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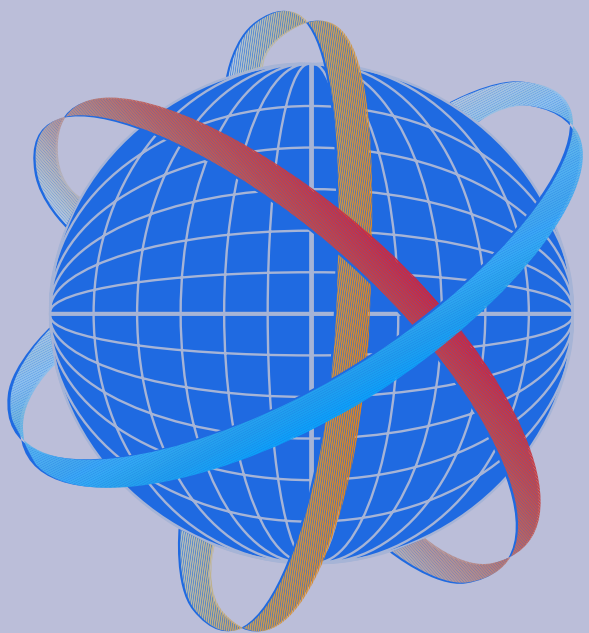
A Changing Role for Central Banks?



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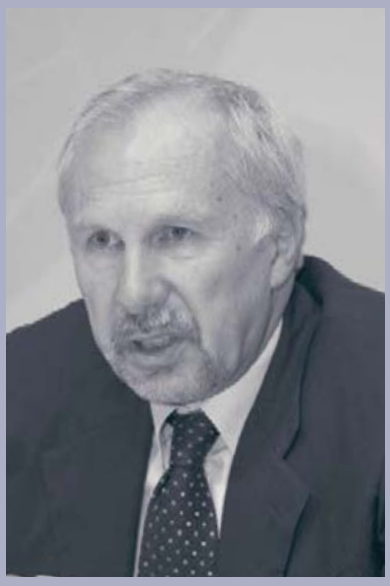

Opening Remarks

Ladies and gentlemen,
I would like to welcome all of you to the 41st Economics Conference of the Oesterreichische Nationalbank here in Vienna.

My warmest regards to State Secretary of Finance Andreas Schieder, and our keynote speakers, Benoît Coeuré, Member of the ECB Executive Board, and Harold James, Professor at Princeton University.

I am delighted and honored to welcome very prestigious speakers among us today, who will enrich this conference with their insightful ideas and novel research.

The OeNB's Economics Conference traditionally brings together leading policymakers, central bankers and academic economists from all over Europe, as well as representatives of civil society, the private sector, and the media. With its focus on issues that are relevant and inspiring to policymakers, academics and the general public alike, the conference offers a valuable platform for discussion that is widely appreciated.

A *Changing Role for Central Banks?* is the question addressed at this year's conference. Our aim is to discuss different perspectives on central banking – its responsibilities, goals and instruments – and to offer a forum for thoughts on how to deal with current and future challenges.

I am looking forward to the interesting and stimulating discussions that we will have on these issues over the next two days.

Let me begin with some brief remarks on the historical roots of central banks. Central banks vary in terms of their founding years, with a first wave of formal institutionalization starting in the 17th century[1] and a second wave in the 19th and early 20th century.[2] They quite often have diverse backgrounds and developments across different countries.

One common denominator for central banks is that monetary coordination emerged as a response to crisis situations and the collapse of financial mechanisms. As an example, I would like to mention the shattered financial systems across Europe in the 19th century, which were a direct consequence of the Napoleonic Wars. To control the impacts of profound hyperinflation, the Oesterreichische Nationalbank was founded in 1816 – an event we will proudly commemorate in 2016.

If we look at the history of central banking and compare the early institutions with their contemporary successors, two features stand out that have

undergone considerable changes over the decades. The first is related to the objectives central banks have been given; the second concerns the interplay between fiscal policy and central banking.

[1] *E.g. 1668 Swedish Riksbank, 1694 Bank of England.*

[2] *E.g. 1800 Banque de France, 1913 Federal Reserve System.*

As far as central bank objectives are concerned, one can observe that the responsibilities of central banks have gone through different phases of transformation. The early central banks were predominantly focused on financial stability. They helped to stabilize currencies and fund government debt, but also facilitated bank transactions, provided repositories and ultimately served as a lender of last resort.

In the postwar era following World War II central banks focused on classical macroeconomic stability, when global monetary turbulences centered on exchange rate regimes. Nowadays the momentum is redirected again toward more financial stability. The evolution of these responsibilities has been similar, though not identical, across most industrialized countries.

This brings me to the second aspect that has considerably changed: the relation between central banks and governments. During the 19th century, central banks were very closely interlinked with national governments. Only in the late 20th century did we observe a shift in emphasis toward the institutional autonomy of central banks. One can safely say that the status, reputation and self-image of central banks have considerably improved over the years. Today, central banks alongside parliaments, governments and judiciary are among the pillars of modern democratic nations.

At our conference we will discuss what kind of pillar of the democratic system a central bank *is* or *should be*. In my short introduction, I want to emphasize two relevant and interconnected issues that are relevant to this discussion:

1. The role of a central bank in the general context of economic policy, and
2. The concept of central bank independence.

In the period after the *Great Depression* of the 1930s and in the first decades after World War II, the mandate of central banks usually reflected the traumatic experiences both of high inflation and mass unemployment. This is e.g. reflected in the broader mandate of the U.S. Fed and also applied to the mandate of Austria's central bank before Austria joined EMU.

In the period following the oil price shocks and up to the *Great Recession*, the economic crisis we have been experiencing for five years now, the role of central banks seemed to be clear cut: central banks should focus on price stability, should operate mainly with one instrument – the policy rate – and should be independent in their actions. This was also the leading perspective when laying the foundation of the European Central Bank – the Maastricht Treaty in 1992. It reflected a strong position of economic theories based on a firm belief in perfectly functioning markets, and was supported by empirical evidence such as a situation of strong – or at least adequate – economic growth and at the same time full price stability. A happy historical episode that would later on become known as the *Great Moderation*.

Unfortunately, we now know that the optimism of this period had not

been well founded in many respects. It was based on very specific circumstances: The low inflation rates were to a large extent caused by special globalization effects, such as rapidly rising cheap imports from Asia. In important but poorly regulated markets, financial and real estate bubbles developed. In Europe, current account disequilibria – and to a lesser extent fiscal disequilibria – were growing.

We all know what happened later. Indeed, there have been critical moments when the financial system of the advanced economies, maybe the whole world, was threatened with meltdown. In this situation central banks reacted fast and forcefully by using conventional and unconventional instruments. With regard to the financial system, a fair amount of stabilization has been achieved. But we still see major challenges for the banking sector, and – especially in Europe – we still see a struggling real economy and overstretched public finances. This is why an accommodative monetary policy stance is still needed.

One has to be aware, of course, that this kind of monetary policy, like any policy measure, may also have problematic side effects. These potential side effects have led to a number of critical reflections, especially in the German-speaking countries. In my view, central banks have to take side effects into account and have to be cautious about them. But central banks also have to have a clear view of priorities and of the potential macroeconomic costs of moving away from the present monetary policy stance.

The limits of monetary policy with regard to overcoming a deep and long-lasting crisis of the real economy have become very obvious in the recent past. There is a large variety of problems that are at the core of this crisis, ranging from political to structural problems, but also including demand aspects.

From the point of view of macroeconomic theory it should come as no surprise that economic dynamics – and especially investments – are influenced by both supply-side and demand-side factors. Both sides are affected by fiscal and monetary policy measures alike, and therefore there is a clear interconnectedness between fiscal and monetary policy.

There are two diametrically opposed theoretical positions on how to deal with this interconnectedness. In the aftermath of the Keynesian revolution, economists like Abba Lerner (1943) developed the concept of *functional finance*. This means that fiscal and monetary policy should be seen as comparable and interchangeable tools for demand management. At the other end of the spectrum, there is the position that monetary policy completely ignores general macroeconomic circumstances and only follows a goal of narrowly defined price stability.

What we see in practice today is a clear division of institutional responsibility for fiscal policy, on the one hand, and monetary policy, on the other. At the same time, it is acknowledged that under specific circumstances, coordination between fiscal policy and monetary policy institutions may be necessary. This is also reflected in the legal mandate of the European Central Bank, which states:[3]

In accordance with Article 127(1) and Article 282(2) of the Treaty on the Functioning of the European Union, the primary objective of the ESCB shall be to

[3] *See "On The Statute of the European System of Central Banks and of the European Central Bank", retrieved on June 13, 2013: www.ecb.int/ecb/legal/pdf/en_statute_from_c_11520080509en02010328.pdf.*

maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union.

These objectives of the Union as laid down in Article 3 of the Treaty include especially the goal of full employment and adequate economic growth. So the mandate of the ECB sets clear priorities, but it does not ignore macroeconomic perspectives.

