5	16.8	16.9
Repo rate (end-year, %) ¹⁾	20.5	10.8	6.5	5.0	5.5
Broad money growth (M2, end-year, %)	51.8	10.4	9.2	8.4	15.1
Domestic credit growth (end-year, %)	-10.0	8.6	11.0	13.2	14.6
CPI-inflation (end-year, %)	6.0	4.2	3.3	2.0	2.5
Exchange rate ALL/EUR (annual average)	123.5	132.6	137.5	124.2	123.1
Exchange rate ALL/USD (annual average)	93.0	143.7	121.9	99.9	98.1
Registered unemployment rate (end-year, %)	13.9	16.8	15.0	14.7	13.8

* preliminary data or estimates

¹⁾ up to 2000 refinancing rate

Source: National Statistics, Banka Shqipërisë, EBRD, IMF, wiiw.

Macro-Structural Background

Albania has witnessed robust growth in recent years, although the country remains saddled with serious structural shortcomings, particularly in the area of governance, transparency, rule of law, judiciary efficiency and infrastructure. Despite some progress in reducing administrative barriers to investment and enterprise creation, the business climate remains weak, the scale of the informal economy large. While the country continues to feature relatively high current account deficits, budgetary policies have been somewhat tightened in recent years. Net FDI inflows have not been covering more than about half of the current account shortfalls. The country's export base remains narrow and oriented toward modest value-added products. Foreign liabilities are rather low and have been on a downward trend.

Monetary Policy

The Banka Shqipërisë's (BS) cautious monetary policy has succeeded in keeping inflation at low one digit levels in recent years. The central bank has conducted a policy of money growth targeting since the early 1990s, to which it has added informal inflation targeting in recent years. Since 2003 the BS has successfully committed to holding CPI end-year inflation within a band of 2 to 4%; most recently, price increases have been nearer to the lower end of the band (end-2006: 2.5%). In order to achieve the informal goal, money supply (M3) and interest rates have been targeted. The monetary authorities intervene by varying their net domestic assets and net international reserves and by changing repo (repurchase agreement) rates, reverse repo rates and by conducting open market operations.

Depending of the economic situation, the BS has repeatedly intervened by increasing or decreasing the repo rate. For example, during banking turbulences in 2002 and during inflationary pressures that emerged in 2006 (the latter triggered by the gathering credit boom, oil price rises and excise tax adjustments), the monetary authorities ratcheted up the key interest rate. In contrast, when the financial crisis dissipated or the lek came under substantial appreciation pressure, which threatened the country's fragile exports, as happened in 2003, the BS took action in the opposite direction.

This points to Albania's flexible exchange rate regime (loosely managed float), the complement to its money growth targeting strategy. The central bank buys and sells on the foreign exchange market to smooth out speculation or sudden movements (relative to the euro and the US dollar). However, as alluded to above, the exchange rate can also become a (secondary) policy objective, but only if inflation remains comfortably within the band. More recently, some currency appreciation was allowed to contribute to achieving the inflation objective. The BS intends to gradually adjust its strategy toward an explicit inflation targeting régime

with the aim of enhancing transparency and credibility of its monetary policies (European Commission 2006, 30–31).

5.2. Bosnia and Herzegovina

Table 5: Bosnia and Herzegovina: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	20.8	5.5	3.0	5.8	6.0
General government budget balance (% of GDP)	-0.3	-3.1	-2.2	0.8	-0.2
Current account balance (% of GDP)	-10.3	-13.1	-25.0	-23.7	-12.8
Net FDI inflows (% of GDP) ¹⁾	0	3.2	4.9	6.5	6.4
Gross foreign debt (end-year, % of GDP)	180.0	59.2	58.1	55.3	53.9
Gross reserves of central bank (excl. gold, end-year, % of GDP)	8.6 ²⁾	10.5	22.7	26.6	27.8
Broad money growth (M2, end-year, %)	8.5	13.9	8.4	18.2	24.7
Domestic credit growth (end-year, %)	16.2 ³⁾	10.0	19.8	27.6	20.6
CPI-inflation (end-year, %): Federation of BiH	7.7 ²⁾	4.0	0.3	4.4	6.6
CPI inflation (end-year, %): Republika Srpska	-17.7 ²⁾	16.1	1.3	3.7	4.7
Exchange rate: BAM/EUR (annual average) ⁴⁾	1.96 ⁵⁾	1.96	1.96	1.96	1.96
Exchange rate: BAM/USD (annual average) ⁴⁾	1.73 ⁵⁾	2.12	1.73	1.57	1.57
Registered unemployment rate (end-year, %)	38.0 ⁶⁾	39.7	42.0	44.2	45.6 ⁷⁾

* preliminary data or estimates

¹⁾ excluding capital transfers for reconstruction

²⁾ 1996

³⁾ 1998

⁴⁾ The konvertibilna marka was formally introduced in August 1997.

⁵⁾ 1997

⁶⁾ annual average 1998

⁷⁾ October

Source: National statistics, Centralna Bosne i Hercegovine, EBRD, IMF, wiiw.

Macro-Structural Background

Following the war of 1992–95, Bosnia and Herzegovina have received considerable, if declining, international reconstruction assistance. Despite this assistance, the country has only made limited progress in putting in place viable and competitive export-oriented capacities. The economy has continued to be based largely on raw materials and related manufacturing. Strong resource price rises may be a reason why the gradual reduction of external assistance has not been accompanied by lower economic growth in recent years. The banking sector is one of the few areas where substantial progress in structural reform has been achieved. The State's political structure remains highly decentralized, fragile and segmented

in the two ethnically-defined Entities – the Muslim-Croat Federation and the Republika Srpska as well as Brčko District.

Attempts to dismantle bureaucratic barriers and improve the business environment have contributed to rising FDI inflows in the first years of the new millennium, but foreign direct investment remains far from matching the huge and persistent current account shortfalls. On the other hand, fiscal as well as monetary policies have been prudent in recent years, in particular the currency board regime has become a stabilizing anchor for the economy. The ratio of foreign debt to GDP has been on the decline, reflecting the confluence of shrinking public debt and expanding private liabilities.

Monetary Policy

The Centralna banka Bosne i Hercegovine (CBBH) has functioned as a currency board since 1998, irrevocably fixing the exchange rate of the konvertibilna marka to the German Mark (later: euro) and backing up unlimited convertibility of the domestic currency to the reserve currency by an adequate amount of foreign exchange reserves. The latter have been on the rise in recent years and at end-2006 came to almost five import-months of goods and services. No independent monetary policy is conducted, the central bank can neither grant credits to the government, nor act as a lender of last resort to banks. Managing reserve requirements is the only important monetary policy tool currently at the disposal of the CBBH.

The latter has been quite successful in keeping inflation at low levels. In the wake of important bank privatization transactions (sales to foreign strategic investors) and in connection with the euro changeover, bank deposits soared, and loans to households more than doubled in 2002 (albeit from a low base). This pushed up imports and called for intervention by the central bank, which reformed and raised reserve requirements, thereby tightening its monetary stance. New more restrictive bank capital requirements were pre-announced taking effect at end-2003. While inflation remained subdued through 2004, swift credit expansion did not lose much momentum. Actually, the total credit volume attained a level of 48% of GDP at end-2005, which is second only to Croatia in the entire region.

Swift loan growth as well as the surge of the oil price and administered price increases appear to have impacted inflation from 2005. 2006 witnessed the introduction of VAT at the beginning of the year, which immediately nearly doubled average CPI-inflation. To stem the inflationary pressures, at end-2005 the CBBH had hiked banks' reserve requirements from 10% to 15% of liabilities. In the following months, price increases somewhat moderated again and at end-2006 came to 6.6% in the Federation and to 4.7% in the Republika Srpska. They are expected to recede to an average of around 4% in 2007. Price level changes have tended to be on overall converging paths in the two Entities whose economic

structures are quite different. This may be a sign of (slowly) increasing domestic economic integration.

5.3 Bulgaria

Table 6: Bulgaria: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	2.9	5.4	4.5	6.2	6.1
General government budget balance (% of GDP)	-5.6	-0.5	-0.9	1.9	3.3
Current account balance (% of GDP)	-0.2	-5.6	-9.3	-11.5	-14.8
Net FDI inflows (% of GDP)	0.7	7.9	10.4	8.4	15.9
Gross foreign debt (end-year, % of GDP)	77.4	88.6	67.4	69.2	82.1
Gross reserves of central bank (excl. gold, end-year, % of GDP)	9.4	27.5	31.5	33.9	37.3
Base rate (end-year, %)	34.0	4.6	2.8	2.1	3.3
Broad money growth (M2, end-year, %)	40.3	7.5	18.8	24.4	26.8
Domestic credit growth (end-year, %)	18.0	31.0	32.4	35.1	17.1
CPI-inflation (end-year, %)	32.9	11.4	5.6	6.6	6.5
Exchange rate: BGN/EUR (annual average) ¹⁾	0.09	1.96	1.96	1.96	1.96
Exchange rate: BGN/USD (annual average) ¹⁾	0.07	2.12	1.73	1.57	1.56
Unemployment rate (labor force survey, annual average, %)	.	16.9	13.7	10.1	9.0

* preliminary data or estimates

¹⁾ The lev was redenominated in July 1999. All exchange rates are based on the post-July 1999 lev.

Source: National statistics, Bălgarska narodna banka, EBRD, IMF, wiw.

Macro-Structural Background

Following a deep financial and economic crisis in 1996/97, Bulgaria has since July 1997 strictly adhered to a German mark/euro-based currency board regime. The Bulgarian economy has witnessed overall favorable macroeconomic developments in recent years. GDP has expanded on average by 4–5% annually, and the growth rate even surpassed 6% in 2006. The current account deficit has consistently been high and expanded further strongly in 2005 and 2006 (into double digits). Net FDI inflows have also been substantial and have so far kept up with the current account shortfalls, which they have largely contributed to. However, this expansion has reached dimensions that may not be sustainable. Private investment, together with private consumption, are the main drivers of buoyant domestic demand. Persistent and robust expansion of capital formation has allowed competitiveness to be largely sustained and promises further advances once new export capacities come on-stream. After having contracted/ stagnated in recent years, foreign debt expanded again sharply in 2006; shrinking public debt has been more than offset by rising private liabilities.

Monetary and Economic Policy

CPI-inflation in the last five years has remained fairly stubbornly at an average level of about 5% and most recently (in 2005 and 2006) exceeded 6% (end-year). The level of inflation is due to the continued confluence of a number of factors, like repeated food price rises, energy price hikes in recent years, repeated excise tax adjustments as well as demand pressures, namely the strong credit boom, particularly to households. Given that the monetary policy regime largely circumscribes instruments for macroeconomic management, fiscal policy is the main tool for controlling aggregate demand. Fiscal policy has become very cautious in recent years; since 2003 the general government budget has recorded no more deficits, in 2005 and 2006 surpluses topped 3% of GDP.

Monetization of the economy has increased and financial intermediation by the banking sector, which had been very weak for years, gained momentum early in the new millennium and entered a very swift catching-up process. The Bulgarian credit boom of recent years has attained some of the highest rates of expansion of household and overall credit among transition economies. The boom has sucked in imports and contributed to the deterioration of the current account and to inflationary pressures. It was originally partly triggered by the increase of bank deposits linked to the euro changeover, partly by repatriation of banks' lower earning foreign assets, and partly by the overall brightening of the macroeconomic situation and strengthened confidence in the banking system. As of end-2003, the banking sector was fully privatized, with the overwhelming share of assets being held by foreigners.

To check the credit boom and its repercussions on monetary stability and external balances, the Bălgarska narodna banka (BNB) launched its containment strategy in 2003. It chose a number of monetary, prudential and administrative tightening measures: repeated increases of the BNB base interest rate and of reserve requirements, tightening of capital adequacy and risk exposure regulations, credit controls/ceilings for quarterly and annual loan growth. In 2004, the government withdrew funds (part of its fiscal reserve) deposited with credit institutions in order to reduce the level of liquidity in the banking system. While prudential indicators did not show signs of serious deterioration, bank lending eventually (in 2005 and 2006) slowed down. But the slowdown was partly circumvented by the transfer of credit activities abroad and by recourse to non-bank financial intermediation (e.g. leasing companies, retailers). This contributed to growth of private foreign debt. At the beginning of 2006, the monetary authorities extended supervision to the non-bank financial sector, and in the second half of the year, they started gradually relaxing administrative restrictions, but maintained a stringent supervisory framework.

After acceding to the EU in January 2007, the authorities are planning to join ERM II at an early date, while retaining the currency board as a unilateral

commitment. The country then intends to fulfill the convergence criteria as soon as possible to qualify for euro adoption early in the next decade. Bringing inflation down to the Maastricht criterion in a sustained manner may require even further fiscal tightening, though.

5.4 Croatia

Table 7: Croatia: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	6.8	2.9	5.3	4.3	4.8
Consolidated general government budget balance (% of GDP)	-1.4 ¹⁾	-7.5 ¹⁾	-6.2	-4.0	-3.0
Current account balance (% of GDP)	-7.7	-2.5	-6.5	-6.6	-8.1
Net FDI inflows (% of GDP)	0.6	5.9	5.9	3.9	8.3
Gross foreign debt (end-year, % of GDP)	20.2	61.2	75.5	77.1	89.6
Gross reserves of central bank (excl. gold, end-year, % of GDP)	10.1	19.2	25.0	22.5	28.1
Discount rate (end-year, %)	27.0 ²⁾	5.9	4.5	4.5	4.5
Broad money growth (M4, end-year, %)	39.3	28.9	11.0	10.5	18.0
Domestic credit growth (end-year, %)	10.9	9.3	12.3	19.2	18.9
CPI-inflation (end-year, %)	3.8 ³⁾	5.5	1.7	3.6	2.0
Exchange rate: HRK/EUR (annual average)	6.95	7.63	7.56	7.40	7.32
Exchange rate: HRK/USD (annual average)	5.23	8.28	6.70	5.95	5.84
Unemployment rate (labor force survey, annual average, %)	.	16.1	14.3	12.7	11.5

* preliminary data or estimates

¹⁾ consolidated central government

²⁾ refinancing rate (3 months)

³⁾ retail price inflation

Source: National statistics, Hrvatska narodna banka, EBRD, IMF, wiiw.

Macro-Structural Background

The Croatian economy has steadily grown since the turn of the century. Inflation has almost without exception been in low single digits for a decade now. Croatia used to suffer from twin deficits (budget and current account), but in recent years gradually improved its fiscal performance, largely through expenditure cuts. Net FDI inflows have been high, but not always sufficient to cover the large current account gap. Gross foreign liabilities have swiftly expanded and surpassed a level of 80% of GDP in 2006, giving rise to concern. The largest part of the recent debt expansion stems from credit institutions borrowing from parent banks and from corporations directly borrowing from abroad.

Notwithstanding the country's sustained low inflation track record (CPI inflation was 2.0% at end-2006 year-on-year), the extent of de facto euroization in Croatia remains among the highest in the world. This restricts the degrees of freedom for an independent monetary policy. Since the lion's share of Croatian banks' liabilities is made up of foreign currency, banks need to match their open

currency positions by extending loans mostly in foreign exchange. They also offer foreign currency (mostly euro-)indexed kuna loans. In this way, however, they transfer most of the foreign exchange risk to their often unhedged clients.

Monetary Policy

Croatia practices a tightly managed float with the euro as an exchange rate anchor. In fact, for the last 13½ years (since October 1993) the exchange rate of the kuna has been fluctuating in a de-facto corridor of approx. $\pm 8\%$ around the German mark/euro. Monetary policy is predominantly carried out and price stability secured by maintaining the nominal exchange rate stable against the euro. Forex market interventions constitute Hrvatska narodna banka's (HNB) main policy instrument. Given the dominance of capital inflows in recent years, interventions have usually increased liquidity, which subsequently had to be sterilized by selling central bank bills or Treasury bills. But the central bank has not fixed the exchange rate. Thus, a limited degree of exchange rate flexibility is retained, also with a view to discourage one-sided bets of speculators.

Any substantial appreciation of the kuna would endanger Croatian enterprises' fragile competitiveness, while a depreciation would increase real indebtedness and jeopardize banks' balance sheets. Therefore, the HNB has refrained from more actively using interest rate policy. The monetary authority's key interest rate, the discount rate, has remained unchanged since 2002. But reserve requirements have been frequently applied, sometimes even as an instrument to sterilize local currency liquidity, support the exchange rate and break speculation. This has happened in 2002–2003, with the goal of reining in strong credit expansion partly linked to the rise in bank deposits in the wake of the euro changeover. The credit boom threatened to aggravate the current account imbalance and foreign indebtedness.

But macroeconomic tensions persisted. In response, monetary policy became increasingly restrictive: An administrative measure introduced in early 2003 pertained to the compulsory purchase of central bank bills if a credit institution's loans expanded at a rate higher than 16% p.a. As a consequence, nominal credit growth as well as banks' profitability declined. A number of banks/banking groups attempted to evade the unattractive option by channelling funds into less regulated or supervised activities, like those of leasing companies and asset management outfits. Moreover, some enterprises were able to switch their borrowing from domestic to foreign banks (with local credit institutions typically directing their corporate customers to their parent banks abroad).

The administrative measure expired at end-2003. However, during 2004–2006 marginal and special reserve requirements were introduced and progressively tightened. In 2005 and 2006, prudential regulations were strengthened. But these steps could not prevent lending from re-accelerating in 2005 and 2006 (in each

year the credit volume grew by about one fifth) and from contributing to the further swelling of foreign debt. In early 2006 the unified non-bank regulator Hrvatska agencija za nadzor finacijskih usluga (HANFA – Croatian Agency for Supervision of Financial Services) took up operations and started cooperating with the monetary authorities on financial stability issues. In December 2006, the HNB resorted to a new administrative intervention: It imposed a credit growth limit of 12% on banks for 2007. It remains to be seen to what degree the new measure will be more effective and less open to evasion than the old one.

5.5 Kosovo/Kosova (Serbia)

Table 8: Kosovo/Kosova: Key Macroeconomic and Monetary Policy Indicators

	2001	2003	2005*	2006*
GDP growth (real, %)	16	2.6	0.3	3.0
General government budget balance (after grants, % of GDP)	3.7	2.1	-3.1	0.8
Current account balance (after grants, % of GDP)	-3.0	-9.6	-15.2	-17.3
Net FDI inflows (% of GDP)	1.4	0.9	2.7	10.3
Net foreign assets of monetary authority (end-year, % of GDP)	18.1	25.2	23.7 ¹⁾	.
Interest rate (non-financial firms, 3-12 month loans, %)	.	14.6	15.5	13.7
Growth of loans to the private sector (end year, %)	723	169	39	24
CPI-inflation (end-year, %)	11.7	1.2	-1.7	0.9
Exchange rate (EUR/USD)	0.90	1.13	1.24	1.26
Unemployment rate (%)	.	49.7	42.2	.

* preliminary data or estimates/projections

¹⁾ mid-2004

Source: Central Banking Authority of Kosovo, IMF, EC.

Macro-Structural Background

Kosovo's economic recovery from the war of 1999 was almost totally driven by foreign financial aid and private inflows, particularly remittances from the Kosovar diaspora. A sharp decline of external donor assistance and the end of the post-conflict re-construction boom contributed to GDP growth grinding to a halt in 2002 and largely stagnating since. Foreign grants have shrunk from around 100% to below 20% of GDP. Workers' remittances equal around 15% of the size of the economy and have been essential to the survival of many Kosovar families. The current account deficit after grants deteriorated from 3% of GDP in 2001 to 17% in 2006. Some fiscal loosening in 2004 and 2005 could not compensate for the drain of resources triggered by the downsizing of the international community's presence in Kosovo. In 2006 fiscal policy was tightened again.

A viable export sector is not yet in sight. Per capita GDP is still among the lowest and the jobless rate among the highest in Europe. Given a weak business climate, shaky security, inefficient judiciary, insufficient rule of law, sluggish structural reforms, in particular unsettled Serbian property claims, often poor infrastructure, a failing education system and uncertainty about the province's future status, foreign investors have been extremely reticent so far. Overall investment in productive structures has remained feeble. On a more positive note, the private service sector, although largely operating in the gray economy, is reported to be vibrant. Small-scale agricultural production has also rebounded. Significant increases in the number of new businesses have been registered. Despite partly still unclear property rights, most recently (2005 and 2006) the privatization of socially-owned enterprises has made marked progress and a gradual increase in FDI inflows has been recorded.

Monetary Regime and Performance

The UN administration of Kosovo, more precisely the EU-led "Pillar IV: Reconstruction and Economic Development"⁸, fully overhauled the tax system and opened the way for a unilateral *de jure* euroization of the province [order: sanctioned the wide-spread use of the euro's legacy currencies] by giving [official] permission in September 1999 to freely use foreign currencies beside the Yugoslav dinar, which was highly inflationary at the time and was rejected by a major part of the population. The administration pays its employees solely in euros, levies taxes and carries out its transactions in euros. Transactions with the authorities in other currencies are subject to a processing fee. The euro has thus become the dominant legal tender, imposing financial discipline and securing a degree of stability. Kosovo boasted low single digit euro inflation since 2002. The dinar continues to be used in some areas of the province, though. In 2004 and 2005 Kosovo even experienced modest euro deflation, largely triggered by the shrinkage of the international presence and despite the upward pressure of oil prices. Whereas the international community had contributed to boosting prices in the early years of UNMIK's mandate, its subsequent scaling down exercise resulted in adjustments downwards, also reflecting stagnation/ curtailment of economic activity.

The Banking and Payments Authority of Kosovo (BPK) was set up in November 1999 to provide a system for domestic payments and license and supervise banks and other financial institutions. In August 2006 the BPK was transformed into the Central Banking Authority of Kosovo (CBAK). Private

⁸ UNMIK (the United Nations Interim Administration Mission in Kosovo), created in June 1999 by Security Council resolution 1244, consists of four «pillars»: Pillar I: Police and Justice, under the direct leadership of the UN; Pillar II: Civil Administration, under the direct leadership of the UN; Pillar III: Democratization and Institution Building, led by the OSCE; Pillar IV: Reconstruction and Economic Development, led by the EU.

banking has developed quickly, confidence in local banks has grown as witnessed by the swift expansion of deposits and loan portfolios, albeit from a tiny base. CBAK uses liquidity ratios and reserve requirements as main tools of prudential intervention. Foreign direct investors owned about 55% of the equity of all Kosovar banks at end-2005.