Given the experience of the last years, we now again see a far-ranging discussion on monetary policy frameworks and especially monetary policy targets. For the specific aspects of monetary policy it is important to specify a target that serves as a nominal anchor for the ecnonomy, but it is obvious that no single economic indicator or variable can provide complete guidance to monetary policy. The ECB, which follows a primary goal of price stability, has defined price stability as a rate of inflation below, but close to, 2%. That means that the primary task of monetary policy is to prevent inflation, but also deflation. This is to be seen in the context of *flexible inflation targeting,* which must be understood as a goal to be achieved over the medium run – allowing the ECB to pursue a steady hand strategy to stabilize expectations.

An important contribution to the role of central banks nowadays is their increasing involvement in financial sector stability and banking supervision. One of the lessons of the big economic crisis of the 1930s had been that price stability and also stability of the real economy cannot be achieved without stability of the financial sector of an economy. In the golden days of the *Great Moderation* this lesson seems to have been lost to a large extent; there was a tendency to separate the role of central banks and of financial market agencies. Today, in the context of the recent crisis, we again observe a tendency toward a stronger role of central banks with regard to microprudential – and especially macroprudential – supervision. A specific example is the new supervisory role of the ECB in the context of the great project of a European Banking Union, especially the European Single Supervisory Mechanism (SSM).

As a central banker, I am fully aware that banking supervision is one of the most risky tasks in economic governance, especially with regard to reputational risks. No central banker with a healthy survival instinct will therefore actively try to obtain an encompassing mandate for banking supervision. On the other hand, given the huge potential for market failures in this field – like different forms of asymmetric information and problematic incentive structures – there is a clear need for public intervention; and somebody has to do it.

After a period of *de*-regulation we are now in a period of *re*-regulation. Maybe we will see the usual oscillation from one end of the spectrum to the other, meaning that after too much deregulation we now may see too much re-regulation, especially too much of uncoordinated regulation. But in any case, effective regulation needs effective supervision and there are valid economic arguments in favor of independent central banks taking on a larger role in banking supervision. In my view, this also holds for the specific case of the ECB assuming greater responsibilities for banking supervision. One has to be aware, however, that we have to deal with a very specific case with regard to institutional, economic and legal set-up. To mention just a few

aspects: the ECB would act as a bank supervisor not only for banks of the euro area, but of all countries joining the SSM. It is well known that effective banking supervision also requires clarity with regard to bank resolution and eventually fiscal backstops. Right now, we do not have this clarity in Europe. On the contrary: we have, for instance, no coordination between potentially necessary state intervention and European competition policy. In the USA there had been the Troubled Asset Relief Program (TARP), which can be seen as an example of a successful structural program for the banking sector. It did not involve lengthy procedures and a great part of its success was that it was able to work fast.

I do not want to get into further details, but for me the message for the ECB is rather clear: Taking up such a huge responsibility for European banking supervision needs careful preparation, quality being at least as important as speed. This is recognized by the existing road map insofar as not all European banks will be subject to ECB supervision. But anyhow, it is expected that the roughly 130 banks participating in the SSM will cover more than 80% or more than EUR 25 trillion of the euro area's banking assets. It may make sense to follow the advice of some of our German colleagues to start with a smaller number of the major European banks to allow for a staggered approach.

Ladies and Gentleman,

Let me finally share with you some short comments on the independence of central banks and the connected issue of democratic accountability. For a long period of time, central bank independence was not such a clear-cut concept as it seems to be today. Both orthodox Keynesians and orthodox Monetarists see no economic reason for central bank independence and many of you may know the famous dictum by Milton Friedman (1962, p. 51) "Money is much too serious a matter to be left to the Central Bankers".

At the European level, central bank independence was mainly strengthened by the example of the Deutsche Bundesbank, and it was a key element in the Delors report in preparation for the institutional set-up of the ECB. The importance of central bank independence is also stressed in the recently published book *Making the European Monetary Union* by our keynote speaker Harold James. In his book he explores the historical developments in the institutional architecture of Economic and Monetary Union in Europe.

Today, it can be said that the ECB is probably the most independent central bank of the world because its independence is enshrined in the European Treaties, and any changes to these Treaty provisions would be extremely difficult and are thus unlikely. In most

other countries, central bank independence is a matter of national law – and as we have seen, there may always be attempts to change such laws.

The traditional legitimation for central bank independence is the purpose of shielding central banks against government intervention and short-term political cycles. And indeed, I think

that this is a very important element of central bank independence. But today, I think it is important to see independence in a wider context: Central banks are macroeconomic policy institutions; they have to follow the policy goals embodied in their democratically given mandate. That means, they not only need to be independent from short-term political influences, but they also have to be independent from all other sorts of special interests. This includes the special interests of the banking sector in an enonomy. In the context of a general macroeconomic policy, central banks must have an interest in a well-functioning banking sector – and they need to fulfil efficient technical and supervisory tasks vis-à-vis the financial sector of an economy. But like any public institution, central banks have to be careful not to be captured by any special interest group. An independent central bank must act as a macroeconomic institution and not as a lobbyist.

In this macroeconomic context, I see the specific task of an independent central bank to act as an expert and also as an advocate for the long-term perspectives and interests of an economy and a society in general. The privilege of being shielded from short-term political cycles should be used for serving as an objective and long-term oriented institution in the field of economic policy. If central banks are able to build up and maintain this kind of reputation they will continue to play a clear and valuable role also in the future.

Ladies and Gentlemen,

During this conference we will have the opportunity to hear different points of views evaluate arguments and gain insights in the roles and responsibilities of central banks.

I wish all of you two very fruitful days with lively discussions inside and outside of the presentation rooms.

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Andreas Schieder

State Secretary
Federal Ministry of Finance

Opening Address

On 7 June, the Oesterreichische Nationalbank released its economic forecast. The numbers are not very pleasant, as there was a downward revision by 0,2%. The forecast expects 0,3% growth of real GDP in 2013 and 1,5% in 2014, while the economic situation should get better in 2015 with 1,8% growth.

These numbers show, how much the Austrian economy depends on the state of the euro area's economy. We are still suffering from the financial crisis and its effects on the European economy. Weak demand in our neighbouring countries is a big challenge for our export sector.

But still Austria has managed the crisis quite well compared to other countries. The euro area remains in recession since late 2011. Even countries like the Netherlands (–0,8%) and France (–0,1%) are expecting negative growth in 2013.

The main reason for our relatively stable situation is the immediate action we took when the crisis hit Europe. We reacted with a fiscal stimulus package including short-time working which kept the labour market stable. And we took a range of financial stability measures. We had to fully nationalise two banks, partly nationalise one more and we provided participation capital to other institutions. To cover these costs without cutting social spending, a bank levy was introduced. The Oesterreichische Nationalbank is fully state owned again, in order to avoid possible conflicts of interest.

On the European level the banking union is one of the most important reactions to the crisis. The Single Supervisory Mechanism (SSM) will now be complemented by a banking recovery and resolution framework which was already partially implemented in Austria by a new law on bank intervention and restructuring.

I carefully listened to Governor Nowotny's remarks on the new role of central banks and I agree that this role changed a lot over the past years. Monetary policy became very important in recent times. The Securities Markets Programme and the announcement to intervene in the market if necessary have played important roles in stabilizing the financial markets. The low interest rates protected the economy of further negative effects.

But monetary policy is not able to solve all problems. It cannot raise weak demand sufficiently. It cannot prohibit the damage caused by too strict austerity. It cannot raise youth employment. Therefore, we need prudent fiscal policy. We learned also that

even politics is not able to solve all problems. Fiscal consolidation is hardly achievable when banks cost the taxpayer billions.

One of the most important European projects for the Austrian government is the implementation of a Financial Transaction Tax (FTT). Lately several doubts were raised on this topic. Let me make clear that a delay is not good for Europe and its people. Politicians must not let the banking lobby undermine democracy. We will not stop fighting until the first FTT-Euro is paid.

Complex problems cannot be solved with easy answers. We need to fight youth unemployment without weakening worker's rights. We need balanced budgets without lowering social standards. We must achieve the banking union very fast, although the topic is very complex. And we need fast and efficient decisions and still stick to democracy for people, not for markets.

For central banks, work is not getting easier these days. The banking union will take a lot of coordination. Building a central supervision based at the European Central Bank and preparing to deal with a resolution mechanism, which I am truly supporting, will be a tough challenge. But I am confident, that the central banks will cope with that and in the end we will have a much better financial architecture.

Session 1
The Mandate of Central Banks

Benoît Cœuré
Member of the Executive Board
European Central Bank

Monetary Policy in a Fragmented World[1]

Ladies and Gentlemen,
It is a great pleasure for me to speak here today at the Oesterreichische Nationalbank. In my remarks, I would like to address an issue that central bankers don't consider as central to their role even though it attracts much public attention: the distributional consequences of central bank action.

More than five years have passed since the financial crisis started. This period has been a time of particular economic hardship. The recession and the subsequent sovereign debt crisis in the euro area have been accompanied by rising unemployment, lower incomes and reduced household wealth as house prices have dropped in some countries. But the pain was not evenly shared. Between 2007 and 2010 the distribution of income widened in OECD countries and poorer households have been hit harder, especially in several euro area countries.[2] Taken together, these developments are a source of great concern to all Europeans.