5.6 Republic of Macedonia

Table 9: FYR Macedonia: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	-1.2	4.5	2.8	3.8	4.0
General government budget balance (% of GDP)	-1.0	2.5	-0.1	0.3	-0.6
Current account balance (% of GDP)	-5.0	-1.9	-3.2	-1.4	-0.4
Net FDI inflows (% of GDP)	0.3	4.8	2.1	1.7	5.8
Gross foreign debt (end-year, % of GDP)	23.7	41.3	39.5	39.3	40.6
Gross reserves of central bank (excl. gold, end-year, % of GDP)	5.8	19.3	19.1	24.1	29.5
Basic rate of NBRM (end-year, %)	16.0	8.9	7.0	6.5	6.5
Broad money growth (M2, end-year, %)	-1.1 ¹⁾	24.4	18.4	17.7	18.4
CPI-inflation (end-year, %)	9.0	6.1	2.5	1.3	2.9
Exchange rate: MKD/EUR (annual average)	50.33	60.73	61.26	61.30	61.19
Exchange rate: MKD/USD (annual average)	37.90	65.89	54.30	49.29	48.79
Unemployment rate (labor force survey, annual average, %)	36.0 ²⁾	32.3	36.7	37.3	35.9

* preliminary data or estimates

¹⁾ 1996

²⁾ 1997

Source: National statistics, Narodna banka na Republika Makedonija, EBRD; IMF, wiiw.

Macro-Structural Background

The Macedonian economy has witnessed a hesitant recovery in the wake of the economic destabilization triggered by the ethnic and security crisis of 2001. However, growth seems to have gathered some momentum since 2004. Ethnic tensions have not yet been entirely overcome. Whereas the country used to be saddled with twin deficits, in recent years fiscal rigor was applied and the budget largely balanced; the current account gap narrowed substantially. Apart from the spike of privatization proceeds linked to the sale of the national telecoms operator in 2001 and a renewed uptick in 2006, FDI has so far not been impressive. The same goes for overall capital formation. Hesitations of foreign strategic investors reflect continued political risk, weak governance, a feeble judiciary, modest quality of transport connections and a difficult business climate.

Monetary and Economic Policy

Still, the overall macroeconomic, structural and institutional environment has improved in recent years. Budgetary consolidation has been flanked by successful perseverance with a tight monetary stance, which has kept inflation under control. In 2006, CPI inflation rose to about 3%, influenced by a combination of higher energy prices, excise tax adjustments and declining food prices as a result of import liberalization due to the Republic of Macedonia's WTO accession. The Narodna banka na Republika Makedonija (NBRM) had pegged the Macedonian denar to the German mark in 1995 and this peg – which the authorities call a “de-facto peg” – has since been upheld despite a few devaluations that took place in the second half of the 1990s. During the crisis of 2001, the authorities successfully defended the parity with the euro and they intend to maintain the regime.

Given continued mixed performance of exports in the post-crisis years, the exchange rate of the denar remained intermittently under pressure. The NBRM countered this pressure by repeatedly intervening on the foreign exchange market and upholding policy rates, which triggered contractionary effects on the money supply. Liquidity was also withdrawn through auctions of central bank bills and through augmenting the government's denar deposits with the monetary authorities. In early 2004, treasury bills were introduced to the Macedonian financial market.

The improvement of the external accounts in 2005 and 2006, largely on the back of expanding remittances and of the privatization of the Macedonian Power Company (ESM), reduced macroeconomic tensions and enabled the central bank to replenish its forex reserves and to ease its monetary reins to some degree. However, as long as FDI doesn't gather further momentum, it appears that the external equilibrium, the country's competitiveness and confidence in the central bank's exchange rate stance remain fragile. This may hopefully evolve in the near future, given that a number of important structural reforms were adopted recently (among them steps to increase labor market flexibility, to simplify enterprise and real estate registration, and to upgrade infrastructure). If not quite as fast as in neighboring countries, commercial banks' deposits and credits are steadily expanding, reflecting growing re-intermediation and confidence in the financial system.

5.7 Montenegro

Table 10: Montenegro: Key Macroeconomic and Monetary Policy Indicators

	2000	2003	2005	2006*
GDP growth (real, %)	3.1	2.4	4.1	6.3
General government budget balance (% of GDP)	-6.9	-4.9	-1.7	-0.3
Current account balance (% of GDP)	-4.5	-7.4	-9.1	-17.1
Net FDI inflows (% of GDP)	0.9 ¹⁾	2.8	22.7	24.3
Gross foreign debt (end-year, % of GDP)	.	57.1 ²⁾	39.3	38.4
Gross reserves of monetary authority (excl. gold, end-year, % of GDP)	.	3.6	10.5	11.1
Broad money growth (M2, end-year, %)	.	16.3 ³⁾	49.6	87.4
Domestic credit growth (end-year, %)	.	42.4 ³⁾	10.6	135.9
CPI-inflation (end-year, %)	22.5	6.0	2.5	2.8
Exchange rate (EUR/USD) (annual average)	0.92	1.13	1.24	1.26
Unemployment rate (labor force survey, annual average, %)	23.7 ¹⁾	.	30.3	30

* preliminary data or estimates

¹⁾ 2001

²⁾ 2002

³⁾ 2004

Source: National Statistics, Centralna banka Crne Gore, EBRD, IMF, wiiw.

Macro-Structural Background

Montenegro's recovery following the Kosovo war of 1999 has been rather feeble and may be somewhat understated by official statistics, since the gray economy is gauged to come to about a third of economic activities. In 2004, growth picked up and remained above 4% in the following years. While fiscal reforms (including an overhaul of the tax system and the adoption of a centralized treasury) contributed to reining in budget deficits, current account disequilibria have remained high. Despite growing tourism revenues and workers' remittances, current account shortfalls expanded further recently (exceeding 17% of GDP in 2006 according to preliminary data). However, similar to other countries of the region, rising FDI inflows have been among the major drivers of this expansion. In 2005 and 2006, they clearly exceeded the current account gaps.

These FDI inflows included the privatization sales of Telekom Crna Gora, of the big and somewhat antiquated aluminium plant KAP (Kombinat Aluminijuma Podgorica), and of Podgoricka banka, one of the largest banks of the republic. At present, almost the entire banking sector is privatized and the majority in foreign hands. Given the small size of Montenegro and its economy, restructuring of the few large enterprises (particularly KAP, which traditionally accounted for the majority of the republic's exports) can make an appreciable difference to Montenegro's economic development.

Monetary Regime and Performance

In order to escape the inflationary policies of Belgrade and become more independent of the then Milosevic regime, Podgorica introduced the German mark as a parallel currency to the dinar on Montenegrin territory in November 1999 and a year later fully withdrew the dinar. Thereby Montenegro unilaterally euroized in a *de jure* sense. The Centralna banka Crne Gore (CBCG) started to function in early 2001. Its gross reserves have grown, but are (still) relatively modest. Its major policy instrument is the regulation of commercial banks' mandatory reserves; furthermore, it issues central bank bills as an indirect possibility to influence interest rates.

With the introduction of the euro, the monetary authorities seem to have succeeded in breaking the very high inflation of the past. While (euro-based) annual price increases had exceeded 20% in 2000, they declined to about 6% in 2003 and 2–3% since 2004. Starting in 2003, bank loans have been expanding briskly (they even more than doubled in 2006), albeit from a minute point of departure. The increase of loans was preceded by an improvement of the macroeconomic environment and positive tendencies in banking sector development, incl. incisive restructuring efforts. In the face of swift increases of the money supply (e.g. broad money growth accelerated to over 80% in 2006), the decline or low level of inflation reflects a strong re-monetization process. At least for the time being, the danger of euroized Montenegro losing competitiveness due to a too high inflation differential to the euro area seems to have retreated or dissipated. This may also be due to the above-mentioned upswing of productivity-enhancing capital inflows. Montenegrin independence achieved in June 2006 seems to have stabilized the overall institutional framework of economic and monetary policy making.

5.8 Romania

Table 11: Romania: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	7.1	2.1	5.2	4.1	7.7
General government budget balance (% of GDP)	-2.5	-3.8	-1.5	-1.4	-1.9
Current account balance (% of GDP)	-5.0	-3.6	-5.8	-10.2	-11.3
Net FDI inflows (% of GDP)	1.2	2.8	3.6	6.7	9.4
Gross foreign debt (end-year, % of GDP)	18.3	28.5	37.7	36.7	34.4
Gross reserves of central bank (excl. gold, end-year, % of GDP)	0.8	6.7	13.5	21.3	23.1
Discount rate (end-year, %)	35.0	35.0	20.4	7.5	8.8
Broad money growth (M2, end-year, %)	71.6	38.0	23.3	33.9	29.4
CPI-inflation (end-year, %)	27.8	40.7	14.1	8.6	4.9
Exchange rate: RON/EUR (annual average) ¹⁾	2.69	2.00	3.76	3.62	3.52
Exchange rate: RON/USD (annual average) ¹⁾	2.03	2.17	3.32	2.91	2.81
Unemployment rate (acc. to labor force survey, average, %)	.	6.9	7.0	7.1	7.0

* preliminary data or estimates

¹⁾ The lei was redenominated in July 2005. All exchange rates have been converted to the post-July 2005 lei.

Source: National statistics, Banca Națională a României, EBRD, IMF, wiiw.

Macro-Structural Background

After a protracted period of sluggish reforms and stagnation, followed by an economic and financial crisis (1997–99), Romania has since 2001 experienced robust GDP growth, which accelerated to above 7% in 2006. While the country used to be saddled with its own twin deficit problem, its fiscal imbalances have been on a clear-cut downward path recently. In contrast, the current account gap sharply widened in 2004 and further expanded in the following years. This deterioration was driven by an acceleration of domestic consumption and investment, stemming from rapid wage growth and swift expansion of credit to the private sector, buoyed by rising economic confidence. The leu also appreciated in 2005 and 2006. Strongly increasing FDI has also played a major role in the widening of the current account gap and has recently covered the lion's share of the external disequilibrium. Erste Bank's (Austria) takeover of Banca Comercială Română for about EUR 3.75 billion in 2005 was the largest privatization deal ever realized in Romania. However, despite recent improvements, administration and courts still suffer from serious transparency and enforcement problems and payments discipline remains unsatisfactory in a number of areas.

Monetary Policy

Until recently, the Banca Națională a României (BNR) conducted a money growth targeting strategy. This was coupled with a managed float reflecting nominal depreciation tendencies of the leu throughout the last decade which, on the whole, resulted in a degree of stability of the real effective exchange rate. The IMF characterized this regime as an implicit crawling band (IMF 2004, 767). The central bank's monetary policies have often been subject to varying intense pressures from different sides, reflecting the overall fragile state of the economy. Although its general goal has been and is to control inflation, the BNR has at times found itself compelled to accelerate the nominal depreciation of the leu to alleviate price competitiveness problems of industry, to ease liquidity constraints of the domestic financial market, to make room for unforeseen deficit spending needs on the part of the fiscal authorities or to fulfill its lender-of-last-resort function to preserve the banking system from collapse.

An overall tighter and steadier monetary policy stance emerged in 2000. Since early 2002, the reference unit for the managed float has been a euro-US dollar currency basket, since early 2005, the reference unit has solely been the euro. The central bank's most important instruments have been reserve requirements, foreign exchange and open market interventions and interest rate policy. Since the early years of the new millennium, the Romanian currency has been under overall appreciation pressure, which was punctuated from time to time by reversals and (short) intervals of weakness. Appreciation pressures have been partially countered by the build-up of foreign exchange reserves and sterilizing interventions (deposit-taking operations and transactions with government securities). Considerable amounts of liquidity were "mopped up" by open market operations. This stance, supported by a coherent policy mix, led inflation to decline from 41% in 2000 to 9% in 2004 (end-year). In response to the downward trend of inflation the central bank lowered its interest rates substantially.

2003 featured a sharp rise of the minimum wage at the beginning of the year (by 25% in real terms) and a strong and accelerating expansion of credit (albeit from a very modest level of departure), favored by the improved macroeconomic situation, enhanced business confidence and lower interest rates. Driven primarily by consumer and mortgage loans, the credit boom continued at a brisk pace the following years, reflecting a long-deferred structural catching-up process in consumption and capital formation. However, as alluded to above, this process has aggravated external balances, and rendered disinflation more difficult. Given that the share of foreign exchange-denominated loans in the total credit volume expanded, the risk emerged that unhedged borrowers could trigger financial problems for banks.

The BNR responded by tightening its reserve requirements and temporarily hiking its reference rate. Banking supervisory procedures and regulations were

strengthened and in February 2004 credit restrictions per borrower were imposed. But the latter measure only proved effective in temporarily preventing a further acceleration of loan growth. Further liberalization of the capital account in April 2005 opened the way for larger capital inflows, heightening the upward pressure on the leu. In August 2005, the BNR shifted to inflation targeting, which the central bank expects will be a more effective monetary policy strategy in an environment of macroeconomic growth tensions and ubiquitous and volatile capital flows. The introduction of inflation targeting was flanked by the loosening of the exchange rate regime.

This loosening was followed by increased nominal (and real) appreciation of the Romanian currency, which rendered forex-denominated loans even more attractive, triggering the tightening of prudential regulations on foreign currency lending in September 2005. With inflation at 8.6% (end-year) in 2005, the monetary authorities slightly overshot their target for that year ($7.5\% \pm 1\%$). Therefore, after interest rates had declined again, the reference rate was re-adjusted upward in the first half of 2006. Moreover, stepped-up liquidity drainage through open market operations, further nominal appreciation of the leu, as well as a pause in increases of administered prices and the downturn of the oil price in the fall of the year contributed to driving inflation further down to 4.9% in 2006, which easily complied with that year's target ($5\% \pm 1\%$). While this relatively low level is certainly a major Romanian achievement since the collapse of communism, the continued appreciation of the leu is likely to jeopardize the country's competitiveness and exert pressure on the BNR to intervene.

As a member of the European Union since the beginning of 2007, Romania plans to join ERM II in (not before) 2012 and to become ready for entering the euro area two years later. The authorities take the view that the country needs some years to entrench macrostability, lower inflation and carry on structural reforms to fulfil the Maastricht criteria in a sustainable manner.

5.9. Serbia (without Kosovo)

Table 12: Serbia: Key Macroeconomic and Monetary Policy Indicators

	2000	2003	2005	2006*
GDP growth (real, %)	4.5	2.5	6.2	5.7
General government budget balance (% of GDP)	-1.0	-3.4	1.4	1.6
Current account balance (% of GDP)	-5.2	-9.9	-8.3	-10.6
Net FDI inflows (% of GDP)	0.4	7.1	6.1	15.3
Gross foreign debt (end-year, % of GDP)	167.4	71.4	63.8	68.4
Gross reserves of central bank (excl. gold, end-year, % of GDP)	8.0	18.6	24.2	41.4
Discount rate (end-year, %)	26.3	9.0	8.5	8.5
Broad money growth (M2, end-year, %)	58.5	12.6	31.4	47.3
CPI-inflation (end-year, %)	113.5	7.6	17.5	6.6
Exchange rate: CSD/EUR (annual average)	15.30	65.05	82.91	84.06
Exchange rate: CSD/USD (annual average)	16.69	57.58	66.71	66.82
Unemployment rate (labor force survey, annual average, %)	12.1	14.6	20.8	22

* preliminary data or estimates

Source: National Statistics, Narodna banka Srbije, EBRD, IMF, wiw.

Macro-Structural Background

Serbia's economic recovery from the 1999 war was stronger than Montenegro's, but in the immediate post-war years remained subdued in view of the depth to which the country had been pushed throughout the 1990s by a string of wars, international sanctions and political and economic mismanagement. Genuine reforms and recovery had only started after political regime change in late 2000. Like other countries of the region, Serbia used to suffer from twin deficits, particularly from a high current account shortfall. Like in other countries of the region, accelerating growth, (first) successes of macrostabilization and fiscal reforms improved budgetary performance and led to budget surpluses in 2005 and 2006. Previously weak FDI gathered momentum in 2003 and further strongly expanded in 2006, driven by a few large successful privatizations. Although privatization and foreign direct investment commitments slowed down the following year, they re-accelerated in 2005 and 2006, signalling a clear improvement of the investment climate. Output gains in privatized enterprises contributed to the acceleration of economic growth in 2004 and to the relatively high level maintained in the following years. The same goes for the revival of banking activity.

After a major cleaning up operation in early 2002 that had involved the closure of four large banks comprising more than half of the book value of the entire sector, the banking supervisory and regulatory frameworks were overhauled, foreign strategic investors moved in and acquired the majority of assets, credit

activity gathered momentum and turned into a boom. An increasing share of the loan volume has been generated by borrowing from abroad. While current account disequilibria have remained high (about 13% of GDP in 2006), about three quarters of the shortfalls have been covered by FDI in recent years. FDI and privatization proceeds have also allowed the central bank to steadily increase its reserves (to a level of over 40% of GDP) and the authorities to pre-pay some of their foreign liabilities.

Monetary Policy

The Serbian monetary authorities contributed to improving the weak investment climate by breaking with the lax monetary policies and very high inflation rates of the past. At end-2000 the central bank launched a *tightly managed float* of the dinar with reference to the German mark/euro as external nominal anchor. This sharply reduced inflationary expectations and engendered growing money demand and a remonetization of the economy. Although *inflation* had been brought down, in the two years until end-2002 the dinar appreciated by about 50% in real-effective terms (if from an undervalued base).

When the loose union of Serbia and Montenegro replaced the Federal Republic of Yugoslavia (FRY)⁹ in February 2003, the Narodna banka Jugoslavije (NBJ, which had already lost control of euroized Montenegro in 2000) was renamed *Narodna banka Srbije* (NBS). In order to better tackle the Serbian economy's external constraints and forestall a further deterioration of its price competitiveness, the central bank chose to loosen somewhat the dinar's float at the beginning of 2003. During the three years until the end of 2005, the Serbian currency nominally depreciated by a cumulative 40% against the euro (and by some percentage points against the US dollar), but the dinar's real effective exchange rate remained broadly unchanged. The NBS thus pursued a "*real exchange rate anchor*" policy (not unlike the Romanian strategy until 2005). In striking a balance between inflation and external competitiveness, the monetary authorities assigned more weight to the external objective.

However, after it had fallen to around 8% in 2003 (end-year), inflation strongly increased again to 17.5% in 2005. The deterioration of the situation had been triggered by repeated adjustments of administered prices (which are reported to make up a share of about 45% of all consumer prices in Serbia), rising costs of oil and other fuel imports, and the one-off effect of VAT introduction in 2005. Moreover, despite above-mentioned progress in privatization, Serbia's backlog in

⁹ The Federal Republic of Yugoslavia (only comprising the republics of Serbia and Montenegro) had been established after the collapse of former socialist Yugoslavia in early 1992. In 2006, the union of Serbia and Montenegro was dissolved, as Montenegro became independent.

still-to-be tackled restructuring efforts (compared to other countries of the region) implied that strong domestic demand met a still relatively *unresponsive supply side* coupled with weak competition. As of late 2006, the share of the private sector in Serbia's GDP had not yet exceeded 55%. Furthermore, continuing dinar *depreciation* and widespread exchange rate indexation of prices played a major role.

The NBS reacted to the inflation “spike” of end-2005 by re-adjusting its strategy. It further loosened the exchange rate regime by *withdrawing* from forex interventions in early 2006. This discontinued the managed nominal depreciation tendency and brought about some considerable gains for the Serbian currency (+8% in nominal terms vis-à-vis the euro in 2006), triggered by persisting large capital inflows. In September 2006, the Narodna banka Srbije adopted a new monetary policy framework, focusing on achievement of price stability through aiming at numeric “*inflation objectives*”, which can be viewed as a kind of informal inflation targeting. These objectives are initially defined in terms of core inflation (excluding i.a. administered and food prices, end-year 2006 target: 7–9%) and are to be achieved primarily by adjusting the NBS's key policy rate, the *interest rate on its two-week repo operations*. With efforts underway to strengthen its research capacity, the central bank envisages to adopt a formal inflation targeting regime in the future.

Disinflation success was impressive in 2006. By December, consumer prices had declined to 6.6% and core inflation performance came in at 5.9%. This was overfulfillment of the year's inflation objective and was due to the combination of a number of factors: the sharp nominal appreciation of the dinar, the NBS's substantial interest rate hike, its tightening of reserve requirements and the government's (temporary) freezing of controlled prices. As a result of the marked deceleration of inflation and in order to check further dinar appreciation which threatened to put Serbian export industries under renewed pressure, the NBS cut its policy rate in a number of steps in late 2006 and early 2007.

5.10 Turkey

Table 13: Turkey: Key Macroeconomic and Monetary Policy Indicators

	1995	2000	2003	2005	2006*
GDP growth (real, %)	7.2	7.4	5.8	7.4	6.1
General government budget balance (% of GDP) ¹⁾	-3.8 ²⁾	-11.9	-8.6	-2.2	.
Current account balance (% of GDP)	-0.5	-4.9	-3.3	-6.4	-8.9
Net FDI inflows (% of GDP)	0.5	0.5	0.5	2.4	4.8
Gross foreign debt (end-year, % of GDP)	46.3 ³⁾	59.0	53.3	49.0	49.6
Gross reserves of central bank (excl. gold, end-year, % of GDP)	10.4	11.1	12.7	14.0	15.0
Discount rate (end-year, %)	125.8 ⁴⁾	204.9	31.0	17.5	22.5
Broad money growth (M2, end-year, %)	102.5	40.1	13.0	24.5	.
Credit growth to the private sector (end-year, %)	131.5	73.1	42.2	30.6	.
CPI-inflation (end-year, %)	93.6	39.0	18.4	7.7	9.7
Exchange rate: YTL/EUR (annual average) ⁵⁾	0.61	0.58	1.69	1.68	1.81
Exchange rate: YTL/USD (annual average) ⁵⁾	0.46	0.63	1.50	1.35	1.44
Unemployment rate (labor force survey, annual average, %)	6.9 ⁶⁾	6.5	10.5	10.3	9.8

* preliminary data or estimates

¹⁾ based on public sector borrowing requirement methodology (PSBR) including local public administration, social security and enterprises under public administration.

²⁾ consolidated government

³⁾ 1996

⁴⁾ One year treasury bill rate

⁵⁾ The lira was redenominated in January 2005. All exchange rates are based on the post-January 2005 lira.

⁶⁾ registered joblessness

Source: National statistics, Türkiye Cumhuriyet Merkez Bankası, IMF, wiiw.

Macro-Structural Background

In the last decade the Turkish economy was characterized by *erratic* bouts of rapid growth which were followed by sharp recessions. The authorities did not really manage to get inflation under control. *Fiscal profligacy* was one of the major roots of *monetary instability*. Recently, there has been a succession of three stabilization programs, the latest of which has been most encompassing with respect to policy areas covered and has so far broadly delivered success, although macroeconomic fragility remains pronounced.

Overall instable developments in the mid-1990s were followed by the launching of a *disinflation program* in early 1998, which relied on *monetary targeting* and hiking interest rates, while floating the lira. But the program proved inadequate to reduce high fiscal deficits and to proceed with serious structural reforms. At *end-1999* the country embarked on a new ambitious strategy relying on a *crawling peg* exchange rate anchor (with a reference basket consisting of the US dollar and the

euro). The program contributed to a strong recovery in 2000. But the *vulnerability* of the banking sector, weak governance and management practices, sensitivity of foreign confidence to a widening current account deficit and the generally feeble structural environment set the stage for the eruption of a severe *banking and currency crisis* in late 2000 and early 2001, triggering the collapse of the exchange rate-based program.

Monetary and Economic Policy since 2001

The lira was *floated* in *February 2001*. The exchange rate of the Turkish currency immediately fell by about one-third, and ultimately by almost two-thirds against both the US dollar and the euro before eventually recovering. A new program was elaborated in the course of 2001, and drew IMF support. The new program has focused more deeply than previous ones on *structural and institutional reforms*, incl. public sector, fiscal and tax reforms, shaping up the banking sector, improving its regulation and supervision, and on product and labor market reforms. Monetary policy reverted to *money growth targeting*, while maintaining a loosely managed float of the lira.

The macroeconomic situation *stabilized* more quickly than expected. In 2002 the economy all but fully made up for the sharp slump it had suffered in 2001 and continued its brisk expansion in the following years. The main driving forces were private sector consumption and investment. Notwithstanding sizeable primary surpluses, budget deficits have traditionally been huge in Turkey, given very high interest and debt service payments (in the order of 15–20% of annual GDP in recent years). The latter derive from a legacy of huge public indebtedness and high interest rates.

Above-mentioned fiscal reforms and *tight and sustained budgetary policies* have contributed to spectacular results. After its crisis-driven peak in 2001, the fiscal imbalance steadily receded to 8.6% of GDP in 2003 and to less than 1% of GDP in 2006. This performance was of course also assisted by the unexpectedly strong and sustained economic growth. At the same time, robust growth has partly been responsible for the sharp widening of the *current account shortfall* in recent years (to 8.9% of GDP in 2006). While FDI has strongly increased in 2005 and 2006 and may have been largely driving the widening of the current account gap most recently, it has not covered more than one third to one half of the deficit. The rest has been financed by *portfolio capital*, credits and short term inflows.

The *FDI* expansion is a long awaited and important ingredient of structural adjustment and productivity growth related to privatization, but also to greenfield investments, and it may signal a decisive improvement of the investment climate. The breakthrough to increased FDI and confidence of foreign investors, if this is one, was apparently achieved by the launching of *EU accession negotiations* in 2005. FDI has also made inroads in the banking sector, lifting the share of foreign

ownership in total sector assets from less than 5% in 2004 to almost a fifth in November 2006. *Credit expansion* has gained momentum in recent years; banks and enterprises have been attracted by lower forex interest rates and have taken recourse to foreign loans, which can be regarded as the second major driving force behind the recent swelling of the external disequilibrium.

One of the salient factors that contributed to the swift stabilization and the restoration of confidence after the crisis of early 2001 was the impressive adjustment of inflation and the re-establishment of trust in the lira. *CPI inflation* descended steadily over the years to below 8% at end-2005. This is the lowest inflation level Turkey has seen since the early 1970s. Inflationary expectations were reduced, money demand recovered and re-monetization gained momentum. This was achieved while at the same time large fiscal costs were incurred and total financial means of around USD 30 billion (i.e. around 15% of GDP) were earmarked for the *banking sector cleanup*. The Türkiye Cumhuriyet Merkez Bankası (TCMB) adhered to restrictive base money targets while intensively engaging in open market operations to absorb excess liquidity injected to stabilize the sector.

After rising sharply in late 2001, *interest rates* steadily came down. Given the encouraging inflation environment, the central bank repeatedly cut its intervention rate (overnight deposit rate) in a number of steps down to a historical low of 13.5% in April 2006. The decline of interest rates and payments helped in reducing budgetary pressures and fiscal deficits, which in turn, reduced pressure on interest rates (virtuous circle). But inflation might not have come down as much as it did had the lira not substantially *appreciated* against the US dollar from 2003 to early 2006 and even against the euro in the course of 2005. This was triggered by rising capital inflows and happened despite the monetary authorities' recurrent interventions to stem appreciation pressures and build up foreign currency reserves. In these conditions, at the beginning of 2006, the TCMB adopted formal *inflation targeting*. The end-year inflation target was set at 5% +/-2% (uncertainty bands). The nominal appreciation of the lira (on top of a still sizable inflation differential) started to raise concerns about the country's competitiveness against the above-mentioned backdrop of fragile external accounts.

In the spring of 2006, global financial markets witnessed a widespread cut in risk appetite for emerging markets exposures, with tangible but transient consequences for Turkey. *Capital flows* temporarily *reversed*. In May–June 2006, the lira's exchange rate against the euro fell by about 25%, but in the following months recovered again partially. The *exchange rate shock* pushed inflation up to 11.7% in July (year-on-year), before it declined again to 9.7% in December 2006. The monetary crisis was quickly overcome by the *energetic response* of the TCMB, which intervened on the forex market to defend the Turkish currency, withdrew liquidity thru open market transactions, reversed its policy of interest rate cuts and ratcheted its key rate back up by over four percentage points in the

summer of 2006. (Thus the interest rate level reverted back where it had been in early 2005.) Inflation was brought back under control, even if the annual target was missed by a considerable margin. The monetary tightening may have contributed to the slight weakening of economic growth in 2006, though.

6. Comparative Overview and Conclusions

Within the admittedly short time span observed (second half of the 1990s–2006) most of the analyzed countries and territories have exhibited some *remarkable similarities*, at least in the macroeconomic sphere. Notwithstanding weaknesses in data measurement, *economic expansion* has been relatively *strong* in the last five years (with GDP growth on average in 2002–2006 around 5½% p.a.) in most countries. It has been less dynamic in the Republic of Macedonia and in Montenegro (3–3½%), and in Kosovo (stagnation). Southeastern European economic expansion in the last five years on the whole outstrips that of Central Europe (but not the Baltics), not to speak of the Western part of our continent. The Southeast, of course, has most catching up to do. While in the past relying on export-led growth, economic expansion in many countries of the region has been driven by *private demand* in recent years. Rising capital formation has contributed to the retooling/restructuring of industries.

Whereas in the late 1990s and at the turn of the millennium almost all countries (with the notable exception of the Republic of Macedonia) had featured more or less high *twin deficits* (budget and current account), fiscal gaps have narrowed impressively in recent years, owing to accelerating economic growth, tax reforms and budgetary tightening. *Fiscal policies* have generally become cautious (as opposed to policies pursued in some Central European neighbors). Practically all Southeastern European countries (again except for the Republic of Macedonia) remain saddled with high or very high *current account shortfalls*, which have even been on the rise most recently (apart from the situation in Bosnia and Herzegovina). Kosovo remains particularly dependent on *foreign grants* and financial assistance to help cover exorbitantly high current account gaps. But this support is dwindling, which contributes to keeping the issue of the viability of Kosovo's economy in the focus of international attention. Foreign financial assistance to Bosnia and Herzegovina has already declined to very low levels, but the country's current account has meanwhile benefited from high staple prices, masking continued serious structural weaknesses.

FDI used to be weak across the region, but expanded dynamically (in some cases multiplied from a basis of almost zero) in recent years. In 2005 and 2006, net foreign direct investment inflows covered current account deficits almost or fully in Bulgaria, the Republic of Macedonia (although both indicators remain modest in this country), Montenegro and Romania. Important progress has also been achieved in Croatia, Serbia and Turkey. FDI is still remarkably feeble in Albania, Bosnia

and Kosovo. *Gross foreign indebtedness* is not generally high in Southeastern Europe and seems to be slowly declining (as a percentage of GDP) in most countries. The decline is generally being driven by prudent fiscal policies and swiftly contracting public liabilities, while enterprises' and banks' indebtedness has been rising. The most striking exception to the overall trend is Croatia, where the rise of private foreign debt has been overcompensating the decrease of public debt and where national liabilities have attained a very high level (in relation to GDP), although this does not appear to have perturbed the market so far. In Croatia – as elsewhere – *foreign exchange reserves* have been on the rise.

Except for Bulgaria, Romania and Turkey, *joblessness* is clearly in double digits all over region. It appears to be particularly high (above 30%) in Bosnia and Herzegovina, Kosovo and the Republic of Macedonia. On top of that, there seems to be a kind of polarizing trend perceptible in recent years, witnessing very high jobless rates increasing even further or stagnating, and countries with lower unemployment featuring declines of joblessness. In any case, a turnaround only appears to be materializing where substantial restructuring efforts have already preceded (e.g. in Bulgaria and Croatia).

CPI-inflation has been on a falling trend throughout the region until around 2003/ 2004, when it started to stagnate or from when some occasional upticks could be observed. As of end-2006, single digits had been reached everywhere, although in some countries (Turkey, Serbia) only just. Inflation has been low (below 4% p.a.) in Albania, Montenegro, Croatia, and almost inexistent in Kosovo and the Republic of Macedonia in recent years. Falling and then stagnating or slightly rebounding inflation appears to be linked to an overall reduction/slowdown of money growth, followed by a reversal in most countries. The reversal of *money growth* in turn seems to be connected to the take-off of *credit expansion* (if from a modest point of departure). The entrenchment of inflation in a number of countries put an end to the trend of declining interest rates. *Policy rates* were held constant in recent years and even raised in most countries in 2006. Of course some short-term factors (like energy price hikes, adjustments of indirect taxes and administrative tariffs, food price volatility) also played a role in recent inflation behavior.

Despite the recent upticks, there can be little doubt that years of *monetary policy stringency* have served Southeastern European countries well in improving their inflation track records. Such was the stabilizing influence of the exchange rate as an external nominal anchor (whether referring to a euro-oriented currency board, a fixed exchange rate or a tightly managed float), that all countries with *hard pegs* – apart from Bulgaria – have registered low single digits lately. Bulgaria witnessed the confluence of a number of inflation-fueling factors in recent years, namely strong food price rises, repeated excise tax adjustments, and a particularly strong credit boom. In Serbia, the transformation of the nominal exchange rate anchor into a “real exchange rate anchor” in early 2003 contributed to interrupting the downward tendency of dinar inflation in 2004 and 2005. The loosening of the

exchange rate in early 2006 in the context of the transition to *inflation targeting* triggered a swift appreciation in an environment of rising FDI, portfolio capital and credit inflows. Disinflation resumed.

A comparable environment and a similar transition had corresponding effects in Romania in 2005 and 2006. The latter two inflation performances may embody a particular degree of dependence on – partly volatile – *capital flows*. Repercussions of such dependence have been recently suffered by Turkey, which had boasted a *loosely managed float* since early 2001 and introduced inflation targeting in early 2006. However, Turkey can point to a (so far) very successful path of breaking decades of inertia and bringing down stubbornly high price increases in a short time. Finally, Albania, a country conducting a loosely managed float for around 15 years now, has boasted an extended performance of impressively low inflation.

Therefore, the confidence and stability-enhancing effect of hard pegs appears to have borne out success in most analyzed countries; but this doesn't preclude other monetary strategies (notably inflation or money growth targeting and a loose float) applied in a minority of countries (albeit, apart from Albania, the largest ones of the region) from also being effective. Overall *monetary and economic policy soundness*, credibility and perseverance may be the key to success here. In particular, prudent fiscal policies and general policy discipline, favored by IMF surveillance and EU accession aspirations, have assisted central banks in pursuing their goals.

Due to the overall progress on the route to price stability, despite occasional setbacks, confidence in domestic currencies/ monetary policies has been on the rise and is reflected in expanding money demand and *re-monetization* in most economies, which facilitates monetary policy. At the same time, *de facto euroization* and the attachment of the population to foreign currencies, particularly the euro, remain high and are reinforced by the increasing density of trade and economic relations of the region with the euro area and the EU. Foreign investment, notably from euro area and EU countries, has contributed to changing the structure and modernizing Southeastern European banking sectors and financial intermediation, although from quite humble points of departure.

Banking activities have benefited from the improving macroeconomic environment and from the *euro changeover* of 2001/2002, which provided a sizable net injection of liquidity into the sector and thus reflected increased confidence of the public in banks. Given a hitherto untapped catching-up potential in investment and consumption, the sharp rise of deposits and the improvement of the overall situation contributed to dynamic *credit expansion* in all countries of the region, without exception. Reflecting the prudence of authorities, the booms were often accompanied by steps to enhance banking supervision. Credit expansion stimulated domestic demand, pushed up imports and current account deficits and fanned inflationary pressures. *Foreign currency-denominated loans* gained importance and currency mismatches generated potential risks. Central banks reacted with

prudential and monetary tightening, and in cases this was not sufficient – which often occurred – added *administrative restrictions*. While this typically slowed down loan growth (incl. that of forex loans) by credit institutions, borrowers and lenders tended to react in *evasive* ways (transfer of loan activities to non-bank financial institutions or re-shuffling abroad).

Finally, attempting a brief look into the future: Barring any major political setback, it remains highly probable that the bonds of *economic and institutional integration* between the Southeastern European countries and the *European Union* will further strengthen. Romania and Bulgaria are already EU Member States since 1 January 2007.¹⁰ Upon joining the Union, new Member States commit themselves to *adopting the euro* after all the pre-conditions, in particular, the Maastricht criteria, have been met. There are a number of exchange rate and monetary policy strategies that are compatible with the “Maastricht route”. Even currency boards, judged on a case-by-case basis, may be compatible (see the Estonian and Lithuanian examples). But *unilateral de jure euroization* is inconsistent with the EC Treaty. What would happen to the monetary regimes in *Kosovo* and *Montenegro* in the event that these countries joined the European Union and were still euroized, remains to be seen and decided. Without setting a precedent, a number of aspects like the very small economic size of both countries and the fact that *de jure* euroization took place in exceptional (post-war) circumstances, may have a bearing on the solutions that will emerge for these two specific cases.

Overall, one can conclude that a considerable range of monetary and exchange rate policy strategies are being applied with a *fair degree of success* across Southeastern Europe and Turkey, and that peer pressure, IMF surveillance, European ambitions and EU guidance are helping countries stay the course and advance further down the road of monetary modernization.

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¹⁰ On the other Southeastern European countries’ relations with the EU see European Commission website: http://ec.europa.eu/enlargement/countries/index_en.htm.

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ANNEX

Monetary Time Series of Southeastern Europe from the 1870s to 1914

Introducing the Monetary Time Series of Southeastern Europe, 1870s–1914¹

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1. Introduction

Southeastern European monetary history is no longer *terra incognita*. The South-Eastern European Monetary History Network (SEEMHN), which brings together all the central banks from Austria in the west to Turkey in the east, has worked hard to illuminate their monetary histories since the network was launched in 2005. Next to the organisation of annual conferences, the network set up a task force with the purpose of collecting historical monetary time series. The long-term goal is to publish all the pre-1950 monetary data in a publication jointly edited by the Oesterreichische Nationalbank, the Balgarska Narodna Banka and the Bank of Greece. Such a publication would help overcome the “statistical dark ages”, which all too often have prevented monetary economists and economic historians from Western Europe and North America from including Balkan countries into their samples. As a quick glance at some literature on the history of central banks and central banking shows, virtually no attention has been paid to the Southeastern European experience (with the possible exception of Austria).²

Esse est percipi (Berkeley) – in this sense, the Southeastern European central banks and academics united in this network hope that academic interest in this part

¹ I would like to thank all participants of the South-Eastern European Monetary History Network (SEEMHN) for their very substantial efforts in collecting and describing the monetary data of their countries and for asking me to write this introduction to the monetary time series of South-Eastern Europe, 1870s–1914.

² O. Feiertag and M. Margairaz, eds., *Politiques et pratiques des banques d'émission en Europe (XVII^e – XX^e siècle). Le bicentenaire de la Banque de France dans la perspective de l'identité monétaire européenne* (Paris: Albin Michel, 2003). F. Capie, Banking in Europe in the Nineteenth and Twentieth Centuries: The Role of the Central Bank, in: *The State, the Financial System and Economic Modernization*, eds. R. Sylla, R. Tilly, and G. Tortella (Cambridge: Cambridge University Press, 1999). C. Goodhart, *The Evolution of Central Banks*, 2nd eds. (Cambridge, Mass.: MIT Press, 1988).

of Europe will be stimulated by making the historical data available for the first time ever.

While such a publication is the medium-term aim, the task force set itself as a first goal to provide four key monetary time series for the period until the First World War: exchange-rates to the European core countries of England, France, and Germany; the discount rate of the bank of note issue; gold reserves; and bank notes in circulation (which constitute, under pre-1914 conditions, the main component of the monetary base). In what follows, each central bank will describe and report its own data, accompanied by some remarks on coinage legislation, the bank of note issue, gold cover ratios and rules of convertibility (of bank notes into species).

In this introductory chapter, we will first provide some political and economic background information to the history of the Balkan countries before the First World War, and we will point to some parallels between the pre-1914 situation and the challenges Southeastern Europe is facing today (section 2). Subsequently, we will, based on the data and the information provided by the individual central banks, attempt to put the Southeastern European experience in historical comparison with the rest of Europe, as far as minting legislation (section 3), the structure of the banks of note issue (section 4), and the exchange-rate experience (section 5) are concerned. While our results are necessarily preliminary, they might point to some interesting questions for further research.

2. Political and Economic Aspects of the Balkan Peninsula, 1870s–1914; Parallels to Today’s Challenges in Southeastern Europe

Two features, in particular, differentiated the Balkan peninsula from Western Europe in the 19th century: economic backwardness and retarded nation building and state formation. In 1870, GDP per capita levels were at roughly one third of the level of the European core economies of England, France and Germany.³ Even if we doubt the accuracy of 19th century GDP figures, virtually all economic indicators available suggest that Western Europe was substantially richer than Southeastern Europe throughout the 19th century.⁴ The other feature was the legacy of living over centuries in the competing sphere of influence of Austria, the Ottoman Empire, and Russia. Only the economic decline of the Ottoman Empire and the rise of Balkan nationalism in the 19th century allowed the peoples of

³ M. Morys, South-Eastern European Growth Experience in European Perspective, 19th and 20th centuries, in: *Monetary and Fiscal Policies in South-Eastern Europe: Historical and Comparative Perspectives (Conference Proceedings of the 1st meeting of the South-Eastern European Monetary History Network)*, eds. R. Avramov and S. Pamuk (Sofia: Bulgarian National Bank, 2006), p. 39.

⁴ M. Mazower, *The Balkans* (New York: Phoenix Press, 2001), pp. 17–44.

Southeastern Europe to seek their own destiny and to form nation states along West European models. All this came late, and often in a slow and confusing process of transition from being part of the Ottoman Empire to some form of autonomy within it, to be followed by full-fledged independence. Serbia, the first Balkan country to achieve some form of autonomy in 1815, for instance, had to wait another 63 years to achieve independence at the Congress of Berlin (1878). By the outbreak of the First World War, five Balkan countries had achieved independence⁵: Serbia (1815/1878), Greece (1832), Romania (1859/1878), Bulgaria (1878/1908) and Albania (1912). To this we add Austria-Hungary and the Ottoman Empire, the two countries that were slowly but surely receding from the Balkans over the course of the 19th and early 20th centuries.⁶

This very distinct process of state formation is important in our context for three reasons. First, the late state formation gives a natural beginning for the monetary history of Southeastern Europe and their banks of note issue. As table 2 shows, most of the banks of note issue were founded in the 1870s and 1880s, when Balkan independence gained momentum following the Russian-Turkish war (1877–1878) and the congress of Berlin (1878). Second, more so than in other countries, there always was a noticeable nationalistic component to minting legislation and the establishment of a bank of note issue. In the Serbian case, for instance, minting legislation was passed shortly before achieving full-fledged independence and was seen by contemporaries as part of achieving exactly that.⁷ Third, as all institutions had to be newly created, the need to live with compromises of the past was absent. Whereas post-unification Italy, for instance, had six banks of note issue as a legacy of its multi-state past, all Balkan countries granted exclusive rights of note issue to a single bank.⁸

Before putting the minting legislation, the structure of the banks of note issue and the exchange-rate experience of the Southeastern European countries in a

⁵ Where two years are given, the first one refers to some sort of autonomy that was achieved prior to internationally-recognised independence.

⁶ The Ottoman Empire poses a specific problem in our context, as the Imperial Ottoman Bank, founded in 1856 and granted the exclusive right of note issue, was not succeeded by the current Turkish central bank (i.e., the Türkiye Cumhuriyet Merkez Bankası). This sets the Turkish case apart from the other South-Eastern European countries where the legal identity of the current central bank is identical to the original bank of note issue. SEEMHN gratefully acknowledges that Sevket Pamuk and Edhem Eldem, two leading Turkish economic historians, have accepted the invitation to contribute to this network by providing similar data about the Imperial Ottoman Bank.

⁷ Gnjatovic, *The Introduction of the Limping Gold Standard in the Principality of Serbia*, in: *Monetary and Fiscal Policies in South-Eastern Europe: Historical and Comparative Perspectives (Conference proceedings of the 1st meeting of the South-Eastern European Monetary History Network)*, eds. R. Avramov and S. Pamuk (Sofia: Bulgarian National Bank, 2006).

⁸ With the exception of Greece, cf. table 2.