To be clear, the central bank's mandate is not to address rising inequalities or to steer the distribution of income. In fact, the use of explicit redistributive monetary policy tools, such as credit controls, was abandoned decades ago. Since then, central banks have been granted goal independence and assigned a clear mandate to keep inflation low. To borrow from Padoa-Schioppa, monetary policy is mandated to focus on stability rather than equity or efficiency.[3] In the given framework, the distributional consequences of monetary policy are temporary, unintended, with a view to safeguarding price stability. Ensuring a fair distribution of income and consumption, or promoting economic justice for society as a whole are issues that lie outside the realm of monetary policy. They are the tasks of other economic and financial policies.[4]

Since the beginning of the crisis, monetary policy has been acting, however, in a fragmented world. And the fragmentations were along different fault lines.

In the euro area, fragmentations had a horizontal dimension (among individuals), a vertical dimension (over

[1] *I wish to thank A. Saint-Guilhem and O. Vergote for their contributions to this speech, and F. Smets and O. Tristiani for their comments. I remain solely responsible for the opinions contained herein.*

[2] *See OECD, 2013: Crisis squeezes income and puts pressure on inequality and poverty, New Results from the OECD Income Distribution Database, 15 May 2013. It includes the comment: "In Spain and Italy, while the income of the top 10% remained broadly stable, the average income of the poorest 10% in 2010 was much lower than in 2007."*

[3] *See T. Padoa-Schioppa, 1987: Efficiency, Stability, and Equity, 1987: Strategy for the Evolution of the Economic System of the European Community, Oxford University Press.*

[4] *There are two main reasons why central banks should be shielded from distributive politics. The first one is legitimacy: the degree of fairness in society should be decided by society itself through the mechanisms of representative democracy. Although it is generally not the case, distributive policies can, however, be delegated to unelected bureaucrats if they can be instructed to be fair behind the veil of ignorance. The second reason is efficiency. Central banks' limited number of instruments should be directed at a limited number of objectives, with a clear priority. For an assessment of why distributive policies are usually not delegated to bureaucrats, see A. Alesina and G. Tabellini, 2007: Bureaucrats or Politicians? Part I: A Single Policy Task, American Economic Review, March, 169–179.*

time) and a spatial dimension (across participating countries). And they have significantly impaired the potency of our standard monetary policy actions. The crisis measures of the ECB have accordingly acted on the horizontal, vertical and spatial transmission impairments of monetary policy. Most importantly, our measures have prevented catastrophic outcomes for the euro area economy. And these outcomes would have had the biggest impact on the weakest in society.

Does all this – as the conference title asks – imply a changing role for central banks in macroeconomic stabilisation? The answer is no. Monetary policy should aim at preserving price stability, the primary mandate given to us by the EU Treaty. With regard to the objective, there are no differences between monetary policy in normal and crisis times. Only the intensity and the choice of instruments might require an adjustment.

Affecting *intra*-temporal and spatial allocations should remain the responsibility of governments and other authorities. Rather than being redistributive, central banks in a fragmented world should aim at repairing monetary policy transmission, and restoring thereby the distributional neutrality of monetary policy.

I will structure my remarks along three lines. First, I will describe the distributional consequences of monetary policy and the channels through which monetary policy can affect the distribution of income in normal times. Second, I will consider the crisis period and the role of non-standard monetary policy measures. And finally, I will look at the role of other economic and financial policies.

Distributional Consequences of Monetary Policy in Normal Times

Back in the 1960s, monetary policy in western European economies had explicit and legal redistributive functions. For example, central banks used credit control measures to complement more traditional instruments consisting of quantitative ceilings on lending rates or controls over the volume of bank lending to the private sector. Direct control over credit was thought at that time to better stabilise economic cycles and inflation. Yet credit controls were also used for other policy purposes, such as to finance government debt at lower interest rates than markets would allow, and to foster the allocation of credit to specific sectors considered as priority activities – in short, to pursue an industrial policy.

Central banks came to realise that credit controls were not the best way to fulfil their stability objective. What's more, they came with undesired side effects. In particular, quantitative credit ceilings were negatively affecting competition, innovation and efficiency in the banking sector.[5] In some countries,

[5] *For a detailed account of these experiments with credit controls, see: D. R. Hodgman, 1973: Credit Controls in Western Europe: An Evaluative Review, paper presented at the conference on "Credit Allocation Techniques and Monetary Policy", Federal Reserve Bank of Boston, September.*

the use of credit controls as one of the main instruments of policy led to a rapid expansion in the money supply, persistent inflation and frequent balance of payment crises.

Today, central banks conduct monetary policy by altering the short-term interest rate to affect inter-temporal decisions on consumption and savings. This inter-temporal – or vertical – redistribution is at the heart of the monetary policy, which aims at price stability. A change in the policy rate is transmitted to other interest rates at various maturities through a long sequence of inter-temporal arbitrages. Ultimately, any change in interest rates for consumers and firms affects saving, investment and spending decisions through an inter-temporal substitution effect.

Monetary policy also affects the distribution of income on the intra-temporal – or *horizontal* – dimension. Changes in short-term interest rates impact on consumption, savings and wealth in different ways, depending on the characteristics of individual households. But all these effects can be considered as temporary, indirect and unintended, that is, a side effect of a strategy which aims at ensuring price stability in the economy.

So let me briefly describe how monetary policy can, in principle, affect the distribution of income. Let me start with the impact over the short term before taking a longer-term perspective.

Over the short term, we can see three main channels through which monetary policy may have distributional consequences.

First, monetary policy may act upon the cyclical component of the distribution of income. In fact, income distribution may narrow during an economic expansion and widen during an economic contraction, especially if labour markets are not functioning well and the burden of adjustment is disproportionately felt by outsiders. Just think of the case where, for example, an increase in unemployment and a decline in the labour force participation are felt excessively by low-skilled workers.[6] Hence, this cyclical pattern of the income distribution would imply that an expansionary monetary policy shock would also contribute to a narrowing of the income distribution.

Second, an unanticipated surge in inflation will lower the real value of nominal assets and liabilities. This tends to redistribute wealth from lenders to borrowers. As a majority of net borrowers are in the lowest part of the income distribution, an expansionary monetary policy shock would help to narrow the income distribution.[7]

Third, a monetary policy shock may impact on the price of financial and real assets by affecting interest rates and expectations. The distributional consequences depend on asset ownership patterns. In general, households in the highest percentiles of the income distribution tend to have greater financial wealth and a larger share of income derived from financial assets. If an expansionary monetary policy has positive wealth effects, it would lead to a widening of the income distribution. In the same vein, if financial markets are fragmented, an expansionary monetary policy may contribute to widening the income distribution by redistributing wealth from individuals who do not

[6] *See S. Carpenter and W. Rodgers III, 2004: The disparate labor market impacts of monetary policy, Journal of Policy Analysis and Management 23(4), 813–830.*

[7] *For an estimation of this effect in the USA, see M. Doepke and M. Schneider, 2006: Inflation and the Redistribution of Nominal Wealth, Journal of Political Economy, volume 114(6), 1069–1097.*

trade in financial markets to those who trade frequently in financial markets and tend to have higher incomes.[8] On the other hand, however, a decline in house prices is hurting low and middle-income households disproportionately, as their wealth tends to be concentrated in housing.[9]

So what about the empirical relevance of these various channels? Most studies[10] find that the impact of monetary policy on the income distribution via lower unemployment of low-skilled workers is more important than the redistributive effects from unanticipated inflation. This means that monetary policy, by stabilising economic fluctuations, indirectly affects the cyclical variation of the distribution of income. A recent study based on the Eurosystem's Household Finance and Consumption Survey indicates that monetary easing during the crisis allowed a substantial decline in the debt burden of mortgage-holding households. This was particularly so in euro area countries under stress, as well as for some disadvantaged groups of households, such as the unemployed and those with low income or temporary labour contracts.[11]

Still, these effects are all temporary. It was Knut Wicksell who, in his pioneering work *Interest and Prices*, illustrated the inability of monetary policy to permanently affect output and employment. His concept of the "natural rate of interest" distinguishes between the market rate of interest, set by the central bank, and the natural rate of interest that would balance investment and saving. As long as the market rate is less than the natural rate, firms and households want to invest and spend more, causing prices to rise. Such a cumulative inflation would continue until the central bank raises the market rate to match it to the changing natural rate. Wicksell's analysis ultimately suggests that the real forces driving the underlying natural rate of interest are outside the control of the monetary authority.

What does that imply at the current juncture? Since monetary policy cannot permanently affect the inter-temporal price of saving, savers who are concerned by the low level of long-term real interest rates should worry less about accommodative monetary policy than about the development of structural factors, such as productivity, which are beyond the control of central banks.