European perspective, we shall briefly pause and ask ourselves what, if anything, of all this is still relevant to today's challenges facing Southeastern Europe. In some respects, the late 19th century and the early 21st century bear a striking resemblance. In both cases, the Southeastern European countries obtained room for political manoeuvre only recently, be it from the Ottoman Empire back then and from the Soviet Union after 1989. The economic situation is not altogether different either. With the exception of Austria, Slovenia, and Greece, all Southeastern European countries have actually fallen back (albeit some only slightly) compared to England, France, and German GDP per capita levels in the time period 1870–2001.⁹ In other words, rapid growth is needed as much today as it was back then. But not only the diagnosis but also the therapy appears somewhat similar. Just as Southeastern European countries are eager to introduce the Euro these days, they were keen on adopting French minting legislation and the gold standard in the late 19th century. With this current perspective in mind, we shall now proceed to some remarks on the minting legislation in Southeastern Europe before the First World War.

3. Coinage Legislation

The 19th century Balkan peninsula was not only a most colourful mixture of peoples but also of coins. Circulation of foreign coins was not unusual in the 19th century, but it was much more widespread in the Balkans than anywhere else in Europe. The principality of Serbia (i.e., the nascent Serbian state after gaining autonomy in 1815 and before recognition of full independence in 1878), for instance, accepted some dozens of different coins from the Ottoman Empire, England, France, Germany, Austria-Hungary and other Balkan countries for the purpose of tax collection.¹⁰ This *macédoine* of coins explains why one of the first steps taken after gaining independence (often even before that, cf. table 1) was to establish a system of national coinage, combined with attempts at withdrawing all foreign coinage.

As table 1 shows, in this endeavour of establishing a national coinage system all countries turned to the Latin Monetary Union (LMU), in which France was by far the most important player.¹¹ Even Austria-Hungary, politically and economically by far the most potent country in Southeastern Europe, tried to align its currency system with France in 1867. Two questions are interesting in this

⁹ Morys, South-Eastern European Growth Experience in European Perspective, 19th and 20th centuries.

¹⁰ Gnjatovic, The Introduction of the Limping Gold Standard in the Principality of Serbia, p. 48.

¹¹ For the following we largely draw on L. L. Einaudi, *European Monetary Unification and the International Gold Standard* (Oxford: Oxford University Press, 2000).

context: First, what exactly does it mean to align the national coinage system with the standards of the LMU? Second, is adopting the LMU principles necessarily equivalent to adopting bimetallism (which was at the heart of the original 1865 agreement between France, Italy, Belgium and Switzerland)?

Table 1: Coinage Acts, Monetary Commissions and Monetary Conventions in Southeastern Europe 1867–1892

<i>Country</i>	<i>Date</i>	<i>Coinage act, monetary commission, or monetary convention</i>	<i>Monetary standard (as intended)</i>	<i>Accordance with 1865 LMU principles ?</i>	<i>Name of currency unit</i>
Austria-Hungary	14.4.1867	monetary commission	gold	as far as gold coinage concerned	Gulden (guilder)
	31.7.1867	monetary convention (with France)	gold	as far as gold coinage concerned	
	2.8.1892	coinage act	gold	no	krone
Bulgaria	27.5.1880	coinage act	gold	yes	lev
Greece	10.4.1867	coinage act	bimetallism	yes	drachma
	26.9.1868	monetary convention (with LMU)	bimetallism	yes	
Romania	4.5.1867	coinage act	gold	as far as gold coinage concerned	leu
	15.6.1890	coinage act	gold	yes	
Serbia	20.11.1873	coinage act	bimetallism	yes	dinar

Note: With the exception of Austria-Hungary, all dates given refer to the Julian calendar.

Sources: Avramov (1999), Avramov (2006), Einaudi (2000), Gnjatovic (2006), Lazaretou (2006), Morys (2006), Ministère des Finances (1869), Radovanovic (1999).

The origins of the LMU standards are to be seen in the French coinage act of 1803 which established 1 French franc as equal to 5 grams of silver (with a fineness of 900/1000, i.e. the 1 French franc coin contained 4.5 grams of pure silver). Silver coins were minted as 5, 2, 1, 0.5 and 0.2 francs; gold coins – in a gold-silver ratio of 15.5 : 1 and with fineness of 900/1000 – were minted as 20 and 10 francs. This system, conventionally referred to as bimetallism, came under substantial pressure

after the immense gold findings in California (1848) and Australia (1851): “cheap” gold came to drive “expensive” silver out of circulation. The only solution left to France – as well as to Italy, Belgium, and Switzerland which all had a very similar system – was to reduce the silver content of the silver coins from 900/1000 to 835/1000; in other words, full-bodied coins were turned into token coins in order to retain them in circulation. But solving one problem only created another one. As coins circulated freely among these four countries, the creation of token coins meant that countries were flooded with foreign coins whose intrinsic value was lower than their face value; something which was in evident contradiction to the concept of a commodity standard. The only solution to this problem was the creation of the LMU in 1865: on the one hand, foreign coins, including token coins, were accepted at public tills; on the other hand, the minting of token coins was strictly limited (to 6 franc per inhabitant) so as to eliminate excessive seigniorage (which would have accrued at the expense of the government required to accept the token coins).

It is important to keep in mind that reducing the fineness of silver coins had not altered the gold-silver ratio of 15.5 : 1. This is because one coin – the 5 franc coin – had deliberately been left unchanged at the original fineness of 900/1000 in the 1865 LMU agreement. To put it another way, in 1865 already LMU bimetallism rested on a single silver coin only; all other silver coins (i.e., all denominations below 5 francs) had been reduced to token coins. This helps explain why LMU countries could switch so easily to the gold standard in the early 1870s, when increased global silver production, combined with demonetizations of silver in large parts of Europe made silver rather than gold the “cheap” metal again. If a government wished to transit to gold, no costly measures such as re-minting were required. The government only needed to restrict the unlimited coinage of silver on private account; which is exactly what France and Belgium, the first two LMU countries to switch to gold in September 1873, did.

We had to elaborate on these subtleties of the LMU, because it is often erroneously argued that following the LMU principles is equivalent to adopting bimetallism. After September 1873, the LMU coinage principles were perfectly compatible with adherence to the gold standard (as the French and the Belgian cases demonstrate), provided the unlimited coinage of silver on private account was restricted.

But even before 1873, adopting the LMU coinage standards did not necessarily imply bimetallism. The cases of Austria-Hungary and Romania may help demonstrate this. Starting in the late 1860s, people felt that the pressure on the price of silver was mounting in international bullion markets. Hence came the idea to adopt the LMU coinage system only as far as the gold coins were concerned; all silver coins – including the 5 franc piece – were to be minted at the reduced fineness of 835/1000. Austria-Hungary even negotiated accession to the LMU in 1867 on the basis that such agreement would only hold for the gold coins (i.e., the

mutual obligation to accept LMU gold coins – but not silver coins – at public tills).¹² The Romanian coinage act of 1867 tells a similar story. Worried over the sustainability of bimetallism, Romania adopted the LMU standards, but minted all silver coins at the reduced fineness of 835/1000.¹³ The Austro-Hungarian and the Romanian decisions of 1867 were hence not only important events for the two countries themselves, but they also reveal some more insight into how the world was slowly converging on the gold standard.¹⁴

Why was the French coinage system so attractive to the Southeastern European countries? The French coinage system was not only “rational” and “modern” in the sense that it was based on the metric system (as opposed to the English coinage system, its only serious rival), but it was also the most widely used one in Europe. In the 1860s, the four LMU countries combined had a population more than twice as large as the UK and a combined GDP that was some 40% higher than British GDP.¹⁵ Both factors combined explain why in 1867, at the First International Monetary Conference, held in Paris, countries from all over the world agreed that the French coinage system should be universally adopted.¹⁶ While such a global unification of coinage never materialized, the main obstacle to such a scheme was absent in Southeastern Europe: following political independence, there was no national coinage system in place whose very existence would have generated switching costs. Not only was there nothing to lose, but Southeastern European countries had everything to gain from a world class product made in France: reducing transactions costs (cf. Serbian exchange-rate as reported), potentially better access to West European capital markets, and overall reputational considerations all militated in favor of adopting the French coinage system.¹⁷

We shall conclude this section with some caveats. First, basing the national coinage system on LMU standards did not necessarily imply joining the LMU. As

¹² Morys, *The Classical Gold Standard in the European Periphery: A Case Study of Austria-Hungary and Italy, 1870–1913* (Ph.D. thesis London School of Economics and Political Science, 2006), pp. 67–87.

¹³ Ministère des Finances, *Procès-verbaux et rapport de la commission monétaire, suivis d'annexes relatifs à la question monétaire* (Paris: Imprimerie impériale, 1869), p. 157.

¹⁴ On the other hand, Greece, adopting its legislation at around the same time, was apparently less concerned over the future of bimetallism and followed the LMU legislation *à la lettre*.

¹⁵ A. Maddison, *The World Economy. Historical Statistics* (Paris: OECD Development Centre Studies, 2003).

¹⁶ Reti, *Silver and Gold: The Political Economy of International Monetary Conferences. 1867–1892* (Westport (CT), London: Greenwood, 1998).

¹⁷ It is worth noting that all the South-Eastern European coinage legislation was based on the LMU standards with the exception of the Austro-Hungarian 1892 coinage act (cf. table 1). By this time, the French coinage system had lost some of its appeal for reasons that are explained in Morys, *The Classical Gold Standard in the European Periphery: A Case Study of Austria-Hungary and Italy, 1870–1913*, pp. 67–113.

a matter of fact, only Greece ever joined the LMU. The intentions of the other four countries to join the LMU were all frustrated sooner or later for reasons that are explained by Luca Einaudi in these conference proceedings. Still, it is worth pointing out that most of the desired advantages of the LMU coinage system were also available without formal membership, and even acceptance of coins at public tills abroad was widespread (but obviously not enforceable).

Second, coinage acts often say little about the actual monetary standard. Lax monetary and fiscal policies often resulted in inconvertibility and *cours forcé* (i.e., bank notes are given legal tender status), which implied a paper standard rather than a commodity standard. We will return to this issue later when discussing the exchange-rate experience of the Southeastern European countries before the First World War and show that most of them followed the gold standard only for a very short period of time after the turn of the century.

Last but not least, we want to point to two idiosyncrasies of coinage in Southeastern Europe. First, all minting took place abroad (with the exception of Austria-Hungary). While this is a purely technical matter, it is testimony to how complicated and costly coinage was under 19th century conditions. Second, none of the Southeastern European countries knew free coinage on private account (again with the exception of Austria-Hungary). In theory, free coinage on private (i.e., coinage on private account) is a crucial pillar of every commodity standard, for it allows the intrinsic value of a coin to decline to its face value if necessary. That such a scenario was not even contemplated shows that the Southeastern European governments anticipated that their currencies would remain rather weak.

4. The Banks of Note Issue: When Did Central Banking Emerge in Southeastern Europe and Who Owned the Banks of Note Issue?

This section is deliberately titled “banks of note issue” rather than “central banks”. While SEEMHN is an initiative sponsored by the Southeastern European central banks, it is far less clear what these banks were alike in the decades following their foundation in the 19th century. This section shall be devoted to asking (rather than answering) one of the key questions that is likely to play a central role in future research: When did the banks under consideration actually become central banks?

Table 2: Banks of Note Issue in Southeastern Europe 1870s–1914

		<i>Name in the 19th century</i>	<i>Exclusive right of note issue</i>	<i>Today's name</i>
Austria-Hungary	1817 /1878 ¹	Austro-Hungarian Bank	yes	Oesterreichische Nationalbank
Bulgaria	1879	Balgarska Narodna Banka	yes	Balgarska Narodna Banka
Greece		National Bank of Greece	no ²	Bank of Greece
Romania	1880	Banka Națională a României	yes	Banka Națională a României
Serbia	1884	Privileged National Bank of the Kingdom of Serbia	yes	National Bank of Serbia

¹ *Austria-Hungary: The Privileged Austrian National Bank (Privilegierte österreichische Nationalbank), founded in 1817, changed its name in 1878 to reflect the nature of the dual monarchy after the Ausgleich of 1866.*

² *Greece: Initially, the National Bank of Greece was the sole issuer of bank notes, but the later accessions of the Ionian Islands (1864), Thessaly (1881) and Crete (1897/1913) meant that the note-issuing banks established prior in these territories – the Ionian Bank, the Bank of Epirus and Thessaly and the Bank of Crete, respectively – maintained their note issuing rights. When the Bank of Greece became the successor of the National Bank of Greece in 1928, the other three banks lost their right of note issue and became pure commercial banks*

Sources: Avramov (1999), Lazaretou (2006), Morys (2006), Radovanovic (1999).

Forrest Capie, who has written extensively on the emergence of central banks in 19th and 20th centuries Europe, attributes two main functions to a central bank: “One is macro, the preservation of price stability; the other is micro, the preservation of financial market stability. It is the latter though that really defines central banking. It is the peculiar position of the monopoly note issuer and holder and provider of the ultimate means of payment that allows, almost obliges, the institution to behave as the lender of last resort.”¹⁸ Let us start with the first function: Under 19th century conditions, achieving price stability meant that bank notes were readily convertible into gold (and/or silver) at the bank of note issue. The requirement of gold cover prevented the over-issuance of notes, thereby guaranteeing price stability. The five banks we are studying all conformed to this

¹⁸ Capie, “Banking in Europe in the Nineteenth and Twentieth Centuries: The Role of the Central Bank,” p. 118.

pattern: They were granted from their respective governments the exclusive¹⁹ right to issue bank notes.

Turning to the second of Capie's criteria, it appears as though none of the five banks we study had – at least not initially – any kind of supervisory role towards other banks. Most likely, the opposite was true in most cases. The bank of note issue and other commercial banks were competing with each other. But as Charles Goodhart, another economist interested in the historical origins of central banking, put it: "It was the metamorphosis from their involvement [the central banks' involvement] in commercial banking, as a competitive, profit-maximising bank among many, to a non-competitive non-profit-maximising role that marked the true emergence, and development of proper central banking."²⁰ When did this transformation take place in the Balkan countries?

Some clues to this question are already available at this stage. As the development of the Nationale Bank van België/Banque Nationale de Belgique has demonstrated (cf. the paper of Erik Buyst and Ivo Maes in these conference proceedings), a key issue in the emergence of a genuine central bank was to limit the bank's activities to short-term lending. Here, in fact, we see substantial differences among the Southeastern European banks of note issue. The Balgarska Narodna Banka, for instance, was heavily involved in long-term lending, with Avramov observing a "general bias towards the long-term end" in its activities.²¹ By contrast, the Privileged National Bank of the Kingdom of Serbia excluded long-term lending from very early on.²² Future research will need to show whether words (i.e., the bank charter) were followed by deeds. If this had been the case, it seems likely that proper central banking emerged earlier in Serbia than in Bulgaria. It is interesting to note in this context that the Serbian Bank was actually modelled partly along the lines of the Belgian Bank.²³

Who owned and controlled the banks of note issue? The standard 19th century solution was that the bank of note issue was privately owned – often as a joint-stock company – but the government retained a substantial amount of control. One of the channels to retain control was the governments' right to appoint the governor

¹⁹ The only exception was Greece. Cf. table 2.

²⁰ Goodhart, *The Evolution of Central Banks*, p. 9.

²¹ Avramov, The Bulgarian National Bank in a Historical Perspective: Shaping an Institution, Searching for a Monetary Standard, in: *Monetary and Fiscal Policies in South-Eastern Europe: Historical and Comparative Perspectives (Conference proceedings of the 1st meeting of the South-Eastern European Monetary History Network)*, eds. R. Avramov and S. Pamuk (Sofia: Balgarska Narodna Banka, 2006), p. 73.

²² Radovanovic, *110 Years of the National Bank, 1884–1994. Establishment and Beginning of Operation of the Privileged National Bank of the Kingdom of Serbia* (Belgrade: National Bank of Yugoslavia, 1998), p. 38.

²³ *Ibid.*, p. 43.

of the bank, as was the case with the Reichsbank. But even if formal control of the bank of note issue was relatively weak, there normally was the need to renegotiate the bank charter after a number of years which gave the government some leeway.

The only bank to be directly state-owned in our sample was the Balgarska Narodna Banka (BNB). Several proposals to privatise the BNB were systematically rejected.²⁴ In all other cases, the banks of note issue were privately owned, even if – as was the case for Romania – one third of the share capital was subscribed immediately by the government. In the cases of Austria-Hungary, Greece, and Serbia, all stocks were in private hands (from what we know), but the government found other ways to make its influence felt if needed. For Austria-Hungary, for instance, we know that renegotiating the charter always involved lengthy and complicated negotiations.²⁵ What seems to be special about Southeastern Europe is that ownership could also be exclusively in foreign hands. In Serbia, such proposals were discussed at length. In fact, a French bank offered to issue bank notes before even proper discussions had started in Serbia itself.²⁶ Even if the French proposals were finally rejected, similar plans succeeded in the Ottoman Empire after the Crimean War. The Imperial Ottoman Bank, founded in 1856 following the Crimean War, only had English and French shareholders.²⁷

5. Exchange-Rate Regimes before 1914

5.1 What Kind of Exchange-Rate Is Reported?

While this section is devoted to a description of the exchange-rate experience of the Southeastern European countries before the First World War in a European perspective, it seems appropriate to begin with some more technical comments on the exact kind of exchange-rates collected by the individual central banks. In the period from the 1870s to 1914, foreign currency could be obtained in three different ways: (1) bills of exchange drawn on foreign places, (2) foreign bank notes, and (3) foreign coins and trade coins. There is abundant historical evidence that settling cross-border payments was usually achieved through bills of exchange drawn on foreign places rather than any of the other two options.²⁸ Exceptions to

²⁴ Avramov, *The Bulgarian National Bank in a Historical Perspective: Shaping an Institution, Searching for a Monetary Standard*, p. 61.

²⁵ G. Kővér and A. Pogány, *Die binationale Bank einer multinationalen Monarchie* (Stuttgart: 2002).

²⁶ Radovanovic, *110 Years of the National Bank, 1884–1994. Establishment and Beginning of Operation of the Privileged National Bank of the Kingdom of Serbia*

²⁷ S. Pamuk, *A Monetary History of the Ottoman Empire* (Cambridge: Cambridge University Press, 2000), p. 212.

²⁸ While the English word „exchange rate“ is rather neutral, the German word for exchange rate – “Wechselkurs” – captures well that international transactions were settled by bills

this rule can be found, and if contemporary records show first and foremost prices for foreign coins, then this is strong evidence that settling cross-border payments was usually carried out this way. In our sample, Serbia is the only country reporting the price for coins – in this case the price for the 20-dinar gold coin (expressed in domestic paper currency), the Serbian equivalent of the 20-French franc gold coin. The 20-French franc gold coin, better known as the Napoleon d’Or, was by far the most widely used trade coin in 19th century Europe, and the widespread use of this coin partly explains the Europe-wide appeal of the French coinage system. All other countries report the domestic price for bills of exchange drawn on foreign places.

As with most other assets, a distinction needs to be made between the “selling price” and the “buying price”. The “selling price” reports the price for which a potential seller of the asset in question can be found. The “buying price”, by contrast, reports the price for which someone buying the asset can be found with certainty. It follows from this that the “selling price” is necessarily higher than the “buying price”. For instance, the Vienna stock exchange reports on 30th September 1907 a “selling price” of 117.55 crowns for 100 marks and a “buying price” of 117.35.²⁹ This means that someone interested in buying a bill of exchange over 100 marks would certainly find a seller for the price of 117.55 crowns. Conversely, someone in possession of a bill of exchange over 100 marks would find a purchaser who would, at least, pay 117.35 crowns to buy the bill. While 19th century terminology for “selling price” and “buying price” often differed slightly from one stock exchange to the next, reference to some contemporary book similar to today’s “The Financial Times Guide to Using the Financial Pages” usually eliminates any doubt.³⁰

of exchange rather than banknotes and coins. Literally, “Wechselkurs” means the price of the bill of exchange.

²⁹ The Vienna stock exchange equivalents are “Warencurs” (“selling price”) and “Geldkurs” (“buying price”), cf. Kautsch, *Allgemeines Börsenbuch nebst Usancen der Berliner, Frankfurter und Wiener Börse* (Stuttgart: 1874), p. 52.

³⁰ For Austria-Hungary reliable information is provided by *ibid.*

Table 3: Exchange Rates in Southeastern Europe, 1877–1914

	Monthly data available	Type of exchange rate reported	Selling or buying	Periods of exchange rate stabilisation			
					Deviation from mint parity		
					Stand-ard	Max.	Average
Austria-Hungary	1/78-6/14	bill of ex.	selling	1/96-6/14	0.28%	0.97%	- 0.01%
Bulgaria ¹	1/91-6/14	bill of ex.	selling	1/06-9/12	0.36%	1.28%	+ 0.18%
Greece	1/77-6/14	bill of ex.	unclear	1/10-6/14	0.16%	0.25%	- 0.05%
Serbia	11/91-2/13	agio data	unclear	7/05-9/12	0.91%	3.90%	+ 0.72%
Romania	1/92-6/14	bill of ex.	unclear	1/92-5/99	0.32%	0.98%	+ 0.38%
				2/00-6/14	0.66%	2.75%	+ 0.78%

¹ The data reported in the Bulgarian country report suggests quasi-fixed exchange-rates going back to 1891. This finding is in contradiction with substantial qualitative research which suggests that Bulgaria enjoyed quasi-fixed exchange-rates starting only in 1906 (cf. Avramov (1999) and Avramov (2006)). Following Avramov, our calculations are therefore based only on the data provided for the period starting in 1906.

Sources: Exchange-rate data as collected by the central banks, cf. the individual country reports.

5.2 The Exchange-rate Experience of Southeastern European Countries before World War I

One of the main goals of 19th century economic policy was stabilising the exchange-rate to its main trading partners. In a world dominated by commodity standards – i.e. (full-bodied) coins were made either of gold or silver and bank notes could be readily converted in either one or both of these metals –, stabilising the exchange-rate usually implied choosing the same metallic standard as the main trading partners. In order to put the Southeastern European experience in historical perspective, it is necessary to briefly sketch the European and global regime shift towards gold monometallism occurring in the early 1870s.

The 1850s and 1860s European monetary system can be seen as a tripolar. Some countries – namely the German states, the Netherlands and the Scandinavian countries – followed the silver standard; others – the UK (since 1717/1821) and Portugal (since 1854) – followed the gold standard, while a third group of

countries, comprising of France, Italy, Belgium and Switzerland, had adopted a bimetallic standard. The beauty of such a setup was that silver standard countries enjoyed exchange-rate stability not only to other silver standard countries, but also to gold standard countries, as the bimetallic countries kept the value of gold to silver close to the bimetallic gold-silver parity of 15.5 : 1. This system broke down in the early 1870s, when an ever increasing number of countries switched to gold monometallism. By late 1873, both Germany and France had switched to the gold standard which had been pioneered by England since the early 18th century. This meant that the three politically and economically most powerful European countries followed henceforth one and the same monetary standard. For all other European countries this could only mean that the goal of economic policy was the adoption of the gold standard sooner rather than later.³¹

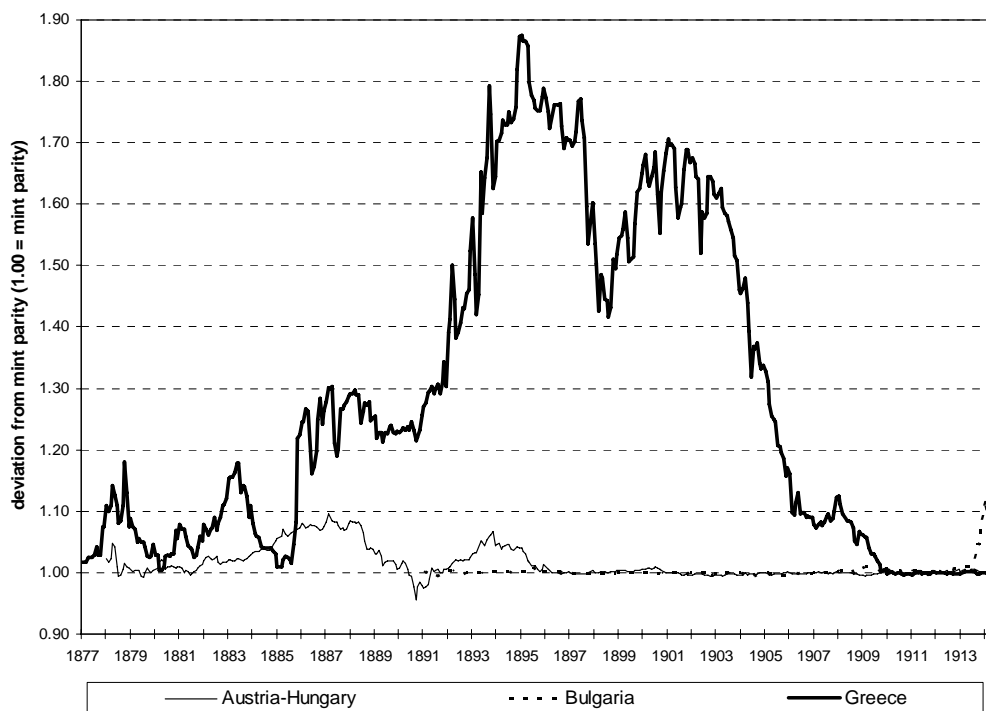
While the goal was then clear for European countries, such a switch to gold was never an easy operation. This was especially true when a country did not follow any metallic standard at all, i.e. when bank note convertibility had to be suspended following periods of lax fiscal and monetary policies. The Southeastern European countries clearly demonstrate this gap between what European countries wanted to achieve in the late 19th century and what they were actually able to achieve. As we have seen in table 1, all countries passed either gold or bimetallic legislation between 1867 and 1880. But in reality, few of the countries were able to live up to this challenge. Charts 1 and 2 show the exchange-rates of all five countries compared to their mint parity. The exchange-rate development of the Greek drachma exhibits the most extreme case of devaluation. By the mid-1890s, Greek paper money had depreciated almost 100% with respect to the gold drachma envisaged in the 1867/1868 legislation. Serbia is another extreme case where the depreciation lingered between 10% and 20% throughout the 1890s. But even Austria-Hungary had a substantially depreciated exchange-rate throughout the 1870s and 1880s, something which contemporary observers always saw as incompatible with the dual monarchy's claim to be one of Europe's five leading powers.³² On the upside, Romania was apparently able to maintain relatively fixed exchange-rates since the foundation of the Banka Națională a României in 1880.³³

³¹ For the cases of Austria-Hungary and Italy cf. Morys, *The Classical Gold Standard in the European Periphery: A Case Study of Austria-Hungary and Italy, 1870–1913*, p. 90–113.

³² *Stenographische Protokolle über die vom 8. bis 17. März abgehaltenen Sitzungen der nach Wien einberufenen Währungs-Enquête-Commission*, (Vienna: Kaiserlich-königliche Hof- und Staatsdruckerei, 1892).

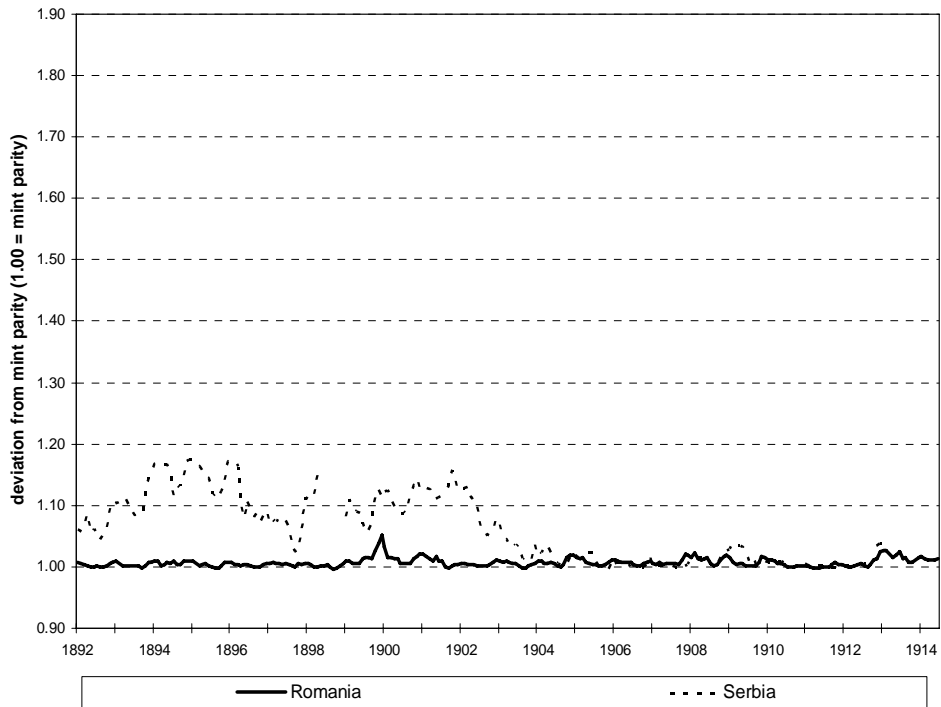
³³ For the Bulgarian case cf. footnote to table 3.

Chart 1: Exchange-Rates of Austria-Hungary, Bulgaria and Greece, 1877–1914.



Source: Exchange-rate data as collected by the central banks, cf. the individual country reports.

Chart 2: Exchange-rates of Romania and Serbia, 1892–1914



Source: Exchange-rate data as collected by the central banks, cf. the individual country reports.

It is certainly beyond the scope of this chapter to fully explain the differences in exchange-rate performance among the Southeastern European countries, but two crucial factors should be kept in mind. First, unbalanced budgets that need to be accommodated by lax monetary policy cannot only be the result of genuine overspending, but also of poor tax collection. Tax collection agencies in Bulgaria, Greece, Serbia and Romania were not only new and hence relatively inexperienced following independence. The Balkan countries inherited a long tradition of tax evasion which had once been meant to “snub” the Ottoman authorities. This tradition then hit the newly established countries with equal force.³⁴ Last but not least, it is most interesting to note that Greece experienced the most dramatic depreciation of all Southeastern European countries in the late 19th century. This might well reflect, more than anything else, the fact that Greece was the Balkan

³⁴ Mazower, *The Balkans*.

country more often than others belligerently involved in the creeping dissolution of the Ottoman Empire due its geographic position.³⁵

While the late 19th century was thus a period of exchange-rate instability for most Southeastern European countries, things improved substantially at around the turn of the century. Austria-Hungary was the first country to follow Romania on the path of exchange-rate stabilisation in 1896. Especially after some trouble in late 1899 and 1900 – which also affected Romania –, the dual monarchy developed an impeccable record with a standard deviation of mint parity from only 0.20% and a maximum deviation of 0.39% (cf. table 4). Equally, Serbia and Greece were able to stabilise their exchange-rates in 1905 and 1910, respectively.

In international comparison, such a stabilisation of the exchangerate at around the turn of the century is by no means unusual and is conventionally attributed to an upswing in global macroeconomic conditions. In fact, it has been argued that the 1870–1913 period is better divided into two separate sub-periods, an earlier, more cumbersome one until the 1890s, and a later, more benign one from the mid-1890s to the onset of World War I.³⁶ The exchange-rate experience of the Southeastern European countries appears to bear out a similar story, perhaps with one notable exception. The end to the *Belle Époque* came two years earlier with the outbreak of the Balkan Wars in October 1912. As we can see from table 4, a very high degree of exchange-rate stability is limited in all cases to the period until 1912. With the exception of Bulgaria, all countries regained exchange-rate stability after the Balkan Wars, albeit with a slightly lower degree.

5.3 Did the Southeastern European Countries Follow the Classical Gold Standard?

To what extent did the Southeastern European countries follow the gold standard before World War I? We have so far carefully avoided this question, as there is not one, but (at least) two competing definitions of what it means to be on gold. The 19th century gold standard was characterised by two features: (1) the free coinage of gold on private account at the national mint, and (2) specie payment, i.e. the unconditional redemption of bank notes by the issuing bank against gold coins or gold bullion (i.e., convertibility). Both measures combined guarantee the approximate identity of face value (nominal value) and metallic value (intrinsic

³⁵ Clearly reflected in chart 1 is the Greek attempt in 1885/86 to take advantage of Serb-Bulgarian hostilities and the 1897 Greek-Turkish war arising from revolt in Crete. The latter event, combined with an earlier default on external loans only four years earlier, lead to the establishment of an international financial commission to oversee the Greek state finances.

³⁶ M. Flandreau, J. Le Cacheux, and F. Zumer, *Stability without a Pact? Lessons from the European Gold Standard, 1880–1914*, CEPR Discussion Paper 1872 (1998).

value) of the gold coins in circulation. If both conditions are fulfilled, a country is considered to be *de jure* on gold. This was true for the core countries of the Classical Gold Standard such as England, France, and Germany.³⁷

Most of the peripheral countries, however, did not introduce specie convertibility. Provided the exchange rate of countries follows mint parity closely enough, countries are often considered to be *de facto* on gold. The terminology “to shadow gold” is used interchangeably. This terminology seems justified on the following grounds. In the case of an exchange rate closely following mint parity, one might argue that specie payment *did* exist after all. Specie payment did not exist *domestically* in the sense that the issuing bank would redeem bank notes against gold coins or gold bullion. Economic agents could, however, buy bills of exchange drawn on gold standard countries, thereby getting hold of gold currency. Thus, it could be argued that specie payment did exist *externally*. The case of an exchange rate closely following mint parity is equivalent to specie payment abroad. For many economic considerations it is of prime importance that there are fixed or, at least, quasi fixed exchange rates, while it is of secondary importance whether specie payment takes place at home or abroad.

Let us ask the same question again, now in a more precise form: Did the Southeastern European economies follow the gold standard? If they did, for what periods and did they follow the gold standard *de jure* or *de facto*? For Austria-Hungary we know for certain that the country never followed the gold standard *de jure*.³⁸ Following the exchange-rate stabilisation of 1896, Austria-Hungary had a long-lasting discussion on whether convertibility should be introduced or not and eventually decided against specie payment.³⁹ For the other four countries, the central banks report in their individual country reports that convertibility existed for most of the time. While such convertibility might have existed into silver, we take a more cautious approach. In the 19th century, words of a central bank (i.e., proclamation of convertibility) were often not followed by deeds, and until further research has established for sure that convertibility of bank notes into gold coin and bullion existed in a meaningful way in Southeastern Europe, it seems premature to classify the countries under consideration as following the gold standard *de jure*.

³⁷ M. D. Bordo and F. E. Kydland, The Gold Standard as a Rule: An Essay in Exploration, *Explorations in Economic History* 32 (1995).

³⁸ Morys, The Classical Gold Standard in the European Periphery: A Case Study of Austria-Hungary and Italy, 1870–1913, pp. 23–27.

³⁹ H. Hemetsberger-Koller, Die suspendierte Goldkonvertibilität. Barzahlungskrise in Österreich-Ungarn zu Beginn des 20. Jahrhunderts, in: *Auf Heller und Cent. Beiträge zur Finanz- und Währungsgeschichte*, eds. K. Bachinger and D. Stiefel (Frankfurt, Vienna: Überreuter, 2001).

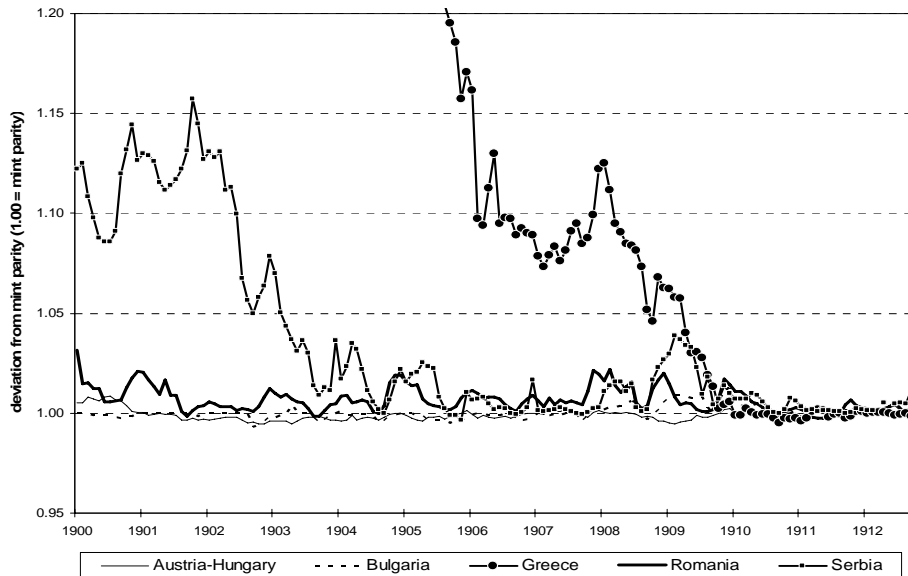
Table 4: Periods of Increased Exchange-rate Stabilisation in Southeastern Europe

	Periods of increased exchange rate stabilisation	Deviation from mint parity		
		Stand.	Max.	Avg.
Austria-Hungary	3/96-10/99	0.19%	0.39%	+ 0.07%
	11/00-11/12	0.20%	0.39%	- 0.13%
Bulgaria ¹	01/06- 9/12	0.36%	1.28%	+ 0.18%
Greece	1/10-6/14	0.16%	0.25%	- 0.05%
Serbia	9/09-9/12	0.36%	1.40%	+ 0.43%
Romania	1/92-5/99	0.32%	0.98%	+ 0.38%
	2/00-11/12	0.58%	2.20%	+ 0.68%

¹ The data reported in the Bulgarian country report suggests quasi-fixed exchange-rates going back to 1891. This finding is in contradiction with substantial qualitative research which suggests that Bulgaria enjoyed quasi-fixed exchange-rates starting only in 1906 (cf. Avramov (1999) and Avramov (2006)). Following Avramov, our calculations are therefore based only on the data provided for the period starting in 1906.

Sources: Exchange-rate data as collected by the central banks, cf. the individual country reports.

Chart 3: Exchange-rates in Southeastern Europe, January 1900 to September 1912.



Source: Exchange-rate data as collected by the central banks, cf. the individual country reports.

By contrast, from the exchange-rates reported we do think that all five countries shadowed the gold standard for some period of time. In order to show different degrees of exchange-rate stabilisation, we have distinguished in tables 3 and 4 between periods of “normal” exchange-rate stabilisation and periods of “increased” exchange-rate stabilisation. While this distinction is only one of degree, it might still be a useful one for our purposes. As the deviations from mint parity in table 4 show, certainly the periods of “increased” exchange-rate stabilisation can be viewed as shadowing the gold standard, with standard deviations in all cases below 0.40% (only Romania enjoyed a higher standard deviation of 0.58%). While the time periods naturally differ from country to country, there was a relatively short period – from 1910 to the outbreak of the Balkan Wars in late 1912 – in which all Southeastern European countries had stabilised their exchange-rates with respect to other gold standard countries. Therefore, the years from 1910 to 1912 might be seen as the “heyday” of the gold standard in Southeastern Europe.⁴⁰

⁴⁰ Avramov, eds., *120 Years Bulgarian National Bank* (Sofia: Balgarska Narodna Banka, 1999). S. Lazaretou, *Greek Monetary Economics in Retrospect: History and Data*, in: *Monetary and Fiscal Policies in South-Eastern Europe: Historical and Comparative Perspectives* (Conference proceedings of the 1st meeting of the South-Eastern European Monetary History Network), eds. R. Avramov and S. Pamuk (Sofia: Balgarska Narodna

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Albania

Kelmend Rexha

Elsida Orhan

Banka e Shqipërisë

Major Monetary Events

Monetary economic data have been strongly related with historical events Albania has experienced in years. The favorable geographic position in the Balkan Peninsula transformed Albania into a battlefield, where different foreign countries had interest in invading it. We have classified historical monetary events into two periods: pre-1914 and 1914–1942.

Pre-1914

Due to the historical and political developments in the country, pre-1914 Albania lacks significant data. This stems primarily from the fact that Albania had not yet gained its independence and the notion of its territory was therefore very hazy and without clearly defined frontiers. Its independence dates back to 1912. Second, the needs for arranging the banking system in Albania were reflected in the efforts of the first Albanian government after the Declaration of Independence, in 1912. Despite all the attempts made, the national systems of currency and lending were not established during this period (1912–1913). These were the two main reasons that caused the lack of data before 1914.

1914–1942

The most important monetary event was the establishment of the Bank of Albania in 1925. The Albanian gold franc was approved as the monetary official unit. The gold content of the Albanian currency was set at 0.290322 grams to the franc, which was the gold content used by the former Latin Monetary Union. Albania adopted a currency with the same gold content as the Latin Union because the country did not possess a currency regime of its own before the First World War.

The Bank of Albania remained the sole institution vested with the right to issue banknotes (monopoly of note issue). It implemented the policy of maintaining the

currency in circulation under the level of the real needs of the economy (restrictive monetary policy). The little circulation which did exist in the country was for the most part made up of coins (gold coins- napoleons and silver coins) from countries belonging to the Latin Monetary Union. The Bank of Albania's paper circulation had to be composed of reserves equal to at least 1/3 of the banknotes in circulation. The reserves, in turn were to consist of gold and foreign financial assets, which could not exceed 2/3 of the total reserves.

Albania experienced the bimetallic standard during 1928/1929. The debate for establishing this regime took place between the Albanian government and the Italian government. But in Albania the bimetallic standard could not survive as the bimetallism can only survive when the mint ratio is close to the market ratio and in Albania the monetary authority lost out, as it was forced by law to accept the overvalued silver against gold.

Until 1930, the Albanian system complied fully with the gold exchange standard, with the greater part of its reserve being made up of foreign currency.

A main characteristic of the currency is that it was never devaluated, in spite of the 1931 devaluation of the sterling, the dollar's devaluation in 1933 and the Swiss franc's depreciation in 1936.

Austro-Hungarian Empire

Thomas Scheiber¹

Oesterreichische Nationalbank

1. Monetary History of the Austro-Hungarian Empire (1867–1914)

After Prussia had defeated the Austrian Empire at the battle of Königgrätz in 1866, Austria ceased to adjust its currency to the German Customs Union (*Zollverein*) and pulled out of the Vienna Coinage Treaty of 1857 (*Wiener Münzvertrag*) and in 1867 oriented its coinage on the bimetallic standard of the Latin Monetary Union (LMU) founded by France, Belgium, Switzerland and Italy in 1865. Although Austria minted gold coins² and had planned to join the LMU in 1870, the Empire never actually did as financial difficulties soon ended specie convertibility and as its monetary system remained in disarray. Yet the question of the monetary standard remained on the agenda until the 1890s.

The provisions of these coinage agreements did not apply to paper money, even though paper money had been legal tender since the suspension of convertibility in 1848. Next to the silver gulden, Austria had the paper gulden, which was exchangeable for silver coins at a discount. All efforts to eliminate the silver agio, which would have necessitated a devaluation of the paper currency, were unsuccessful because the state's financing needs remained so high. At the beginning of the 1860s the premium of silver coins versus paper currency had augmented to more than 40%, prompting the government to issue a new central bank act, the Plener Act, named after the then minister of finance. Its purpose was to bind the issue of paper money to the size of the currency reserves.³ The direct

¹ I would like to thank Walter Antonowicz and Bernhard Mussak from the Bank History Archives of the OeNB for their valuable comments and excellent support.

² Austria minted gold coins of a value of 8 and 4 *gulden*, which was the equivalent of 20 and 10 French francs.

³ The statutes of the *privilegierte oesterreichische National-Bank* of 1817 and 1841 did not contain any rules concerning a precious metal cover of the banknotes in circulation. In 1858, a precious metal cover quota of one third was introduced. 1862 it was substituted for a direct quota on the circulation of notes similar to the British system of the Peel's Bank Act (cf. Compass, 1914, p. 137).

quota for banknotes in circulation was fixed at 200 million gulden and while this amount had to be covered by domestic income-generating assets of the bank, the amount of banknotes surpassing the quota had to be completely covered by the central bank's gold and silver reserves. Although this measure succeeded in reducing the silver agio, the contraction of the money supply also acted as a damper on the economy. Yet as this quota proved to be too tight, an indirect quota was introduced in 1887 which emulated the rules of the German Reichsbank. According to article 84 of the statutes of the Austro-Hungarian Bank of 1887 and 1899, the metal reserves had to cover at least 40% of the banknotes in circulation. The remaining amount of banknotes in circulation (i.e. the banknotes not covered by precious metal) together with the overnight liabilities had to be covered by other domestic income-generating assets (e.g. Escompte and Lombard credit), foreign currency denominated bills of exchange and foreign banknotes. Once the amount of banknotes in circulation had surpassed the threshold of 400 million kronen (or 600 million kronen as of 1911), the excess amount was taxed at a rate of 5%.