Does this imply that monetary policy has no long-run or permanent effect

[8] *For a description of the underlying theoretical model, see St. D. Williamson, 2009: Monetary policy and distribution, Journal of Monetary Economics, 55(6), 1038–1053.*

[9] *See S. Bloom Raskin, 2013: Aspects of Inequality in the Recent Business Cycle, speech at the 22nd Annual Hyman P. Minsky Conference on the State of the U.S. and World Economies, New York, NY, 18 April.*

[10] *See, for example, R. Ahrend, J. Arnold and C. Moeser, 2011: The Sharing of Macroeconomic Risk: Who Loses (and Gains) from Macroeconomic Shocks, OECD Economics Department Working Papers 877; Blank R. and A. Blinder, 1986: Macroeconomics, Income Distribution, and Poverty. In: Fighting Poverty: What Works and What Doesn't, Cambridge, Harvard University press; A. Blinder and H. Esaki, 1978: Macroeconomic Activity and Income Distribution in the Postwar United States. In: Review of Economics and Statistics 60 (November); A. Castañeda, J. Díaz-Giménez and J.-V. Ríos-Rull, 1998: Exploring the income distribution business cycle dynamics, Journal of Monetary Economics 42 (August), 93–130. D. Cutler and L. Katz, 1991: Macroeconomic Performance and the Disadvantaged, Brooking Papers on Economic Activity (2); C. D. Romer and D. H. Romer, 1998: Monetary Policy and the Well-Being of the Poor, in: Income Inequalities: Issues and Policy Options (Federal Reserve Bank of Kansas City), 159–201, and also: O. Coibon et al., 2012: Innocent Bystanders? Monetary Policy and Inequality in the U.S., NBER Working Papers 18170, National Bureau of Economic Research.*

[11] *See M. Ehrmann and M. Ziegelmeyer: Household risk management and actual mortgage choice in the euro area, forthcoming.*

on the distribution of income? Certainly not. In fact, in the long run, monetary policy can control inflation, both its level and variability, as well as the variability of aggregate demand. In this regard, price stability can foster a more even distribution of income through several channels.

First, high inflation generates uncertainty and discourages investment.[12] The associated reduction in wages relative to the return on capital would contribute to widening the income distribution. *Second*, the uncertainty and reduced effectiveness of financial markets caused by inflation and macroeconomic instability reduces investment in human capital. *Third*, inflation and macroeconomic instability may harm poorer households disproportionately. This is because poorer households, which have limited or no access to the financial system, are unable to smooth consumption in response to adverse income shocks.[13] In addition, poorer households tend to hold a larger fraction of their financial wealth in cash, implying that they are particularly vulnerable to higher inflation. Finally, inflation and macroeconomic volatility may harm some sectors of the economy disproportionately, such as manufacturing or export-oriented industries, in which wages tend to be relatively lower.

Overall, monetary policy aimed at low inflation and economic stability is the most likely to lead to greater social equality over the longer term. In this sense, "compassionate monetary policy is, most likely, simply sound monetary policy".[14]

Monetary Policy during the Crisis

Over the past five years we have experienced the deepest recession in euro area countries since the end of World War II. The associated fall in activity was unprecedented: at the trough reached in June 2009, euro area nominal GDP had declined by almost 5% on an annual basis. The recovery has been sluggish for the euro area, which is now experiencing a double-dip recession, with growth expected to recover only gradually. The implications for the distribution of income cover the three dimensions which characterise the allocation of resources.

On the *vertical* (or inter-temporal) dimension, the income and wealth losses of the existing generation are severe.[15] In addition, young people are those most affected by unemployment.

To take two examples, youth unemployment in Spain was at 55% and in Greece at 57% at the end of 2012. This seriously affects the lifetime income and wealth prospects of this group and may cause a "lost generation" to emerge.

[12] *On the role of uncertainty shocks, see N. Bloom, 2009: The Impact of Uncertainty Shocks, Econometrica, volume 77 (3), 623–685, May.*

[13] *See S. Albanesi, 2007: Inflation and Inequality, Journal of Monetary Economics, vol. 54(4), 1088–1114, May.*

[14] *C. Romer and D. Romer, 1998, op. cit.*

[15] *In addition, recent research suggests that the cost of job loss in terms of income loss is significant over the entire life cycle, especially when the job loss occurs during a recession. See S. J. Davis and T. Von Wachter, 2011: Recessions and the Costs of Job Loss, Brooking Papers on Economic Activity, September 2011, 1–72.*

Not only is unemployment an immediate social loss, but it is a stressful life event that reduces individual well-being in many persistent ways.[16]

On the *horizontal* (or intra-temporal) dimension, small and medium-sized enterprises (SMEs) and low-income households were hit hardest by the crisis. Wage cuts and income losses,

for example, have been the largest for low-skilled, low-wage workers. According to Eurostat, the dispersion of disposable income in the euro area as measured by its Gini coefficient has risen by more than 3% between 2005 and 2011. Recent ECB surveys show how SMEs and households reported increasing financing obstacles, with bank loans becoming harder to obtain.[17] In addition, recent data suggest that SMEs, if they can obtain a loan, face higher costs of bank lending than large companies. In fact, interest rate spreads on SME loans compared with those for large non-financial companies have widened to an average of 40 basis points since 2010.

Finally, the crisis has brought to the fore the *spatial* (or geographical) dimension. Euro area countries suffered different fates during the crisis. We have observed sharp cross-country dispersion in the cumulated changes in real GDP since the start of the crisis. In 2012, real GDP was around 20% lower than in 2007 in the country most affected, while it was around 10% higher in the country least affected by the crisis. The cross-country dispersion of unemployment has also widened, with latest unemployment rates ranging from 4.8% in Austria to 27% in Greece.

Spatial inequality has been magnified by the adverse feedback loop arising from the close association between banks and their sovereign, which has led to fragmented financial conditions across countries and, at the height of the crisis, to fears of a euro break-up. In particular, banks' funding costs have remained persistently high in some countries despite cuts in the ECB policy rate, implying heterogeneous financing conditions for households and firms across countries. This was also shown by the increasing reliance of banks in stressed countries on Eurosystem funding. Widening TARGET2 imbalances – that is, large intra-central bank positions – is a well-known symptom of these developments.

So what did the crisis mean for monetary policy? First, we saw impairments to the traditional inter-temporal arbitrage mechanism, which has curtailed the effectiveness of our standard monetary policy. Second, horizontal and spatial fragmentation – that is, impairments across banks, markets and countries resulting from structural impairments and from the adverse feed-

[16] *See D. Bell and D. Blanchflower, 2011: Young people and the Great Recession, Oxford Review of Economic Policy, 27(2), 241–267.*

[17] *See European Central Bank, 2013: The Euro Area Bank Lending Survey, April.*

back loop described above – have challenged monetary policy operating with a single instrument. Furthermore, we observed a self-reinforcing relationship between the spatial- and inter-temporal dimensions of fragmentation. For example, the lack of liquidity in the interbank market impaired the price-finding mechanism along the yield curve. As a result, our monetary policy impulses were not evenly transmitted across countries or adequately along the yield curve.

How should monetary policy be conducted in such a fragmented world? First and foremost, monetary policy should aim at repairing the transmission of monetary policy by reducing the fragmentations in the economy and restoring distributional neutrality. Does this imply fundamental differences between monetary policy in normal and crisis times? The answer is no. Monetary policy acts within the same stability mandate, following the same long-term objectives as in normal times.

It is only the choice of instruments and the intensity of monetary policy action that differ. In this respect, it has been argued that reducing fragmentation can imply a redistribution of risk in times of crisis.[18] For example, by relaxing collateral requirements for their lending programmes, central banks can insure against a tail event in which the borrower and the collateral fail to cover the borrowed amount. The main insight here is that redistribution of risk is not a zero-sum game, but that the overall risk in the economy, in our case in the monetary union, can be reduced. I agree with this view, but I would also like to stress that any such insurance provided by the central bank should come with appropriate safeguards to mitigate moral hazard.[19]

Let me explain how the ECB acted in the crisis and how monetary policy in particular has alleviated the fragmentations in the euro area following the principles outlined above.

First, in the wake of a widespread confidence crisis following the collapse of Lehman Brothers which threatened to produce very adverse economic outcomes with strong reductions in output, deflationary spirals and high unemployment, we made a series of policy rate cuts. These limited the consequences the downturn could have had on the income of households and firms across the euro area.

Our more recent rate cuts have narrowed the interest rate corridor between the deposit rate and our main policy rate to 50 basis points. These rate cuts have further eased the financing conditions of borrowers in the euro area and they have contributed to a decline in the cross-country heterogeneity in funding costs. Banks from stressed countries which participate most in Eurosystem liquidity-providing operations will benefit from the lower interest rate charged for these operations. This will, over time, translate into reduced financing costs and improved access to credit for households and firms in stressed countries.

Second, apart from standard monetary policy, the ECB has also resorted to a number of non-standard measures. By re-directing credit to those segments where financial intermediation ceased to function, the non-standard measures supported those areas most in

[18] *See M. Brunnermeier and Y. Sannikov, 2012: Redistributive Monetary Policy. Paper prepared for the 2012 Jackson Hole Symposium, Princeton University.*

[19] *See B. Coeuré, 2012. Central banking, insurance and incentives. Speech at the ECB conference on "Debt, Growth and Macroeconomic Policies", Frankfurt, 6 December.*

need and thereby countered the increasing heterogeneity. The announcement of outright monetary transactions (OMTs) in particular has played a crucial role: it has improved the transmission of monetary policy by removing the "tail risk" arising from redenomination concerns in certain euro area countries.