In 1867, Hungary was recognized as an autonomous part of the so-called Austro-Hungarian Empire, which was reflected by the institutional transformation of the *privilegierte Oesterreichische National-Bank* into the *Austro-Hungarian Bank* in 1878. According to the principle of duality there was a head office in Vienna and one in Budapest both of which managed the 38 branches of the bank separately. The emperor conferred the sole privilege of note issue to the Austro-Hungarian Bank.

The collapse of bimetallism due to a sharp contraction of the value of silver against gold had a significant impact on the development of Austrian coinage and the monetary system in the last third of the 19th century. By the end of the 1870s nearly all European countries and the U.S.A. had adopted a gold standard. Austria remained on a silver standard, which entailed steadily growing losses. Thus, silver coins were no longer suitable as a standard. Paper currency became the standard, and silver only served as the precious metal cover for the banknotes. The importance of coins diminished as the volume of cashless payment transactions surged. Finally, Austria adopted a gold standard with the introduction of the krone in 1892, satisfying an urgent need for monetary reform. The Austrian gulden was valued at 2 kronen, with 1 krone subdivided into 100 heller. According to the currency laws of 1892 one krone was equivalent to 0.3049 grams of fine gold with a fineness of 900‰. The gulden banknotes entitled *Österreichische Währung* (Austrian currency) remained legal tender until 1900, when the krone was declared sole legal tender.

The exchange rate, however, soon deviated considerably from mint parity, the gold agio peaked at +6.5% in November 1893 and declined to +3.8% at end of the year. It was only in late 1895 that the deviation from mint parity dropped below

+1.0% again.⁴ Mint parity was eventually achieved in 1896 and was maintained until the outbreak of World War I. As the convertibility of bank notes into specie had never been introduced, Austria-Hungary shadowed the Classical Gold Standard from 1896 to 1914.⁵

In order to keep mint parity it seemed necessary to concentrate the whole staatlicher Golddienst⁶ at the central bank. In 1901, the gold reserves of the government were transferred to the Austro-Hungarian Bank. The changing of the discount rate was the main policy tool to adjust the economy to balance of payments deficits by attracting short-term foreign capital. Yet this tool was not used very intensively. Matthias Morys provides two main reasons for shadowing the gold standard rather than introducing full-fledged convertibility of banknotes into gold: First, the strategy allowed Austria-Hungary to benefit from a quasi-fixed exchange rate regime. Second, it granted the peripheral economy more flexibility in times of crises.⁷

2. Introduction to the Historical Time Series (1896–1914)

The annual data presented in this time series cover the period from 1896 to 1914 (end of June) when Austria-Hungary shadowed the Classical Gold Standard. The analyzed currency area is the Austro-Hungarian Empire and its monetary policy institution, the Austro-Hungarian Bank.

2.1 Exchange Rates

Exchange rate data include annual averages of the ratio between the *krone* (K) and the currencies of the three major core countries, i.e. German mark, French franc, and pound sterling. The mint parity for 100 German marks was equal to 117.5727 K, for 100 French francs 95.2258 K, and for one pound sterling 24.0174 K. The great stability of the exchange rate which continued to stay close to mint parity underpins the conclusion that Austria-Hungary was *de facto* on gold. The annual

⁴ Pressburger, Die Oesterreichisch-ungarische Bank 1878–1923, Zweiter Teil, Band 2, p. 700.

⁵ Provided that the exchange rate follows mint parity closely enough, countries are often considered to be *de facto* on gold if they shadow the gold standard. At the time, specie payment did not exist domestically, i.e. within the Austro-Hungarian Empire, in the sense that the issuing bank would redeem banknotes against gold coins or gold bullion, but it existed abroad (cf. Morys, p. 23f).

⁶ i.e. a governmental body managing the payments and foreign currency holdings of the government abroad

⁷ It is interesting to note that Matthias Morys found out that Austria-Hungary exhibited a lower standard deviation from mint parity than some other countries which operated under a system of *de jure* adherence to gold (cf. Morys, p. 25).

entries were calculated on the basis of the monthly average exchange rates of the Vienna stock exchange.

2.2 Currency Reserves

Table 1 (columns 4 to 6) displays the currency reserves of the Austro-Hungarian Bank which consisted of two components. The first component included the official precious metal reserves (*Barschatz*) according to Articles 84 and 111 of the central bank statute. Until 1887 the *Barschatz* contained only coins and bullions of gold and silver. As of 1888, the central bank was allowed to include bills of exchange drawn on gold standard countries up to an amount of 60 million *kronen* in the *Barschatz*. From 1900 onwards the *Barschatz* comprised all domestic coins, foreign gold coins, gold bullion coins, and foreign exchange reserves (foreign banknotes and commercial bills of exchange drawn on gold standard countries with a three-month maturity) up to an amount of 60 million *kronen*, which was reached for the first time in 1901. Yet the convertibility of banknotes into specie remained suspended.

The second component of the Austro-Hungarian currency reserves contained deposits on foreign bank accounts and all foreign exchange reserves excluded from the official metal reserves. While the official metal reserves were published on a weekly basis to increase the confidence in the monetary authority, the amount of the second component was kept secret to leave more room for interventions. Since 1900 these assets were part of the central bank's total cover, and served as collateral for banknote issue until their respective maturity date. Entries for the period between 1896 and 1900 are set to zero due to the limited availability and insignificance of data.

In 1901, the government transferred the management of the government payments abroad to the Austro-Hungarian Bank. In the course of this delegation the bank added the gold reserves of the government to its stock and soon the foreign exchange holdings increased substantially.

2.3 Monetary Base

Table 1 (columns 7 to 9) shows data on the monetary base of the economy. It essentially contains all liquid liabilities of the monetary authority, i.e. banknotes in circulation, deposits at the central bank, and other liabilities payable on demand. Data refer to annual averages calculated from monthly averages. The official metal reserves had to cover at least 40% of the banknotes in circulation

2.4 Discount Rate

The discount rate was the fundamental bank rate set by the general council of the Austro-Hungarian Bank. Table 2 lists all dates when new discount rates came into force. The discount rate was applied to the early redemption of a commercial bill with a three-month maturity.

3. Data Sources

Data concerning exchange rates were taken from the k.k. ministry of finance, *Tabellen zur Währungsstatistik* for the years from 1896 to 1900. For reasons of accessibility, the data from 1901 to 1913 were taken from the annual publication *Compass*. The latter was consulted to get data on discount rates, official metal reserves and the monetary base. Data on assets and liabilities of the bank before 1901 and details on the second component of the currency reserves were retrieved from the reports to the annual shareholders' meeting of the Austro-Hungarian Bank (*Jahressitzung der Generalversammlung der Oesterreichisch-ungarischen Bank*).

Finally, the OeNB's Bank History Archives, which were also used for this short analysis, might be a good starting point for further data collection followed by an in-depth analysis of Austria's monetary history.

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Table 1: Austro-Hungarian Bank 1896–1914

Exchange Rates for foreign banknotes				Currency reserves			Monetary base					
				1 German mark	1 pound sterling	1 French franc	Barschatz official precious metal reserves (according to Article 84 central bank statute)	Other foreign exchange reserves excluded from the official metal reserves	Total currency reserves (4+5)	Banknotes in circulation	Deposits at the central bank and liabilities payable on demand	Total liquid liabilities (7+8)
	1	2	3	4	5	6	7	8	9			
Kronen												
Kronen, million												
1896	1.17719	24.0348	0.95370	839	0	839	1,175	42	1,218			
1897	1.17617	24.0084	0.95273	996	0	996	1,261	61	1,323			
1898	1.17552	23.9914	0.95220	986	0	986	1,315	62	1,377			
1899	1.17507	23.9772	0.95181	1,014	0	1,014	1,353	74	1,427			
1900	1.17480	23.9647	0.95147	1,187	0	1,187	1,358	109	1,467			
1901	1.17456	23.9549	0.95127	1,306	35	1,341	1,399	161	1,560			
1902	1.17436	23.9480	0.95118	1,444	74	1,518	1,471	161	1,632			
1903	1.17425	23.9429	0.95113	1,469	150	1,619	1,565	154	1,718			
1904	1.17436	23.9427	0.95119	1,506	156	1,663	1,637	175	1,812			
1905	1.17439	23.9432	0.95115	1,489	109	1,598	1,627	195	1,821			
1906	1.17437	23.9407	0.95109	1,471	105	1,577	1,756	185	1,941			
1907	1.17450	23.9399	0.95120	1,448	92	1,540	1,842	227	2,069			
1908	1.17469	23.9448	0.95143	1,505	113	1,618	1,864	174	2,038			
1909	1.17479	23.9475	0.95153	1,681	150	1,831	1,973	191	2,164			
1910	1.17484	23.9510	0.95144	1,705	90	1,795	2,083	211	2,295			
1911	1.17492	23.9600	0.95139	1,681	129	1,810	2,231	219	2,450			
1912	1.17523	23.9802	0.95157	1,600	72	1,672	2,299	238	2,536			
1913	1.17562	23.9997	0.95170	1,529	98	1,627	2,350	233	2,583			
1914*	1.17528	24.0650	0.95507	1,598	n.a.	n.a.	2,194	242	2,436			

* Semiannual entries for 1914, average of the first six months until the outbreak of the First World War. (n.a. not available).

Source: OeNB.

Table 2: Discount Rate 1892–1914 Austro-Hungarian Bank

Discount rate	
(Escompte rate)	
effective as of	% p. a.
04/09/1891	5.000
09/01/1892	4.000
06/10/1893	5.000
23/01/1894	4.500
09/02/1894	4.000
13/09/1895	5.000
24/01/1896	4.500
14/02/1896	4.000
14/10/1898	4.500
25/11/1898	5.000
19/05/1899	4.500
19/09/1899	5.000
06/10/1899	6.000
07/12/1899	5.500
22/01/1900	5.000
06/02/1900	4.500
01/03/1901	4.000
05/02/1902	3.500
20/10/1905	4.500
28/05/1906	4.000
28/09/1906	4.500
28/06/1907	5.000
11/11/1907	6.000
11/01/1908	5.000
04/02/1908	4.500
08/05/1908	4.000
24/10/1910	5.000
04/02/1911	4.500
23/02/1911	4.000
22/09/1911	5.000
26/10/1912	5.500
16/11/1912	6.000
28/11/1913	5.500
21/01/1914	5.000
04/02/1914	4.500
13/03/1914	4.000
27/07/1914	5.000

Source: OeNB.

Bulgaria

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1. Major Monetary Events

The Bulgarian National Bank (Balgarska Narodna Banka - BNB) was established 25 January 1879. The coinage system in Bulgaria was legislated for the first time in 1880. This law introduced the national currency – the lev which was equal to the gold franc, and at the same time, the bimetallic standard was ruling similar to the countries of the Latin Monetary Union (BNB, 1929, p. 55). The first Bulgarian silver coins were emitted in 1883, but the BNB stopped emitting silver coins as early as 1894.

The BNB was granted the monopoly to issue banknotes in 1885, to be followed quickly by the first issue of gold-backed bank notes. Since 1891 the BNB was also allowed to issue silver-backed banknotes, a right that was exercised for the first time in 1899. Convertibility into gold was suspended by Law from 13 November 1899 until 24 November 1902. The BNB stopped to convert Bulgarian banknotes into gold *de facto* on 10 October 1912 and, again, *de jure* on 3 January 1919 (BNB, 1929, p. 65).

2. Definition of Variables

The pre-defined set of monetary indicators according to the first (Southeast Europe Monetary History Network (SEEMHN) Data Collection Task Force meeting, held

¹ We would like to thank Matthias Morys (Oxford University) for his helpful comments and suggestions and Rumen Avramov (Centre for Liberal Strategies – Sofia) for providing us with interesting details on the major monetary events in the Bulgarian financial history. We are also grateful to Svetla Vladimitova (BNB librarian) and Kiril Koshev (Oxford University, an intern at the BNB Program of Publication and Research on banking and financial history) for their valuable assistance in collecting and double checking the data.

on 20 of October 2006 at the Bulgarian National Bank, comprises of four key indicators: exchange rates, banknotes in circulation, reserves and discount rate. The first two historical time series report the nominal exchange rate of the Bulgarian lev against the French franc and the British pound, which we were able to trace back to 1890. Relying on the BNB Anniversary Book (1929), the BNB Annual Reports, and the State Gazette as our sources, we report the selling rate of bills of exchange drawn on foreign markets. The reported exchange rates constitute the annual average of the arithmetic average between recorded monthly minimum and maximum values.

The second monetary indicator of interest is “banknotes in circulation”. The Bulgarian lev was established as national currency in 1880. Five years later, in 1885, the BNB was granted the exclusive privilege to issue banknotes, hence no earlier data are available. Although all banknotes in circulation were covered by gold metallic holdings, the BNB actually faced great difficulties in circulating the money due to the lack of credibility in the banknotes, partly as a result of the still strong memory of the failure of the Ottoman banknotes, partly stemming from widespread preferences for silver coins². Banknotes in circulation scored a large increase only in 1899 when the BNB exercised its right to issue silver backed banknotes granted in 1891 (BNB, 1999). After gaining some credibility Bulgarian gold-backed and silver-backed banknotes in circulation recorded very volatile growth reflecting the economic development of the country.

According to the BNB Act of 1885, the BNB adopted the continental European monetary system and Bulgarian gold-backed banknotes in circulation were covered by gold metallic holdings at the ratio of 1/3 and the BNB was obliged to convert them into gold when they were brought to the bank. The cover ratio for silver-backed banknotes was initially the same (1891), but it increased to 50% in 1906. The metallic holdings in fact exceeded the legislated cover ratio throughout the whole pre-WWI period because of the limited amount of banknotes in circulation. The development of reserves was generally determined by the development of the economy and reflects the balance of payments. An amendment of BNB Law in 1911 allowed for gold-backed foreign assets to be included in the legal coverage.

The last key monetary indicator is the discount rate. Since the BNB had mixed functions (those of a commercial bank as well as of a bank of note issue), the reported discount rate is in fact the lending interest rate on short term credit (extended to big commercial enterprises). This interest rate was consistently lower than the rate charged by other credit institutions in the country, hence the BNB as the biggest credit institution determined the interest level (BNB, 1929). Compared

² Ottoman, Romanian, Russian and Serbian silver coins extensively circulated on the Bulgarian territory by 1887 as a result of the high price one can get for them when brought at the BNB. Therefore, people prefer to keep the gold and to use the undervalued silver coins instead of some credit documents (banknotes).

to other countries, the BNB discount rate was relatively high in the first few decades after its establishment suggesting liquidity constraints in the Bulgarian financial system. The discount rates tend to converge, however, at the end of the Classical Gold Standard period.

3. Data Sources

The exchange rate data were collected from the BNB Annual Reports, the BNB Anniversary Book (1929) and the exchange rate section of the State Gazette. Data for all other indicators for the pre-WWI period could be found in the BNB Anniversary Book (1929), which summarizes data from the BNB Annual Reports. With respect to major monetary events we drew on the BNB Anniversary Book (1929) and BNB (1999).

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 State Gazette, various issues.

Table 1: Bulgarian Historical Time-Series, 1879–1914

Year	Exchange rates, annual averages		Monetary base	Currency Reserves:
	BG lev/French franc exchange rate (levs per 1 FF)	BG lev/pound Sterling exchange rate (levs per 1 Sterling)	Banknotes in circulation (in thous. levs)	Gold, silver and foreign exchange reserves end of year values (in thous.levs)
1879				9.425
1880				2.555
1881				2.115
1882				1.414
1883				0.817
1884				1.553
1885			0.213	3.659
1886			0.049	1.498
1887			1.035	2.398
1888			0.183	3.118
1889			0.402	11.505
1890	0.999	25.177	1.957	4.598
1891	1.000	25.168	1.303	7.377
1892	1.001	25.210	0.472	2.948
1893	1.000	25.228	1.231	6.201
1894	1.001	25.223	0.824	10.068
1895	1.001	25.257	1.680	6.400
1896	1.001	25.228	2.397	6.486
1897	1.001	25.202	1.957	8.921
1898	1.001	25.291	3.156	9.183
1899	1.002	25.291	7.985	7.398
1900	1.001	25.326	21.827	13.259
1901	1.006	25.354	26.640	12.519
1902	1.003	25.287	24.549	20.132
1903	1.001	25.188	32.986	12.175
1904	1.001	25.193	40.218	19.722
1905	0.999	25.136	37.194	30.759
1906	1.000	25.169	44.622	38.387
1907	1.003	25.228	49.220	42.331
1908	1.004	25.261	71.487	39.531
1909	1.011	25.460	71.770	47.823
1910	1.006	25.387	81.612	52.801
1911	1.004	25.365	110.789	59.336
1912	1.005	25.376	164.425	68.501
1913	1.035	n.r.	188.742	78.774
1914	1.101	n.r.	226.615	83.644

Note: Column (2): nominal exchange rate of the Bulgarian lev against the French franc (1890–1914).

Exchange rate on bills of exchange, selling rate, annual averages.

Column (3): nominal exchange rate of the Bulgarian lev against the British pound (1890–1914).

Exchange rate on bills of exchange, selling rate, annual average, n.r. = not reported.

Source: Column (2): BNB Annual Reports, BNB (1929) “Jubileen Sbornik na BNB 1879–1929”, (BNB Anniversary Book 1879–1929), State Gazette, various issues.

Column (3): BNB Annual Reports, BNB (1929) “Jubileen Sbornik na BNB 1879–1929” (BNB Anniversary Book 1879–1929), State Gazette, various issues.

Column (4): BNB (1929) “Jubileen Sbornik na BNB 1879–1929” (BNB Anniversary Book 1879–1929), State Gazette, BNB, Balance sheets’ end of year data.

Columns (5): BNB (1929) “Jubileen Sbornik na BNB 1879–1929” (BNB Anniversary Book 1879–1929).

Table 2: The BNB's Discount Rate, 1879–1911

Year	Date	Month	%
1879	26	Jan.	9
1884	26	Jan.	8
1885	1	Nov.	7.5
1887	1	May	8
1889	1	March	9
	1	Nov.	8
1897	1	July	7
1898	15	April	7.5
1898	20	Oct	8
1906	1	Feb.	7
1911	15	May	6

Note: The BNB's lending interest rate on short-term credit.

Source: BNB Annual Reports, BNB (1929) "Jubileen Sbornik na BNB 1879–1929" (BNB Anniversary Book 1879–1929).

Greece

*Sophia Lazaretou*¹

Bank of Greece

1. Major Monetary Events

The story of the Greek drachma is a case rich with defaults, multiple switches on and off metallic standards and political and military events. In the past, Greece had tried many times to end histories of macroeconomic instability through participation in the prevailing international monetary system. The country's monetary history before the First World War has been marked by experiments with silver in the very early years of the Greek state, bimetallism in the middle of the 19th century, the classical gold standard in the last quarter of the century and the gold-exchange standard in the interwar period. As an even stronger form of commitment, Greece even joined the Latin Monetary Union (LMU) in the 1867.² The causes of the suspension of convertibility were not only the emergence of some sudden event, such as war, threat of war and financial and banking panics (often due to feared suspensions), but the government's failure to pursue fiscal and monetary policies compatible with its commitment to ensure fixed rates. However, the periodic abandonment of and the subsequent return to metallic standards³ reveal the government's strong commitment to the specie rule. Throughout the period prior to the Second World War, the monetary authorities regarded the suspension of the drachma's convertibility as a reaction to an emergency, such as

¹ I would like to thank the participants in the first and the second meeting of the Data Collection Task Force of the SEEMHN, held in Sofia and Vienna, respectively, for their valuable comments. Especially, I am grateful to Matthias Morys for his helpful comments and suggestions and to Heather Gibson for her support and encouragement. I would like also to thank the Historical Archives of the National Bank of Greece and the Bank of Greece for kindly providing their material.

² For a detailed discussion on the monetary history of Greece, see Lazaretou (1995, 2004, 2005a). Lazaretou (2005b) provides historical and empirical evidence that Greece followed a fixed-rate regime with the accepted "escape clauses" for war and financial emergencies.

³ From 1828, when for the first time, a national monetary system based on silver was introduced, to 1936, when the country entered the "Sterling Area", the Greek economy experienced eight episodes of suspension of gold or foreign exchange convertibility.

war. Once hostilities ceased, they made efforts to return to the “natural state”, i.e. convertibility.

2. Variables’ Definitions

We present four key historical time series, namely, the nominal exchange rate; total banknote circulation; total reserves; and the discount rate. All series cover the period prior to the First World War and have an annual frequency. We present the nominal exchange rate of the drachma *vis-à-vis* the French franc (FRF). The FRF was set as the common monetary unit in the LMU countries. By signing the LMU agreement in 1867, Greece accepted the principle of bimetallism and the equivalence of the gold drachma with the gold FRF (parity 1:1).^{4,5}

Until the end of the 1890s the drachma suffered from strong devaluations due to loose fiscal policy and accommodated by loose monetary policy. However, from the turn of the century onwards, the devaluation pressures were reversed by a strong revaluation thanks to restrictive fiscal and monetary policies pursued in the context of the international agreement for foreign debt compromise. As a result, from 1.8 drachmas per FRF in 1898, the exchange rate fell to 1:1 in 1909, which was the par parity according to the LMU agreement.

The data for bank notes in circulation refer to the bank notes issued by the National Bank of Greece and held outside the banking system.⁶ The time series

⁴ However, she only signed the agreement; she did not participate as a full member, at least until 1909. Wartime emergencies prevented the government from introducing the new system. With the exception of an unsuccessful experiment with the gold standard in 1885, Greece credibly adopted gold as late as 1910.

⁵ From 1828 to 1832 Greece was on a silver standard. The legal tender was the silver phoenix. Bimetallism was introduced in 1833. The new legal tender was the silver drachma and the gold drachma, equal to 20 drachmas. The silver drachma was fixed as equal to 4.029 grams of pure silver and the gold drachma as equal to 0.25994 ($\times 20 = 5.199$) grams of pure gold. In other words, the silver drachma contained 15.5 times as many grams of silver as of gold. Thus, the legal ratio was 1:15.5. However, according to the LMU agreement, the members’ currencies should be equal to one other. The gold FRF (20 FRF) was fixed as equal to 0.2903 ($\times 20 = 5.806$) grams of pure gold while one Greek gold drachma was equal to 5.199 grams of pure gold. Thus, the par exchange rate was 1 FRF = 1.1168 drachmas. To achieve the 1:1 parity, the new drachma was minted in November 1882 and was introduced as the new monetary unit. It was fixed as 0.29 grams of pure gold and was equal to 0.8954 of the old drachma.