Overall, while our non-standard measures were designed for the euro area as a whole, their use has varied among counterparties and across countries. In this regard, our non-standard measures restored the distributional neutrality of our monetary policy by mitigating distortions in certain stressed asset classes or sectors. Their impact has prevented very adverse economic outcomes for certain sectors and countries, and because of the effect this would have had on the rest of the euro area, it has thereby also supported medium-term price stability in the euro area as a whole.

Today we are clearly seeing signs of improvement in financial conditions. Spreads in sovereign and corporate debt markets have fallen substantially. Deposits placed by the euro area money-holding sector with banks in stressed countries have increased by about EUR 200 billion since August 2012. As a consequence, borrowing from the Eurosystem has declined. TARGET2 balances of the national central banks in these countries have fallen by more than EUR 250 billion since their peak of around EUR 1.09 trillion in August last year. And these improvements largely reflect the removal of fears of a systemic collapse of the monetary union that were previously being priced in by markets. They also reflect the re-integration of euro area funding markets, against the backdrop of a continuing adjustment effort by participating countries. Falling TARGET2 balances are the best proof that the distributional consequences of non-standard monetary policy measures are unintended and temporary.

The Role of Other Economic and Financial Policies

Economic divergences and heterogeneity remain high in the euro area. This concerns in particular the fragmentation in some markets and diverse and weak loan growth across participating countries. While monetary policy in this situation has alleviated the severity of the downturn, let's not forget Wicksell's insights. Monetary policy cannot alter the level and distribution of income in a durable way.

The distortions at the heart of the current vertical, horizontal and spatial fragmentation can finally only be addressed by adequate economic policies outside the realm of monetary policy. Indeed, other stakeholders have to take the leading role by continuing to address the underlying structural weaknesses that are affecting our economies.

Let me mention three policy areas that I consider fundamental in this regard.

The first policy realm relates to policies aimed at the financial sector. Governments and financial sector authorities need to further encourage the repair of banks' balance sheets. Banks in the euro area finance the backbone of our economic system: households and small and medium-sized companies.

The decision to establish a European Single Supervisory Mechanism (SSM) is an essential institutional step overseeing such a process. The SSM will contribute to greater financial integration, a level playing field and greater financial stability. It should be complemented by a unified European framework for bank resolution and re-

covery, and with a Single Resolution Mechanism with the authority to wind up banks in a timely and impartial manner. To complement this, further efforts are essential for banks to build up sufficient capital, remove legacy risks from their balance sheets and to make these balance sheets fit for lending. Repairing the financial sector is the best way to ensure that the debt crisis does not bear a permanent impact on income distribution, and hence that it does not impose a permanent constraint on monetary policy.

The second policy area that I would like to mention is fiscal policy.

It is normally the role of fiscal policy (including in its tax dimension) to deliver any income distribution that society would like to implement based on a normative prior. It is normally the role of fiscal automatic stabilisers to cushion the economic and distributional impact of a deep economic recession of the sort we are experiencing. I say "normally" because we are not in normal times. Fiscal imbalances and weak sovereign balance sheets have prevented fiscal policies from cushioning the large and protracted financial and economic shocks of the past five years.

The lesson from this is clear. Running excessive fiscal deficits at the expense of future generations can be very costly in times of crisis. Therefore, maintaining sustainable fiscal budgets is a necessary condition to achieve distributional equality, both inter-temporally and intra-temporally.

Let me finally mention the structural economic policy domain. Structural policies are key to making an economy more flexible so that it can optimally and rapidly respond to negative economic shocks and avoid the higher costs in terms of lost output and higher unemployment associated with the slower and more protracted adjustments made by rigid economies.

It is designed in such a way that it curtails rent-seeking behaviours in labour, product and capital markets, structural reform will not only unleash competition and innovation but it will also temper the distributional and social consequences of the needed adjustments. Structural labour market policies are a case in point. They can help to prevent labour market adjustments from falling disproportionately on outsiders, including the younger generation.

Conclusions

Let me conclude by listing the main arguments put forward in my remarks:

- First, the role of monetary policy is clearly defined in the EU Treaty. The

ECB has been mandated by the people of Europe to maintain price stability over the medium term. Fulfilling this mandate means preserving the value of money over time and contributing to overall economic stability. This has the effect of shielding the lowest-income groups and maintaining living standards for the entire

population. Therefore, monetary policy is neutral with regard to fairness and the allocation of resources. But this neutrality can only be ensured if monetary policy transmission is not impaired.

- Second, and as a result, monetary policy in crisis times should aim at repairing monetary policy transmission by reducing fragmentations in the economy and restoring thereby distributional neutrality. There is, however, no fundamental difference between monetary policy in normal and crisis times. The intensity and the choice of instruments in a crisis might need to be adjusted, but monetary policy should continue to act within the same stability mandate and following the same long-term objectives as in normal times.
- Third, the ECB's monetary policy actions have offset market dislocations and thereby contributed to restoring distributional neutrality during the crisis. In particular, non-standard measures have helped to eliminate tail-risks and, together with the standard measures, have prevented very adverse outcomes for the euro area that would have hit in a disproportionate way the weakest in society, and put at risk price stability.
- And finally, despite the temporary relief brought by our policies, there are limits to what monetary policy can do. Steering income allocation within countries and across countries is the responsibility of elected governments and other authorities. Important work has been done, but in the current environment it is essential that euro area governments continue their reform efforts, individually and jointly, keeping in mind the need to curtail rent-seeking behaviour and protect the weakest in society.

Thank you for your attention.

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Central Banks and Financial Stability: The Problems of Designing an Institutional Framework in Europe

The changing tasks, and the governance issues, of modern central banks are best thought of in the framework offered by the analysis of targets and instruments. What are the goals of a modern central bank? They may conflict with each other, and such conflicts strain the governance mechanism of the central banks. In particular, central banks aim at:

1. Price stability
2. Exchange rate stability
3. Financial stability

In the European setting, there is a long history of exchange rate objectives conflicting with price stability objectives. The European answer to the exchange rate issue adopted in the 1990s with creation of the monetary union was the radical one of simply abolishing exchange rates within Europe. That action left, however, the question of whether there were circumstances in which the requirements of preserving financial sector stability would run counter to the price stability objective. That potential conflict is the theme of this paper.

How can financial instability be dealt with in a currency union? In a domestic setting, we usually think of better regulation and supervision as the answer to financial instability. Resolution of failed institutions is much more problematical and raises questions about cost and burden sharing when undertaken in a cross-national setting. How much fiscal firepower is required in resolution? The answer clearly depends on the magnitude of the financial system.

The ex ante danger to financial stability is also greater in a cross-border setting. Is the threat of financial instability more pronounced when it occurs in an international setting in which (as in the gold standard) there is no possibility of changing exchange rates and financial flows thus constitute a fundamental threat to and distortion of monetary policy? Was the inability in the early 1990s to decide whether Europe was more like an international policy regime or more like a domestic regulatory framework the fundamental design flaw of Europe's unique experiment in producing a supranational currency?

This paper examines the history of the discussion of the financial regulation issue and its implications for the current debate about solutions to the euro area crisis. If the only logical solution to the threat of financial stability lies in substantially controlling cross-border flows and confining banks to a national context in which they would

be regulated by a national regulator, and bailed out if necessary by a national fiscal authority, that would constitute a fundamental change of the international system and a rejection of the kind of financially driven globalization that has evolved over the past thirty years.

Monetary Union and the Broader Context

It is often claimed – especially but not only by American economists that the travails of the euro show that it is impossible to have a monetary union in the absence of a political union. Thomas Sargent used the bully pulpit of the Nobel Prize Acceptance speech to tell Europe to follow the U.S. example in

the aftermath of the War of Independence and assume the debts of the individual states. Assumption for Hamilton was "the powerful cement of our union." Paul de Grauwe has recently stated the case quite simply: "The euro is a currency without a country. To make it sustainable a European country has to be created."[1] The Presidents of the ECB seem to endorse this advice. Accepting the Charlemagne Prize in Aachen, Jean-Claude Trichet said: "In a long term historical perspective, Europe – which has invented the concept and the word of democracy – is called to complete the design of what it already calls a Union." Mario Draghi has been even more dramatic, spelling out the logic of the various steps and demanding "the collective commitment of all governments to reform the governance of the euro area. This means completing economic and monetary union along four key pillars: (i) a financial union with a single supervisor at its heart, to re-unify the banking system; (ii) a fiscal union with enforceable rules to restore fiscal capacity; (iii) an economic union that fosters sustained growth and employment; and (iv) a political union, where the exercise of shared sovereignty is rooted in political legitimacy."[2] This advice seems appallingly radical to many, since almost every politician denies that there is any real possibility of creating a European state, and almost every citizen recoils at the prospect. Hence, we would face the dark night of the European soul.

Is it possible that the flaw in the euro's construction is less radical, and that it lies in the failure to inaugurate what is now generally referred to as macroprudential supervision in an effective way? That is a flaw that should in theory be easier to resolve politically: but there is a problem too, as in every regulatory setting, including the USA and the UK, the implementation of macroprudential supervision is fraught with uncertainty.