⁶ Until 1927, the National Bank of Greece, created as a universal bank, enjoyed the note monopoly for bank notes circulating nationwide. Three other commercial banks were also allowed to issue bank notes, but their notes were permitted to circulate only in an extremely limited geographical area and, as a result, the quantity of their banknotes in circulation was very small. In 1928 a central bank – named the Bank of Greece – was first established. All the other banks became pure commercial banks.

labeled “reserves” is the sum of metallic and foreign exchange holdings. Metallic denotes silver plus gold that the Bank used to hold in its Treasury in the form of barren metal. From 1877 onward, metallic stock consisted mainly of gold. Specie came mainly from trade and a small portion came from direct investment in residential and commercial property as well as portfolio investments. From 1869 onwards, the Bank also used to hold gold convertible interest bearing deposits denominated in foreign currencies. In the periods of fiat money standards (1869–1870, 1877–1884, 1886–1909) the upward movement of note circulation was accompanied by a downward movement of total reserves so that the reserve-banknote ratio was reduced to very low levels. Conversely, in the periods of metallic standards, note circulation varied positively with gold and foreign exchange reserves. Both moved in a way so that the reserve-banknote ratio increased and remained close to unity.⁷

The discount rate presented was imposed by the Bank on short term advances to traders (such as bills of exchange with a three-month maturity). The Bank used to impose this rate on advances to the government, too. The Bank lent to the government short term capital, setting very high risk premiums (an interest rate of 7-8%, compared with interest rates in the international capital markets of 2.5–4.5%).⁸

3. Data Sources

The data for the banknotes in circulation and total reserves are from the *Annual Report* of the Governor of the National Bank of Greece (1842–1914, various issues) and the annual and semi-annual *Balance Sheets*. In his *Annual Report*, the Governor describes in a particular section the developments of the Bank’s asset items. In this section, a table presenting the monthly data can be found (end-of-month). The minimum and the maximum values throughout a specific year are also presented, and the annual averages as well. The historical data for the nominal exchange rate of the drachma against the French franc (spot rates, year averages, fixing) are from the *Annual Report* of the Governor and the Greek National Statistical Service, *Monthly Bulletin* (1885–1914, various issues). Valaoritis (1902) and Zolotas (1929) are additional sources. The data for the discount rate have been

⁷ According to the National Bank’s statute, no less than 25% of banknotes in circulation should be covered by metallic or/and foreign exchange reserves.

⁸ Since the international capital markets of London and Paris were closed to Greece (till 1878) due to her bad reputation as a borrower, the only option for the government to cover pressing finance requirements was short term domestic debt issues by the Bank at a very high rate. According to the law of 1836, the lending rate on trade advances should not exceed 12%. However, the market rate was more than 20%; in the provinces it was even higher. Thanks to the beneficial impact of the Bank’s operation from 1842 onward, lending became much cheaper.

collected (dates of change) from the *Annual Report* of the Governor (various issues). Particularly, see that part in which the Governor discusses the progress of the Bank's lending activity over the previous year.

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Table 1: Greek Historical Time-Series, 1842–1914

	Exchange Rates drachma/French franc	Reserves: metallic stock and foreign exchange reserves	Banknotes in circulation
Year	<i>(Annual averages)</i>	<i>(End-of-year values in thous. new drachma)</i>	<i>(End-of-year values in thous. new drachma)</i>
	<i>(1)</i>	<i>(3)</i>	<i>(2)</i>
1842		397.50	274.60
1843		345.90	601.40
1844		535.90	799.00
1845		762.30	1,511.30
1846		771.80	2,079.70
1847		620.10	1,699.50
1848		964.00	1,101.90
1849		1,205.80	1,397.70
1850		1,114.70	1,978.60
1851		1,218.20	1,561.10
1852		1,473.80	1,839.10
1853		1,822.70	1,949.30
1854		3,424.80	2,575.40
1855		3,835.30	3,373.10
1856		5,191.40	5,333.40
1857		4,656.90	7,190.90
1858		4,717.40	6,983.30
1859		3,625.10	6,932.90
1860		4,411.00	7,487.60
1861		4,749.60	9,491.80
1862		6,105.40	11,355.20
1863		7,232.70	14,390.30
1864		6,461.40	15,633.80
1865		6,437.30	15,877.70
1866		6,101.60	15,206.20
1867		8,487.20	17,970.90

Table 1 continued: Greek Historical Time-Series, 1842–1914

	Exchange Rates drachma/French franc	Reserves: metallic stock and foreign exchange reserves	Banknotes in circulation
<i>Year</i>	<i>(Annual averages)</i>	<i>(End-of-year values in thous. new drachma)</i>	<i>(End-of-year values in thous. new drachma)</i>
1868		7,386.50	20,507.90
1869		10,955.30	23,608.00
1870		14,342.70	23,613.50
1871		14,207.10	25,180.00
1872		18,259.90	28,389.30
1873		18,359.50	33,380.90
1874		17,042.60	35,472.40
1875		17,959.80	32,278.70
1876	1.032	16,318.30	32,173.40
1877	1.026	13,270.80	38,985.50
1878	1.107	7,342.50	54,023.40
1879	1.048	18,591.80	45,991.90
1880	1.025	18,706.60	58,294.50
1881	1.048	15,041.30	84,948.30
1882	1.097	16,036.90	91,807.20
1883	1.141	15,712.50	96,429.40
1884	1.048	47,968.20	69,648.70
1885	1.058	13,735.90	76,968.00
1886	1.233	8,840.30	101,646.60
1887	1.263	9,519.00	101,859.90
1888	1.273	11,514.00	86,791.50
1889	1.230	13,123.60	90,425.30
1890	1.235	9,868.10	103,655.50
1891	1.298	10,549.90	120,870.80
1892	1.436	11,390.10	118,611.80
1893	1.608	10,129.00	110,936.10
1894	1.749	9,274.90	106,769.80
1895	1.802	9,559.80	108,954.00
1896	1.739	10,863.50	110,799.80

Table 1 continued: Greek Historical Time-Series, 1842–1914

	Exchange Rates drachma/French franc	Reserves: metallic stock and foreign exchange reserves	Banknotes in circulation
<i>Year</i>	<i>(Annual averages)</i>	<i>(End-of-year values in thous.new drachma)</i>	<i>(End-of-year values in thous.new drachma)</i>
1897	1.676	13,075.70	130,656.80
1898	1.474	11,750.30	121,235.20
1899	1.565	14,956.80	128,927.30
1900	1.644	19,268.40	137,754.20
1901	1.658	21,118.30	137,720.90
1902	1.625	19,084.90	143,305.90
1903	1.565	18,578.10	137,236.00
1904	1.378	23,172.50	132,697.00
1905	1.231	28,040.20	126,084.20
1906	1.100	37,587.40	129,219.50
1907	1.087	37,178.00	135,612.50
1908	1.081	44,723.40	127,667.30
1909	1.030	44,324.00	134,422.30
1910	1.000	72,940.20	132,997.30
1911	0.999	109,735.90	135,347.60
1912	0.999	173,993.30	196,746.00
1913	1.000	254,132.30	234,473.00
1914	1.002	212,113.00	252,206.00

Note: Column (1): nominal exchange rate of the drachma against the French franc (1876–1914). Data prior to 1876 do not exist. Spot rates, year averages. Column 2: total banknotes in circulation (1842–1914). Banknotes of low denomination (of one and two drachmas) are also included while coins are not included due to lack of data. End-of-year data, no seasonally adjusted, in thousand new drachmas. Column 3: total reserves (metallic plus foreign exchange, 1842–1914), end-of-year data, no seasonally adjusted, in thousand new drachmas.

Source: Column 1: National Bank of Greece, *Annual Report of the Governor* (various issues); Greek National Statistical Service, *Monthly Bulletin*, 1885–1925 (various issues); Valaoritis (1902); and Zolotas (1929). Column 2: National Bank of Greece, *Balance Sheets* (various issues). Column 3: National Bank of Greece, *Balance Sheets* (various issues).

Table 2: Discount Rate, 1841–1914

Year	Day	Month	%
1841	30	3	8
1847	1	4	7.2
1853	22	8	8
1869	1	4	7.5
1871	20	10	8
1878	1	11	7
1888	24	2	7
1890	1	1	6.5
1898	28	9	6
1901	1	7	6
1902	1	1	6.5
1908	1	7	5.5
1909	1	1	5.5
1910	1	1	6
1914	19	7	8

Source: National Bank of Greece.

Romania

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Banka Națională a României

1. Data Concerning Romania's Monetary History (1867–1914)

For Romania, the latter half of the 19th century was the time span during which the modern state took shape and its institutional structures were put in place. This endeavour bore the hallmark of the models applied in Western Europe, France in particular.

All structures and institutions in Romania were gradually subject to modernisation. One of the last changes was the formal adoption by Romania of the Gregorian calendar starting 1 April 1919 – this is why every piece of chronological information prior to this date is given according to the Julian calendar. The Romanian Orthodox Church gave its nod for using the latter on 1 October 1924, which thus became 14 October according to the new style calendar.

Across the economy, modernisation became to make itself felt also through the repeated endeavours of the public authorities in Bucharest to organise a monetary and credit system capable of putting Romania on a par with the other European countries. The national monetary system was well established even before 1877, when Romania gained independence. According to the Law on Establishing the Monetary System and Manufacturing the National Currency, enacted on 14 April 1867, the *leu* (plural: *lei*), the country's currency unit, was based on the bimetallic standard. Thus, one *leu* was equivalent to 0.3226 grams of gold with fineness of 900‰ or 5 grams of silver with fineness of 835‰. Upon its establishment in 1880, the Banka Națională a României (BNR) was required by law to hold a metal stock accounting for, at least, 33% of the total amount of banknotes in circulation, but the ratio between gold and silver was not specified.

The mint ratios of the *leu* against the major currencies were as follows: 1 French franc = 1 *leu*, 1 pound sterling = 25.2218 *lei*, and 1 German mark = 1.2346 *lei*. The introduction of the bimetallic standard and the putting on a par of the Romanian currency unit with the French currency unit were aimed at making the Romanian monetary system compatible with the standards used by the countries participating in the Latin Monetary Union. Nevertheless, Romania's application for membership in the Latin Monetary Union was rejected.¹

Although the 1867 law provided for the value of the *leu* in both gold and silver, the market-determined price of gold soon exceeded the official price. The emerging difference between the two values, referred to as *agio*, led to the hoarding of gold coins and the weakening of the silver coins against gold coins and the banknotes issued by the BNR. Eventually, given the economic climate, the Romanian authorities decided to abandon the bimetallic standard.

The new monetary law passed in 1890 stipulated that silver was to be removed from the monetary standard. Hence, the authorities opted for gold monometallism, with silver coins remaining in circulation only as fractional coins. The BNR opposed the move to the gold standard. As a matter of fact, this legislation was enforced no sooner than 1892. Accordingly, one *leu* was equivalent to 0.3226 grams of gold with fineness of 900‰. The 1890 law and the statute of the BNR set forth a gold cover of the banknotes in circulation of at least 40%, of which bills of exchange denominated either in pound sterling or German mark could account for as much as 30%. Starting with 1901, the lower bound of the total cover could be lowered to 33% under exceptional circumstances, and the bills of exchange included in its composition could be denominated in French francs and Belgian francs as well.

The BNR was founded in virtue of the law enacted on 17 April 1880. Its capital amounted to *lei* 30 million, of which two thirds were subscribed by private entities and one third by the government. In 1901, the government sold its stake in the BNR, which thus became a private bank, its capital remaining at the level set 21 years earlier.

The BNR was vested with the sole power to issue banknotes for as long as two decades. The notes were convertible into either gold or silver, and from 1892 onwards in gold and gold currencies, upon presentation, at the bank's desks. The prerogative of currency issuance was extended several times in succession and is still valid nowadays.

The head office of the BNR is in Bucharest and the first branches, opened as early as 1881, were located in Brăila and Galați (two port cities, close to the

¹ Further information on the relations between Romania and the Latin Monetary Union is presented in Costin C. Kirițescu's book titled *Sistemul de la 1867 și Uniunea Monetară Latină*, the volume *Crearea sistemului monetar național la 1867*, Editura Academiei, Bucharest, 1968.

mouths of the Danube), Craiova (the second-largest city in southern Romania) and Iași (the former capital city of Moldavia). By the end of the 19th century, the number of branches in operation had increased to 21, thus the National Bank conducting business activity in every county seat.

2. Introducing the Statistical and Historical Data Series

The database mentioned in this presentation covers the 1880–1914 time span, with yearly entries. It consists of four historical series of utmost importance for describing modern Romania's monetary history: the exchange rates of the *leu* versus other currencies, the international reserves, the volume of banknotes in circulation, the discount rate applied by the NBR.

Data concerning exchange rates include annual averages of the ratio between the Romanian *leu*, on the one hand, and the French franc, the pound sterling and the German mark, on the other. These readings were calculated based on the monthly averages between the minimum and the maximum exchange rates recorded when trading cheques drawn on other countries on the Bucharest Stock Exchange. For the time periods² during which *The Official List of Securities of the Bucharest Stock Exchange* does not provide information on the exchange rate, data published by exchange houses in Bucharest were used. A particular feature of the *leu* in relation to the three currencies mentioned above is its great stability, owing to the maintenance of the domestic currency convertibility throughout the period.

The international reserves of the BNR during 1880–1914 depicts the end-of-year data recorded in the central bank's annual balance sheets and comprises metal stock (column 1), mortgage notes and bills of exchange included in the total cover depending on the legal provisions at the time (columns 2 and 3); for 1881–1892, data also include foreign currency-denominated commercial bills in the NBR portfolio (column 4).

From 1881 to 1891, metal stock consisted of gold and silver. After 1892, the metal stock included gold only.

The total cover and hence the international reserves included mortgage notes 1881 through 1889. These mortgage notes were put into circulation in 1878 through *Casa de Economii și Consemnațiuni* (the Savings Bank). The issue was backed by the government's land properties and withdrawal from circulation was scheduled to be performed on a gradual basis, by selling the aforementioned properties. Upon its establishment, the BNR committed itself – in virtue of an agreement concluded with the government – to withdrawing the mortgage notes from circulation and replacing them with its own banknotes. Subsequently, the

² July through November 1882, June through December 1884 and January through April 1885.

government was supposed to redeem these mortgage notes. Until maturity date, they were included in the central bank's total cover, as collateral for the banknote issue.

After 1892, according to the new monetary law, some 30% of the gold cover of banknotes in circulation could be accounted for by commercial bills denominated in gold foreign exchange, pound sterling and German mark to start with, and, after 1901, in French and Belgian francs.

During 1881/1892, the available sources provide further information on foreign currency-denominated commercial bills in the NBR portfolio. They were not part of the total cover of the issuing house, yet they were incorporated into the bank's international reserves as the NBR's available funds denominated in foreign currencies.

Data concerning banknotes in circulation issued by the BNR refer to the end-of-year data.

The last of the historical series presented is the discount rate applied by the central bank on the early redemption of a commercial bill with a three-month maturity. The rate was set on a weekly basis by the NBR Discount Committee, yet the statistical series shown hereby refer mainly to the seesaw movements in the interest rate. It is worth noting that the NBR discount rate was left unchanged over long time spans at relatively low levels, ranging between 4 and 6%. This led to looser lending conditions and hence commercial, industrial and banking activity thrived, since lending rates on the Romanian market ranged between 15 and 20% prior to the establishment of the central bank.

3. Data Sources

Data concerning the international reserves, the discount rate and banknotes in circulation have been taken from the *NBR, Reports of the Board of Directors to the General Shareholders' Meeting* between 1881 and 1915. Information on exchange rate developments of the *leu* versus the French franc, the pound sterling and the German mark has been collected from *The Official List of Securities of the Bucharest Stock Exchange*, 1882–1914 and from the *NBR, Reports of the Board of Directors to the General Shareholders' Meeting* during 1893–1915.

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Table 1: Exchange Rates in Bucharest

Annual averages	leu/French franc	leu/German mark	leu/pound sterling
1882 ¹⁾	1.000	1.234	25.218
1883	1.000	1.233	25.227
1884	1.002	1.237 ²⁾	25.251 ³⁾
1885	1.004	1.240	25.228 ⁴⁾
1886	1.002	1.239	25.302
1887	1.004	1.246	25.413
1888	1.002	1.243	25.368
1889 ⁵⁾	1.000	1.233	25.211
1890	1.001	1.237	25.230
1891	1.001	1.235	25.249
1892	1.003	1.238	25.251
1893	1.003	1.239	25.287
1894	1.007	1.241	25.331
1895	1.004	1.238	25.323
1896	1.003	1.238	25.280
1897	1.004	1.240	25.277
1898	1.002	1.239	25.327
1899	1.018	1.255	25.677
1900	1.013	1.245	25.483
1901	1.009	1.243	25.373
1902	1.004	1.235	25.251
1903	1.005	1.237	25.274
1904	1.008	1.242	25.367
1905	1.007	1.239	25.347
1906	1.007	1.238	25.350
1907	1.008	1.239	25.400
1908	1.013	1.242	25.442
1909	1.007	1.239	25.351
1910	1.004	1.238	25.335
1911	1.001	1.236	25.274
1912	1.006	1.240	25.402
1913	1.017	1.255	25.703
1914	1.010	1.244	25.446

¹⁾ Average July-Dec.

²⁾ Average January-April, June-Dec.

³⁾ Average January-March, June-Sept.

⁴⁾ Average May-Dec.

⁵⁾ Average April-Dec.

Source: NBR, *Reports of the Board of Directors to the General Shareholders' Meeting, 1893–1915*
The Official List of Securities of the Bucharest Stock Exchange, 1882–1891.

Table 2: Reserves: Gold, Silver and Foreign Exchange Reserves

End of year values in lei

Date	Gold and silver coins*	Mortgage notes	Gold bills of exchange	Commercial bills denominated in foreign currency	Total
	1	2	3	4	5=1+2+3+4
1881	21,336,342.7	14,168,270.0		2,748,848.0	38,253,460.7
1882	23,838,163.8	24,338,875.0		5,788,307.6	53,965,346.4
1883	34,519,945.7	25,531,240.0		2,754,357.4	62,805,543.1
1884	33,981,886.1	25,812,735.0		2,025.0	59,796,646.1
1885	34,120,250.7	25,902,605.0		15,037.5	60,037,893.2
1886	33,180,319.8	25,956,500.0		65,779.5	59,202,599.3
1887	31,890,566.1	25,877,420.0		139,466.0	57,907,452.1
1888	32,430,926.4	25,744,280.0		0.0	58,175,206.4
1889	39,523,865.1			23,192,033.3	62,715,898.4
1890	45,616,335.6			15,732,694.3	61,349,029.8
1891	60,652,262.4			14,482,644.0	75,134,906.4
1892	53,160,703.7		13,954,339.8	315,584.1	67,430,627.6
1893	59,614,560.7		8,185,432.0		67,799,992.7
1894	44,501,370.5		1,610,555.0		46,111,925.4
1895	60,996,199.5		3,208,291.4		64,204,490.9
1896	62,264,991.4		14,110,666.1		76,375,657.5
1897	57,781,344.9		15,115,586.8		72,896,931.7
1898	59,828,144.2		20,942,534.3		80,770,678.5
1899	34,737,588.0		14,587,568.1		49,325,156.1

Table 2 continued: Reserves: Gold, Silver and Foreign Exchange Reserves

Date	Gold and silver coins*	Mortgage notes	Gold bills of exchange	Commercial bills denominated in foreign currency	Total
	1	2	3	4	5=1+2+3+4
1900	39,902,734.7		10,182,880.4		50,085,615.1
1901	49,107,433.6		20,275,149.0		69,382,582.6
1902	72,168,188.1		28,731,158.8		100,899,346.9
1903	73,462,380.4		30,871,943.1		104,334,323.5
1904	53,922,746.8		20,183,412.3		74,106,159.1
1905	77,780,868.3		31,407,905.2		109,188,773.4
1906	82,860,999.6		34,547,232.2		117,408,231.7
1907	96,222,822.9		39,384,680.6		135,607,503.5
1908	90,394,496.2		33,688,703.7		124,083,199.9
1909	93,841,631.5		38,046,223.1		131,887,854.6
1910	120,023,216.1		48,889,157.0		168,912,373.1
1911	157,799,779.3		61,366,717.8		219,166,497.1
1912	155,504,865.6		63,430,277.5		218,935,143.1
1913	151,510,764.2		56,534,181.0		208,044,945.2
1914	153,956,720.0		62,941,120.4		216,897,840.4

Note: From 1892 only gold.

Source: BNR, Reports of the Board of Directors to the General Shareholders' Meeting, 1882–1915.

*Table 3: Banknotes in Circulation**end -of-year values in lei*

1881	58,536,470.0
1882	84,405,920.0
1883	88,546,170.0
1884	85,961,980.0
1885	98,318,620.0
1886	104,513,020.0
1887	105,029,620.0
1888	103,850,350.0
1889	97,187,200.0
1890	108,429,300.0
1891	125,872,670.0
1892	114,968,710.0
1893	128,461,040.0
1894	103,117,220.0
1895	153,598,310.0
1896	142,617,770.0
1897	145,633,190.0
1898	162,334,020.0
1899	108,718,900.0
1900	138,622,180.0
1901	144,965,400.0
1902	167,324,240.0
1903	177,635,670.0
1904	167,144,770.0
1905	237,614,160.0
1906	249,337,190.0
1907	271,005,760.0
1908	259,063,700.0
1909	282,630,150.0
1910	339,804,300.0
1911	443,357,890.0
1912	425,180,740.0
1913	437,182,410.0
1914	578,243,647.5

Source: BNR, Reports of the Board of Directors to the General Shareholders' Meeting, 1882–1915.