[1] *Sargent, T. 2011.United States Then, Europe Now. Nobel Prize speech 2011: www.nobelprize.org/nobel_prizes/economics/laureates/2011/sargent-lecture.html (retrieved on 10 July); Grauwe, P. 2012. The Eurozone's Design Failures: can they be corrected? November 28, 2012, LSE lecture: http://www2.lse.ac.uk/publicEvents/pdf/2012_MT/20121128-Prof-Grauwe-PPT.pdf (retrieved on 10 July).*

[2] *Trichet, J. C. 2011. Building Europe, building institutions. Speech by Jean-Claude Trichet, former President of the ECB on receiving the Charlesmagne Prize 2011 in Aachen. 2 June 2011; Remarks by Draghi, M. 2012. Treasury Talks. A European strategy for growth and integration with solidarity. A conference organised by the Directorate General of the Treasury, Ministry of Economy and Finance – Ministry for Foreign Trade. Paris, 30 November 2012. See also Mario Draghi in: Die Zeit. August 29, 2012: www.ecb.int/press/key/date/2012/html/sp120829.en.html (retrieved on 10 July).*

The Choice for State or Non-State Money

In choosing a "pure" money in the 1990s, free of any possibility of political interference and simply designed to meet the objective of price stability, Europeans were taking an obvious risk. They were obviously and deliberately flying in the face of the dominant modern tradition of thinking about money. The creation of money is usually thought to be the domain of the state: This was the widely prevalent doctrine of the 19th century, which reached its apogee in Georg Friedrich Knapp's highly influential *State Theory of Money*. Money could be issued by the state because of government's ability to define the unit of account in which taxes should be paid. In the *Nicomachean Ethics*, Aristotle explained that money owes its name to its property of not existing by nature but as a product of convention or law.[3] Greek coins usually carried depictions of gods and goddesses, but the Romans changed the practice and put their (presumed divine) emperors on their coins. Christ famously answers a question about obedience to civil authorities by examining a Roman coin and telling the Pharisees: "Render unto Caesar the things which are Caesar's."[4]

The design of the euro makes the novelty clear. Unlike most banknotes and coins, there is no picture of the state or its symbols – no Caesar – on the money issued and managed by the European Central Bank. This feature sharply distinguished the new money from the banknotes that had circulated before the common currency and that were carefully designed to depict national symbols. Especially in the 19th century, the formation of new nation-states was associated with the establishment of national moneys, which gave the new polities a policy area in which they could exercise themselves. European leaders in the late 20th century were self-consciously stepping away from that tradition – in large part because of a widespread sense that national money had been subject to political abuse with inflationary consequences.

The Current Account Dilemma

Europe's monetary order emerged as the outcome of global debates about currency disorder. It was primarily designed to tackle a problem about current accounts rather than issues arising specifically out of financial sector imbalances. European monetary integration appeared urgent in the late 1960s, as the Bretton Woods regime disintegrated, and in the late 1970s, when US monetary policy was subject to big political pressures and the US-dollar collapsed. The most decisive push for a European solution to a global problem occurred in different circumstances. When the dollar was soaring in the mid-1980s, when American manufacturing was threatened and when there appeared to be the possibility of a protectionist backlash, the finance ministers of the major industrial countries pushed for exchange rate agreement. At the G-7 finance ministers Louvre meeting in 1987, they agreed to lock their exchange rates into a system of target zones. In practice, nothing came of that global plan, but then Edouard Balladur, the French finance

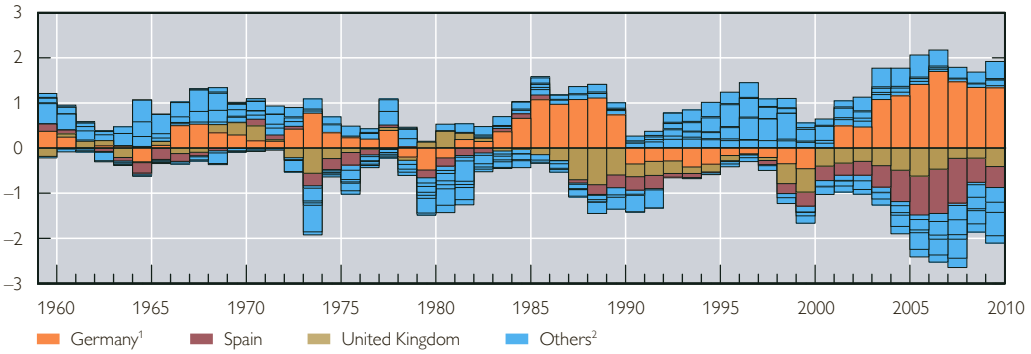
[3] *Aristotle. Book V: "Money has become by convention a sort of representative of demand; and this is why it has the name 'money' (nomisma)-because it exists not by nature but by law (nomos) and it is in our power to change it and make it useless."*

[4] *Matthew 22: 21.*

Chart 1

Sum of Current Account Balances of Deficit and Surplus Countries

As a percentage of GDP



Source: OECD Economic Outlook, European Commission, Annual Macro Economic Database.

[1] From 1991 the balance of payments statistics also include the external transactions of the former German Democratic Republic.
[2] Including Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Netherlands and Portugal.

minister who had largely been responsible for the Louvre proposal, came up with a tighter European scheme. When German foreign minister Hans Dietrich Genscher appeared sympathetic, Europe's central bankers were asked by the president of the European Commission, Jacques Delors, to prepare a timetable and a plan for currency union.

Monetary union was conceptualized as a way of simplifying politics. This had been a feature of European arguments from the beginning. Robert Triffin in 1957 had shown how a problem could be reduced to its most basic level: "The significance of monetary unification, like that of exchange stability in a free market, is that both exclude any resort to any other corrective techniques except those of internal fiscal and credit policies."[5]

For most of the long postwar period, current accounts were driven primarily by divergences in fiscal stances, and the appropriate corrective techniques were thus fiscal. That posed some painful political dilemmas. Deficit countries were faced by the prospect of austerity and deflation in order to correct deficits. This alternative was unattractive to the political elite, because it constrained growth and guaranteed electoral unpopularity. Their preferred policy alternative was thus expansion in the surplus countries, and that usually meant Germany. This course was unpopular with a German public worried about the legacy of inflation and was opposed by the powerful and independent central bank, the Deutsche Bundesbank. These issues were at the center of a politicized debate until the 1990s, when they faded, as fiscal policy no longer seemed very useful as a stabilization tool. It was cumbersome, had large time lags built in, and was consequentially regarded as largely ineffective.

By the 1990s, things were changing, and the expansion of capital markets and bank lending generated large private sector flows. Current account imbalances were apparently sustainable for much longer periods – though not forever. The effects of movements in capital in allowing current account imbalances to build up to a much greater extent, and ensuring that corrections,

[5] *Triffin, R. 1957. Europe and the Money Muddle. London. p. 289.*

when they occurred, would be much more dramatic, was already noticeable in the late 1980s and early 1990s, before the move to monetary union. Indeed, those large build-ups in the imbalances were what convinced Europe's policy-makers that a monetary union was the only way of avoiding the risk of periodic crises with currency realignments whose trade policy consequences threatened the survival of an integrated internal European market. The success of the early years of monetary union lies in the effective privatization of current account imbalances, so that the problem disappeared from the radar screen of policy debates. It would only reappear when the freezing up of the banking system after 2008 required the substitution of public sector claims for private claims: with that the old problem of the politicization of current account imbalances immediately reappeared. At that point also the problem of the appropriate corrective instrument came back: Should it be fiscal policy? Or should it be policy directed at maintaining financial stability (what Triffin had called "credit policy").

Negligent Planning?

How solid was the plan of Delors? Did the participants sincerely want to get committed to a real marriage – the analogy that came to be increasingly used to describe the new sort of commitment? What basis was there for agreement?

It has become fashionable to say that the move of the early 1990s were undertaken in a mood of carelessness (*Sorglosigkeit*), in Otmar Issing's phrase, or that Chancellor Kohl was neglectful (*leichtsinnig*) – according to Hans Peter Schwarz's monumental new biography.[6] Kohl promised a political union: On November 6, 1991, he told an ecstatically applauding German parliament that "one cannot repeat it often enough: political union is the indispensible counterpart of the economic and monetary union." But when the governments negotiated a few weeks later in Maastricht, there were very concrete plans for the monetary union, and for the political union – none at all. Does that really mean that everyone was just unbelievably careless, and that, in the same way as the British empire was allegedly acquired in a fit of absent-mindedness, the European dream was wafted on a post-unification euphoria?

In fact, the planning for monetary union was unbelievably sober and meticulous, even far-sighted. In the debates of the central bankers' group that Delors chaired in 1988-89, before the fall of the Berlin Wall, two really critical issues were highlighted and they were the ones that really mattered:

The first concerned the fiscal discipline needed for currency union. An

[6] *Schwarz, H.-P. 2012. Helmut Kohl: Eine politische Biographie. Stuttgart: DVA, 2012; Issing, O. 2012. Europa in Not – Deutschland in Gefahr. Frankfurter Allgemeine Zeitung. June 11.*

explicit discussion took place as to whether the capital market by itself was enough to discipline borrowers, and a consensus emerged that market discipline would not be adequate and that a system of rules was needed. The influential Belgian economist from the BIS, Alexandre Lamfalussy, a member of the Delors Committee, brought up cases from the USA and Canada as well as from Europe where cities and regions were insufficiently disciplined. Jacques Delors himself at this time appropriately raised the prospect of a two speed Europe, in which one or two countries might need a "different kind of marriage contract."[7] There is a tendency for fiscal policy to be pro-cyclical, particularly when the cycles are

driven by property booms, in that enhanced fiscal revenue from real estate exuberance prompts politicians to think that the increase in their resources is permanent. But the pro-cyclical fiscal element may be magnified in a currency union.

In the lead-up to the Maastricht Treaty, a paper prepared by the Committee of Central Bank Governors stated the critique quite explicitly: "Article 21.1 will *not suffice* to exert as much discipline as is needed to avoid excessive budget deficits, or to induce markets to correctly set interest rates on public debt. On the one hand, public entities may still enjoy a privileged access to financial markets as a result of national fiscal, banking, and prudential regulation. On the other, markets may expect that governments will ultimately be bailed out when encountering difficulties in refinancing their debt, and governments may expect the same. Finally [.°.°.] Article 21.1 would not prevent budget deficits from leading to pressure being exerted on the ECB to pursue a more accommodating monetary policy."[8]

The need for fiscal discipline arising from spillover effects of large borrowing requirements is a European issue, but it is clearly not one confined to Europe alone. In emerging markets, this problem was identified after the 1997/8 Asia crisis, and the problem of major fiscal strains became primarily one of the industrial world – and especially of the United States. An appropriate response would involve some democratically legitimated mechanism for limiting the debt build-up, as in the Swiss debt brake (*Schuldenbremse*) which was supported by 85% of voters in a referendum.

The second flaw in the European plans identified by the central bankers as they prepared monetary union was much more serious. The penultimate draft of the Delors Report specified in paragraph 32 that the "system would participate in the coordination of banking supervision policies of the national supervisory authorities." But in the final report, "national" was deleted, leaving the implication that the supervisory

[7] *In the second meeting of the Delors Committee, October 10, 1988. See James, H. 2012. Making the European Monetary Union. Cambridge Massachusetts: Harvard University Press.*

[8] *CoG, 3.4/1–7. Economic Unit. June 19. 1991. Monetary Financing of Budget Deficits in Stage Three.*

authorities would be European. In the original version of a plan for a central bank that would run a monetary union, the central bank would have overall supervisory and regulatory powers. That demand met strong resistance, above all from the German Bundesbank, which worried that a role in maintaining financial stability might undermine the future central bank's ability to focus on price stability as the primary goal of monetary policy. There was also bureaucratic resistance from existing regulators.

It would be reasonable to assume that the central bank issuing a new currency would take over the functions normally associated with existing national central banks. But assumptions about central banks' operations – and their willingness to state clearly what the objectives were – varied significantly from country to country. In particular, the Germans worried about the moral hazard implications of central bank regulation of the financial sector. Before the First World War, the German Reichsbank had been widely viewed as providing the ultimate support of the financial sector. Its origins lay in a response to the severe financial crisis of 1873, and the big German banks saw the central bank as a backstop. But the experience of hyperinflation in the 1920s led to a new approach, and a feeling that unlimited support for the financial system contained a danger to monetary stability; and in consequence, the idea of a central bank as a lender of last resort had much less support in the late 20th century Germany than in the Anglo-Saxon world, where Walter Bagehot's treatise of 1867, *Lombard Street*, was still widely regarded as the paradigm for modern central bank behavior.

There was thus considerable uncertainty about the wording of the statute on financial sector regulation. In the initial draft of the ECB Statute produced for the Committee of Central Bank Governors by the alternates, the "tasks" of the ECB included "to support the stability of the financial system"; and Article 25 on "Prudential Supervision" included the following tasks for the ECB, which were placed in square brackets to indicate that they were not yet consensual:

> 25.2. [The ECB may formulate, interpret and implement policies relating to the prudential supervision of credit and other financial institutions for which it is designated as competent supervisory authority.]
> 25.3. [The ECB shall be entitled to offer advice to Community bodies and national authorities on measures which it considers desirable for the purpose of maintaining the stability of the banking and financial systems.]
> 25.4. [The ECB may itself determine policies and take measures within its competence necessary for the purpose of maintaining the stability of the banking and financial systems.]

The Bundesbank wanted to avoid references to an explicit role for the ECB in supervising banks, "especially in the context of maintaining the stability of the banking and financial system and the delicate question of moral hazard. These two Articles could be misinterpreted as a lender of last-resort function." As a consequence, the items in square brackets were in the end excised from the Governors' draft. The former Vice-President of the Bundesbank Hans Tietmeyer provided a neat encapsulation of the German philosophy of regulation: "This did not mean from the view of the Board of the Deutsche

Bundesbank that the ECB should not support the stability of the financial system, but that it should never be written down; this would be moral hazard."[9] The question of resolution and its fiscal cost later became a central part of academic discussion of the policy response to financial crisis, but was not treated very directly in the official discussions. Nevertheless, it was clear that bailouts and rescues after a financial crisis might be problematical if large cross-border banking developed, as a consequence of the reluctance of national authorities (and their tax payers) to bear the financial burden of bailing out depositors or creditors in other states.[10]

The pushback to the idea of the central bank having financial regulation as a major task came from the political authorities, which feared losing control of their national banking systems. In February 1990, at the Monetary Policy Committee meeting in Brussels, where governments as well as central banks were represented, there was complete agreement that the different national rules regarding bank regulation should be left in place.[11] Commission President Jacques Delors was unwilling to force the pace on this issue, and stated that the European Commission approached the issue of banking supervision with an "open mind": the ESCB should simply "participate in the coordination of national policies but would not have a monopoly on those policies."[12]

The Governors' draft referred to the possibility that the ECB would take over banking supervision and regulation functions, but by the time this proposal was included in the Maastricht Treaty provisions on monetary policy (Article 105, section 6) it was accompanied by so many provisos that it looked as if the hurdles to effective European banking supervision could not be set higher.[13] The intrusion of politics had thus resulted in a fundamental flaw in the new European monetary order. The ECB was thus never given overall supervisory and regulatory powers, and until the outbreak of the financial crisis in 2007-2008 no one thought that was a problem. It is, however Article 105 that presents the legal basis of an extension of the ECB's function in the light of a recognition that the monetary union does indeed require an element of coordinated supervision of the financial sector – or what is now referred to as a banking union.

The Financial Crisis and Its Aftermath

By 2010, it had become clear that there was a very big problem. This is a worldwide phenomenon – after September 2008 and the collapse of Lehman, it is clear that central banks anywhere cannot ignore financial stability. Then there is a particular European problem. There had previously been a stream of private sector money from north to south in Europe, with capital flows driving current account imbalances. The flows of capital had important effects on wage rates, differential inflation levels, and hence on the position of competitiveness. In the monetary union, there was

[9] *CoG, Committee of Alternates, October 16, 1990.*

[10] *Goodhart, C. and D. Schoenmaker. 2006. Burden Sharing in a Banking Crisis in Europe. Sveriges Riksbank Economic Review 2 (2006). 34–57.*

[11] *HADB, B330/24112, February 22, 1989, Report on Monetary Policy Committee.*

[12] *CoG, Meeting 243, March 13, 1990.*

[13] *Kenen, P. B. 1995. Economic and Monetary Union in Europe: Moving beyond Maastricht. Cambridge: Cambridge University Press 33.*

no policy tool to limit inflation through a national monetary policy, and hence in the borrowing countries (now often referred to as the periphery), interest rates were lower than they should have been had a Taylor rule been practiced. Indeed Ireland had negative real rates for substantial periods of the 2000s. After the financial crisis, the sustainability of the flows was threatened by banking crises in the periphery, and the long-developing competiveness positions now looked like an argument that the debt levels (private or public) were unsustainable. Growth prospects that looked brilliant before the crisis no longer existed; so there was a debt servicing problem. That in turn seemed to endanger the banks, including particularly big north European banks that had already taken losses on US sub-prime investments. Funding dried up as US money market funds no longer wished to buy paper issued by European bank borrowers. One of the most obvious lessons of the first phase of the financial crisis was that the failure of big banks would have disastrous consequences. That mantra of the policy technocrats produced its own pushback among many voters and politicians: Shouldn't the banks bear some of the burden. At Deauville in October 2010, Chancellor Merkel and President Sarkozy agreed that there should be Private Sector Involvement (PSI).

Far from reassuring markets, the move to make private lenders bear some of the cost of past mistakes made for greater nervousness – much more so, indeed, as Jean-Claude Trichet of the ECB had insistently warned. For a decade, markets had interpreted the no-bailout clause of the Maastricht Treaty as making default impossible. It now seemed to be encouraged by the official sector. After Deauville an unhappy mechanism was created which increased the potential for large bank losses and heightened market nervousness. The official sector put in more money, in effect a substitution for the absent private sector flows of the pre-crisis era; and as that occurred and as the public credit was given seniority, the problems of the private sector debt increased rather than diminished.