Table 4: Romanian Discount Rates

Year	Day	Month	%
1881	1	1	5.00
	6	2	4.00
1884	29	11	5.00
1887	30	9	6.00
1890	1	4	5.00
1892	25	2	6.00
1893	13	3	5.00
	20	11	6.00
1894	6	8	7.00
	1	10	6.00
1895	15	4	5.00
1898	8	10	6.00
1899	1	1	5.00
	25	6	6.00
	1	7	7.00
	1	10	8.00
	10	12	9.00
1900	19	2	8.00
1901	1	4	7.00
1902	1	2	6.00
	14	8	5.00
1907	30	8	6.00
	19	9	7.00
	27	10	8.00
	29	12	7.00
1908	10	1	6.00
	28	2	5.00
1912	19	10	6.00
1914	1	5	5.50
	18	7	6.00
	25	7	7.00
	25	8	6.00

Source: BNR, Reports of the Board of Directors to the General Shareholders' Meeting, 1882–1915.

Serbia

Milan Šojić

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Narodna banka Srbije

Introduction

The Law on Minting Silver Coins of 1873 set out the dinar as the Serbian national monetary unit. In conformity with the rules of the Latin Monetary Union, this legislation also established a ratio of 1:1 with the French franc. The dinar should be minted of silver with a fineness of 835/1000 and weigh 10, 5 and 2.5 grams (in the denominations of 2, 1 and 0.50 dinars) respectively. The government had the exclusive right to mint money.

The law on minting Serbian gold coins was passed after Serbia proclaimed its independence in 1878. The law prescribed the minting of 20- and 10-dinar gold coins, a clear indication that Serbia intended to adopt the gold standard. As opposed to the Latin Monetary Union, it was planned that the government alone should have the right to mint not only silver and copper coins, but gold coin as well.

Bank notes issued by the Privileged National Bank of the Kingdom Serbia were either backed by gold or by silver. The first gold-backed 100-dinar banknotes were issued immediately after the establishment of the National Bank in 1884. However, as these banknotes could not be retained in circulation, silver-backed 10-dinar banknotes were issued as early as in 1885. The 1885 Law on the National Bank of Serbia stipulated that “the National Bank shall exchange each of its 10-dinar banknotes against silver, and its 50, 100, 500 and 1,000-dinar banknotes against gold, at full nominal value without any deductions, as soon as the banknote is presented for redemption at its main cash vault. The bank shall never place more banknotes into circulation than 2.5 times the amount of gold it holds in its vaults. Not more than one quarter of gold can be replaced with silver”. Parallel circulation of banknotes redeemable in either gold or silver remained the basis of Serbia’s monetary system all the way through to World War I.

The dinar remained a relatively stable currency during the period from 1884 to 1914. Its exchange rate against the French franc, the Austro-Hungarian currency and other Balkan currencies shows little volatility. The legally prescribed minimum backing for banknotes in circulation of 40% was observed without exception. The obligation to convert paper money into gold or silver was continually complied with, except in two instances – at the outbreak of the Balkan Wars (1912) and on the eve of World War I.

Note: Serbia switched to the Gregorian calendar on 23 January 1919. Therefore, all dates are according to the Julian calendar.

Table 1: Exchange Rates in Belgrade – Price (in Dinar) for a 20-Dinar Gold Coin and for 100 Austro-Hungarian Forints

	<i>20-dinar gold coins</i>	<i>Austrian forints (100 forints)</i>
1892	21.35	x
1893	22.15	x
1894	23.10	x
1895	22.89	236.30
1896	22.19	232.51
1897	21.28	223.13
1898	22.18	232.35
1899	21.79	227.93
1900	22.21	230.59
1901	22.38	236.56
1902	21.90	230.79
1903	20.80	215.84
1904	20.40	212.92
1905	20.24	211.64
1906	20.09	209.95
1907	20.03	209.24
1908	20.26	211.92
1909	20.43	x
1910	20.11	x
1911	20.03	x
1912	20.24	x
1913	21.24	x

Source: Based on daily data published in “Serbian Newspapers” – for the period before 1899 and after 1908; Statistical Yearbook of the Kingdom of Serbia (1913) – for the period 1899–1908.

*Table 2: Reserves: Gold, Silver and Foreign Exchange Reserves**End-of-year values in million dinar*

	Gold	Silver	Foreign Exchange Reserves	Sum
1884	0.87	0.00	0.36	1.23
1885	1.21	0.04	0.31	1.55
1886	1.22	1.45	0.36	3.04
1887	1.82	2.78	0.30	4.90
1888	3.41	4.03	0.51	7.95
1889	5.80	4.43	0.78	11.01
1890	7.92	4.45	0.36	12.72
1891	8.69	4.19	0.22	13.10
1892	9.19	4.11	0.16	13.46
1893	9.02	4.01	0.46	13.49
1894	6.44	4.29	0.64	11.37
1895	6.24	4.67	0.97	11.88
1896	7.16	4.91	0.74	12.80
1897	5.98	7.34	0.92	14.23
1898	4.68	9.23	0.85	14.76
1899	7.17	8.98	1.53	17.68
1900	6.81	8.97	0.87	16.65
1901	6.62	8.97	1.54	17.13
1902	10.97	8.80	1.70	21.47
1903	15.85	8.67	1.79	26.31
1904	11.63	6.78	5.23	23.65
1905	12.41	8.67	4.88	25.96
1906	11.10	8.25	3.01	22.36
1907	14.10	7.43	3.38	24.92
1908	18.07	6.92	4.50	29.48
1909	13.38	6.64	9.23	29.25
1910	24.39	6.73	5.84	36.96
1911	33.66	6.52	10.60	50.78
1912	50.44	3.54	26.09	80.06
1913	57.84	4.27	3.64	65.75
1914	57.17	2.20	134.03	193.40

Source: National Bank 1884–1934 Institute for Manufacturing Banknotes and Coins Topcider, Belgrade, 1935.

*Table 3: Banknotes in Circulation – Gold- and Silver-Backed Banknotes**End-of-year values in million dinar*

	Gold backed banknotes	Silver backed banknotes	Total circulation
1884	0.781800	0.000000	0.781800
1885	1.568700	1.931340	3.500040
1886	0.437550	5.301320	5.738870
1887	0.182230	9.855570	10.037800
1888	0.141350	13.937010	14.078360
1889	0.101950	17.233520	17.335470
1890	0.082300	23.393140	23.475440
1891	0.122600	27.148930	27.271530
1892	0.160450	28.714000	28.874450
1893	0.195550	26.570850	26.766400
1894	0.548000	24.515580	25.063580
1895	0.421950	24.167990	24.589940
1896	0.659150	23.802010	24.461160
1897	0.974800	22.865880	23.840680
1898	0.364150	32.780440	33.144590
1899	0.839900	33.167230	34.007130
1900	0.849150	35.029470	35.878620
1901	1.117000	33.941690	35.058690
1902	2.123750	34.689700	36.813450
1903	3.684950	35.166200	38.851150
1904	3.142200	34.874990	38.017190
1905	3.104050	33.981150	37.085200
1906	2.278650	27.952140	30.230790
1907	7.556570	29.807050	37.363620
1908	3.373840	47.038010	50.411850
1909	3.464480	46.383620	49.848100
1910	7.037260	42.617370	49.654630
1911	13.981340	51.841880	65.823220
1912	5.336440	88.288860	93.625300
1913	4.285280	99.153290	103.438570
1914	3.665120	163.595970	167.261090

Source: National Bank 1884–1934 Institute for Manufacturing Banknotes and Coins Topcider, Belgrade, 1935.

Table 4: Serbian Discount Rates

Year	Day	Month	%
1884	1	1	5.50
	16	10	7.00
1885	1	1	6.00
	12	2	6.00
	18	4	6.00
	19	8	7.00
	7	9	8.00
1886	1	1	7.50
	1	11	7.00
1891	6	3	6.50
1892	9	3	7.50
	18	3	8.50
1893	11	1	7.50
1905	2	3	5.00
1908	24	9	8.00
1910	24	6	6.00
1911	5	8	5.00
1912	27	6	6.00

Source: National Bank 1884–1934, Institute for Manufacturing Banknotes, Belgrade, 1935.

Contributors

Stephan Barisitz passed his doctoral examination in economics with distinction in 1986 after studies at Innsbruck University, Austria, and Carleton University, Canada. His professional career includes these stages: 1986–1990: Economist at the Vienna Institute for Comparative Economic Studies (wiiw). 1990–1991: Economist and editor of the publications of the private consulting firm International Business Research Marktforschungsges.m.b.H. in Vienna. 1992–1995: Economist at the Austrian Institute of East and Southeast European Studies (OSI), editor of “Presseschau Ostwirtschaft” and economic editor of “Oesterreichische Osthefte”. 1995–1998: Economist on the Russia-CIS-Bulgaria-Desk of the Economics Department of the OECD, Paris. Since 1998: Senior Economist in the Foreign Research Division of the OeNB.

Peter Bernholz studied economics at the universities of Marburg and Munich and earned degrees of Diplom-Volkswirt in 1953 and of Dr. rer. pol. with a thesis on *Die Mehrergiebigkeit laengerer Produktionswege und die reine Kapitaltheorie (The Superiority of more Roundabout Production Processes and the Pure Theory of Capital)* in 1955, at Marburg University. He habilitated in economics with a thesis on *Foreign Policy and International Economic Relations* at Frankfurt University in 1962. He was a Rockefeller Fellow at Harvard and Stanford Universities from 1963 to 1964. Afterwards, he worked as an Assistant Professor at the University Frankfurt (1964–1966), Ordinarius (Full Professor) at the Technische Universitaet Berlin from 1966 to 1971. Since 1971, Peter Bernholz has served as Ordinarius for Economics, especially for Economic Policy and for Monetary and International Economics, and Institute Director at Universitaet Basel, Switzerland. He also was the Dean of the Faculty of Philosophy and History (1982–1983). Since his retirement, he has been asked to offer several courses on the *European Monetary and Economic Union* at the Europainstitut of the University Basel, the last time in 2007.

Elisabeta Blejan was born in August 1967. From 1986 to 1991, she studied at the Faculty of Management at the Academy of Economic Studies in Bucharest. In 1994, she joined the National Bank of Romania. There, Ms. Blejan has been working in the Statistics Department of the Balance of Payments Division and published as co-author in Working Papers of the Romanian National Bank.

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Economics, Belgrade, Economic Adviser, Federal Government of Yugoslavia (1992–1998).

Yuri Goland (born 1943) studied at the Moscow State University named after M. Lomonosov, Department of Physics. After his Ph.D., he joined the P. Kapitza Institute of the Russian Academy of Sciences (RAS) as a junior researcher; senior researcher; head of the Department of International Economic Relations. In 1995, he started working for The Expert Institute of the Russian Union of the Industrialists and Entrepreneurs. In 2002, he signed up at the Institute for International and Political Studies of the RAS and in 2005, he became a senior researcher at the Institute of Economy of the RAS. His main research interests include transitional economies, especially economy of the period of new economic policy (NEP) in the USSR, and the problems of modern Russian economic policy. In part, investigations of monetary, currency and investment policy from the point view of accelerating of economic growth.

Yüksel Görmez who studied at the East Technical University, Department of Economics, Ankara (BA Economics) and the University of Exeter (UK) holds a Ph.D. in Banking from the City University Business School, London; Department of Banking and Finance. His working experience includes employment with the Central Bank of Turkey (1989–1998), the Bank of Finland (2000) and the World Gold Council in London (2001). In 2001, he joined again the Central Bank of Turkey, where he was occupied in the Securities Market Division and the General Directorate of Research. In 2005, he became Head of Financial Research.

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Sophia Lazaretou has been working as an economist-researcher in the Economic Research Department of the Bank of Greece since 1997. She was a lecturer on International Monetary Economics at the University of Macedonia (1994–1997). She was also a visiting Professor of Macroeconomics at the University of Crete (1993–1994) and the Hellenic Open University (2005–2007). She obtained her Ph.D. in International Monetary Economics from the Athens University of Economics and Business and EUI (Florence) in 1993. She has published many papers in

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Peter Mooslechner, born in 1954, is the Director of the Economic Analysis and Research Section of the Oesterreichische Nationalbank, Vienna. He studied Economics at the Johannes Kepler University, Linz (Austria) where he also received his Doctorate in 1981. Since then he has been teaching economics and economic policy at several universities, including those of Linz, Innsbruck, Salzburg and the University of Economics, Vienna. He worked at the Austrian Institute of Economic Research (WIFO) for more than 15 years, joined the Oesterreichische Nationalbank in 1996 to become the Head of the Economic Analysis Division and in 1999 he was appointed Director of the Economic Analysis and Research Section. He is a Member of the Monetary Policy Committee of the ECB, Member of the Heads of Research Group of the Eurosystem as well as a Board Member of the Austrian Economic Association and a Member of the Editorial Board of *EMPIRICA* among a number of other positions. His main areas of research and publications cover macroeconomics, monetary and fiscal policy, financial markets and banking, the development of economic institutions and Eastern European issues.

Matthias Morys earned a Ph.D. (2006) and a M.Sc. (2001) from the London School of Economics before starting to work as a Postdoctoral Research Fellow at Oxford University. His Ph.D. thesis entailed a comparison of Austria-Hungary's and Italy's experience under the Classical Gold Standard (1870s–1914). His research focuses mainly on 19th and 20th centuries economic history, with an emphasis on European monetary and financial history. Current work includes understanding the emergence of the Classical Gold Standard in the 1870s and analyzing causes, consequences and sustainability of late 19th century globalization (the latter to be published as a book chapter, co-authored with Kevin O'Rourke and

Guillaume Daudin, in *An Economic History of Modern Europe* (Cambridge University Press 2008)).

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Martin Jakob Pontzen, born in November 1960, studied economics, policy and history in Frankfurt/Main (Ph.D) and Vienna. He was Tutor at Johann-Wolfgang-Goethe-University in Frankfurt and lectures at the Frankfurt Bank-Akademie now the Frankfurt School of Finance and Management. He worked for Deutsche Bank AG and BASF AG. Since 20 years he has been employed with Deutsche Bundesbank where he started his career as trainee, was Deputy Director in a main branch and then transferred to the Bundesbank Headquarters. During a three-year diplomatic posting at the Embassy of Germany in Moscow, Mr. Pontzen served as First Secretary/Counsellor and Representative of Deutsche Bundesbank. While in Russia, he also lectured at MGU State University in Moscow. He is now Bundesbankdirector in the Centre for Technical Central Bank Cooperation and is responsible for consultancies with other central banks.

Thomas Scheiber has been employed with the Oesterreichische Nationalbank since 2006. His work at the Foreign Research Division has been focused on the analysis of real and nominal convergence, external vulnerabilities in CESEE countries and euroization and more recently on the economic performance of the euro area. In 2005 Thomas Scheiber collaborated in the Team of the Austrian Wealth Study of the Oesterreichische Nationalbank. From 2003 to 2005 he was

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Franziska Schobert, born in 1969, graduated in economics at the Goethe University in Frankfurt and in International Banking and Financial Studies at the Heriot-Watt University in Edinburgh. She earned her doctorate from the Goethe University in 2002. Since 2003, she has been working as financial markets adviser at the Centre for Technical Central Bank Cooperation of the Deutsche Bundesbank where she gives advisory and training services for interested foreign central banks.

Milan Sojić is the Head of the Economic Research Section of the National Bank of Serbia. Previously, he performed as Managing Director of the Institute of Social Sciences of the Centre for Economic Research and as senior researcher at the Institute for Market Research. Besides, he was an Associate Professor of Financial Statistics at the Belgrade Banking Academy. Mr. Sojic has published numerous papers on the methodology and forecasting of economic and financial developments, financial and monetary system, research of market, prices and macroeconomic developments in analytical publications, and in domestic and foreign journals. He is a member of the Scientific Society of Economists and the Association of Economists of Serbia and participated in various domestic and international congresses, seminars and meetings and he is the representative of the NBS for cooperation with the official EU statistics body – EUROSTAT and the Bank for International Settlements - BIS-Basel.

George Virgil Stoenescu (born in 1947) studied at the Faculty of Foreign Trade, Academy of Economic Studies (Bucharest). In 1987, he earned his doctoral degree in economics with his dissertation: “Current Theories Concerning International Economic Relations”. In 1972, Mr. Stoenescu started an UNCTAD Scholarship at the Foreign Trade Institute (Paris) and at the Institute of Political Studies (Paris). From 1996 to 2004, he was employed as Professor at the Communications and Economic Doctrines Department, Academy of Economic Studies, Bucharest. Since 2004, he has been a member of the board of the National Bank of Romania. Besides, Mr. Stoenescu is a member of the editorial board of the “Oeconomic” magazine and a member of the Writers’ Union. He has also received various awards i.e. the “Mihai Eminescu” Prize for the book “My Brother”.

Biljana Stojanović was born in 1955 in Belgrade. She studied at the University of Belgrade and holds a Ph.D. degree (Foreign Exchange Policy and Convertibility of the Dinar) from the School of Economics. Ms. Stojanović started her professional career at the Economic Institute (Belgrade) in 1987; from 1992 to 2001 she was employed at the Institute of Economic Sciences. Then she joined the School of

Goeconomics at the Megatrend University, where she has been Vice-Dean since 2004. Biljana Stojanović has published various papers and books on economic history.

Gökhan Yilmaz (born 1977) works as assistant economist at the Research Department of the Central Bank of Turkey. Previously, he was employed with the OECD as an economist from 2005 to 2006. He studied at Marmara University in Istanbul (1995–1999) and completed his studies at the Middle East Technical University, Department of Economics, Ankara, Turkey with a MS in economics. (graduation dissertation: “Financial Dollarization, (de)dollarization and the Turkish Experience”).

List of “Workshops – Proceedings of OeNB Workshops”

For further details on the following publications see www.oenb.at

	<i>published</i>
No. 6 Capital Taxation after EU Enlargement <i>Vienna, 21 January 2005</i>	10/2005
No. 7 The European Integration Process: A Changing Environment for National Central Banks <i>Vienna, 21 October 2005</i>	3/2006
No. 8 Price Setting and Inflation Persistence in Austria <i>Vienna, 15 December 2005</i>	4/2006
No. 9 New Regional Economics in Central European Economies: The Future of CENTROPE <i>Vienna, 30 to 31 March 2006</i>	6/2006
No. 10 Strategies for Employment and Growth in Austria <i>Vienna, 3 March 2006</i>	9/2006
No. 11 From Bretton Woods to the Euro – Austria on the Road to European Integration <i>Vienna, 29 November 2006</i>	7/2007
No. 12 Emerging Markets: Any Lessons for Southeastern Europe? <i>Vienna, 5 to 6 March, 2007</i>	8/2007

Periodical Publications

of the Oesterreichische Nationalbank

For further details see www.oenb.at

Monetary Policy & the Economy

quarterly

This quarterly publication, issued both in German and English, offers analyses of current cyclical developments, medium-term macroeconomic forecasts and studies on central banking and economic policy topics. It also summarizes the findings of macroeconomic workshops and conferences organized by the OeNB.

Statistiken – Daten & Analysen

quarterly

This publication contains brief reports and analyses focusing on Austrian financial institutions, cross-border transactions and positions as well as financial flows. The contributions are in German, with executive summaries of the analyses in English. The statistical part covers tables and explanatory notes on a wide range of macroeconomic and financial indicators. The tables and additional information and data are also available on the OeNB's website in both German and English. This series also includes special issues on selected statistics topics published at irregular intervals.

econ.newsletter

quarterly

The quarterly English-language newsletter is published only on the Internet and informs an international readership about selected findings, research topics and activities of the OeNB's Economic Analysis and Research Section. This publication addresses colleagues from other central banks or international institutions, economic policy researchers, decision makers and anyone with an interest in macroeconomics. Furthermore, the newsletter offers information on current publications, studies or working papers as well as events (conferences, lectures and workshops).

For further details see www.oenb.at/econ.newsletter

Financial Stability Report

semiannual

Issued both in German and English, the *Financial Stability Report* contains first, a regular analysis of Austrian and international developments with an impact on financial stability and second, studies designed to provide in-depth insights into specific topics related to financial market stability.

Focus on European Economic Integration*semiannual*

The English-language publication *Focus on European Economic Integration* is the successor publication to *Focus on Transition* (published up to issue 2/2003). Reflecting a strategic regional research priority of the OeNB, this publication is a channel for communicating our ongoing research on Central and Eastern European countries (CEECs) as well as Southeastern European (SEE) countries ranging from economic country studies to studies on central banking issues and related topics. One of the purposes of publishing theoretical and empirical studies in the *Focus on European Economic Integration*, which are subject to an external refereeing process, is to stimulate comments and suggestions prior to possible publication in academic journals.

Workshops – Proceedings of OeNB Workshops*three to four issues a year*

The *Proceedings of OeNB Workshops* were introduced in 2004 and typically comprise papers presented at OeNB workshops at which national and international experts, including economists, researchers, politicians and journalists, discuss monetary and economic policy issues. Workshop proceedings are generally available in English only.

Working Papers*about ten papers a year*

The OeNB's *Working Paper* series is designed to disseminate, and provide a platform for discussing, findings of OeNB economists or outside contributors on topics which are of special interest to the OeNB. To ensure the high quality of their content, the contributions are subjected to an international refereeing process.

Economics Conference (Conference Proceedings)*annual*

The *Economics Conference* hosted by the OeNB represents an important international platform for exchanging views and information on monetary and economic policy as well as financial market issues. It convenes central bank representatives, economic policymakers, financial market players, academics and researchers. The conference proceedings comprise all papers presented at the conference, most of them in English.

**Conference on European Economic Integration
(Conference Proceedings)***annual*

This series, published in English by a renowned international publishing house, reflects presentations made at the OeNB's annual conference on Central, Eastern and Southeastern European issues and the ongoing EU enlargement process (formerly East-West Conference).

For further details see ceec.oenb.at

Annual Report

annual

The *Annual Report* of the OeNB provides a broad review of Austrian monetary policy, economic conditions, new developments in the financial markets in general and in financial market supervision in particular as well as of the OeNB's changing responsibilities and its role as an international partner in cooperation and dialogue. It also contains the OeNB's financial statements.

Intellectual Capital Report

annual

The *Intellectual Capital Report* has been published since 2003 as a review of the OeNB's intellectual capital and its use in the OeNB's business processes and services. The report provides an integrated view of the strategically important management of human, relational, structural and innovation capital; it clarifies the relationships between different types of capital and describes various determinants that influence the OeNB's intellectual capital. The findings of the report serve to assess the consistency of the OeNB's intellectual capital with its knowledge-based strategic orientation.