Who ultimately is to absorb losses from very large banking sector problems? Do states, which rely on borrowing because they cannot increase taxes, have the capacity to do that when the financial sector is failing? It looked as if only monetization of debt by the central bank could solve the problem in the short run, but in the long run that threatens to mean writing off of debt by means of an inflationary process. So the fiscal problems generated by big financial sector problems pose a challenge to the design of monetary policy.

A New Vision

Central banks in a financial crisis take on a different function: in normal times, their task is primarily concerned with price stability, but in response to financial crisis, they have a new function of restoring financial stability. In the global financial crisis after 2007, central banks became rock stars. They knew they should respond decisively

and innovatively to problems that could not easily be tackled by governments, finance ministries and politicians. In the aftermath of the collapse of Lehman Brothers in September 2008, the US administration and the Congress were paralyzed by the upcoming presidential election, and consequently the government lacked the authority to act. But the Federal Reserve System could be very decisive. It injected liquidity into the banking system. The New York Fed intervened in a very unorthodox way to prop up a systemically vital financial institution whose collapse would have destroyed the global financial system: it lent AIG USD 85 billion in return for 80% of its stock, as well as providing USD 20.9 billion in the commercial credit program and a USD 38 billion facility providing liquidity for the company's securities. Federal Reserve Chairman Ben Bernanke was explicit

about how a historical lesson drove the policy response. As he put it: "History teaches us that government engagement in times of severe financial crisis often arrives late, usually at a point at which most financial institutions are insolvent or nearly so."[14] The theoretical point is that monetary policy can shift expectations about future and hence current asset values. That affects the question of the solvency or insolvency of agents. In a world of multiple equilibria the central bank can in the short term bring agents back into a good equilibrium, and they appear as very powerful mechanisms to restore growth prospects in the short run.

The debate about central bank capacity focuses more and more on unconventional monetary policy, and on macroprudential issues. Both involve discrimination between particular sectors and types of credit (such as housing finance or car loans or student loans or SME credits). The central bank needs to decide which segment of the market needs cooling down, and where reanimation is required. Such decisions have distributional consequences, and hence look political. Making these decisions tests the independence of a central bank, for which there is a very solid case when it is simply a question of monetary policy oriented toward price stability.

The euro story is about the breakdown of governance mechanisms in the face of enormous financial claims generated in the absence of adequate financial sector supervision, and about the proper way of managing a policy response when policy moves away from a concern with price stability and toward the broader goals of financial stability and macroeconomic performance. The story holds broader lessons, also for other non-European countries, which do not simply apply in the peculiar case of currency unions.

(1) Mega-finance is a danger to fiscal stability, because first it permits the easy financing of deficits, but also the development of local bubbles and divergent competitiveness. The breakdown

[14] *Hetzel, R. L. 2012. The Great Recession: Market Failure or Policy Failure? New York: Cambridge University Press. p. 282.*

then requires large government funded rescues and raises the problem of fiscal sustainability. A solution involves the capacity to provide regionally differentiated monetary policy.

When the EC Committee of Central Bank Governors began to draft the ECB statute, it took two principles as given: Price stability as the primary objective of the central bank; and the indivisibility and centralization of monetary policy. This would not be "in contradiction with the principles of federalism and subsidiarity."[15] But in fact the second assumption was not really justified either historically or in terms of economic fundamentals.

Think first of the gold standard. A critical part of the gold standard was that individual national central banks set their own interest rates, with the aim of influencing the direction of capital movements. Incidentally the same differentiation of interest rates also occurred in the early history of the Federal Reserve System, with individual Reserve Banks setting their own discount rates. The euro area is now moving to a modern equivalent, driven by a new concern with macroprudential regulation. Bank collateral requirements are being differentiated in different areas. This represents a remarkable incipient innovation. In the aftermath of the crisis, some policymakers are beginning to see that a monetary union is not necessarily identical with unfettered capital mobility. Recognition of diverse credit quality is a step back into the nineteenth-century world, and at the same time forward to a more market-oriented and less distorting currency policy.

(2) Fiscal sustainability in the long run requires some sort of politically negotiated agreement. That needs to be rule-based, but also to establish rules that permit flexibility as part of a strategy of immediate crisis response. Rules do not often constrain governments, so it is better to run stabilizers through non-government institutions. A better way of discussing transfers within a large and diverse political order is to think of them as individualized or personalized. In particular, a European-wide social security system would not only be a logical completion of the labor mobility requirements of the single European market.

(3) Without increased flexibility sovereign bankruptcy becomes a disastrous and destructive event that uncontrollably generates contagion.

Though all the underlying problems have been around for a long time, there is always a temptation to do what Europeans did until the financial crisis: merely hope that with time the problems would vanish.

The management of cross-national problems and the containment of crisis-driven nationalistic quarrels certainly need technical fixes, including improved macroprudential surveillance and a new approach to capital requirements. But a real solution to the crisis clearly also requires something more. A politically legitimate mechanism for solving the problem of international adjustment was the unsolved problem of the twentieth century. In Europe and elsewhere it generated enormous conflict. Fixing that issue is a European but also a global agenda for the 21st century.

[15] *James, H. 2012. Making the European Monetary Union. Cambridge Massachusetts: Harvard University Press.*

Session 2
The Changing Role of Central Banks: A Historical Perspective

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Can Central Bank Independence Survive a Crisis?

Introduction

Central bank independence does not survive crises essentially because it is impossible to create an independent central bank suitable for all occasions. This short paper illustrates this by reference to the Bank of England's history and more briefly to the Federal Reserve's much shorter history.

Taking independence to mean operational independence to achieve a goal set by government the argument is that specification of the goal is part of the problem. Starting from the position that government is responsible for money, it should not be able to abuse that responsibility by debasing the currency. So the central bank is given the job of maintaining the value of the currency or price stability. It might do that by managing a metallic standard or by following a policy rule or by being given the freedom to do whatever it deems necessary to deliver the desired end.

While there was no explicit statement about much of this when the first institutions that became central banks were founded, there was much that was implicit. So it should be useful to consider the history of one of these government banks, the Bank of England, that later became a central bank, before looking briefly at an institution, the Federal Reserve, which was founded explicitly as an independent central bank. These two banks provided the models for many others around the world. They were, however, and always will be creatures of the state.

The Bank of England

The Bank of England was founded in 1694 out of the needs of the state to finance war. In return, the Bank was given a charter from the state that gave it a privileged position in banking in the country. The renewal of the charter clearly rested on the Bank's satisfying the state's requirements. And so began a relationship of dependency. The state needed the Bank and the Bank relied on the state for its privileges. When the Bank's charter was renegotiated in 1697, for ten years, it was given protection from competition from rivals; and its position was strengthened further in the renewal of 1708 when a fresh loan was required from the Bank. On that occasion other banks were restricted to six partners or fewer, and the Bank was given a monopoly of note issue in joint stock banking, in effect a joint stock banking monopoly. At the renewal of 1715 its privileged position was further enhanced when it was given the job of managing the government's debt. The Bank's position depended on its fiscal usefulness to the state. In these early years, "the close relationship between the Bank and the state … was deemed to be unhealthy and corrupt". (Bowen, p. 7.)

As Britain was at war for more than half of the years between 1694 and 1815 the relationship between Bank and government grew ever closer and stronger. The state needed finance for war and the Bank either provided it or

organised it, so that by the end of the 18th century the government saw the Bank as an essential component of its war finance programme. By the late 18th century, "North had depicted the state and the bank as enjoying a relationship that was closely akin to matrimony …" (Bowen, p. 8.) In the wars with France at the end of the 18th century the government would take bills in large volumes to the Bank for discounting. The Bank would huff and puff a great deal but there was no question of it not complying with the state's wishes. In 1797 sterling's link with gold was suspended and greater monetary expansion was made possible. That was when the dramatist Sheridan referred to the Bank as, "an elderly lady in the City of great credit and standing who had unfortunately fallen into bad company". (i.e. with Pitt the Prime Minister) If at any stage the Bank showed any inclination to support a resumption of cash payments, government quickly slapped it down. It supported the Bank through the heavy criticism the Bank suffered in these years and then rewarded it by giving the Bank's notes de facto legal tender status in 1811 (de jure in 1816). In the world after the Napoleonic Wars the Bank's fiscal usefulness was in decline and so the case for the monopoly in joint stock banking was eroded, and it was soon abandoned.

In the 19th century, even in the age of laissez faire when there was free trade, sound money, and small government the Bank's independence was still limited. In the first place the Bank's essential function was the management of the gold standard and so it was heavily constrained by the rules of the gold standard and particularly so after these were redefined in the legislation of 1844. The main objective was to maintain convertibility of the currency into gold and the main control instrument was the short-term interest rate. The interest rate was made effective by discounting bills and, increasingly as time passed, by open market operations. These were all things the Bank became expert in and it was left to get on with the job without political interference.

However, a financial crisis that involved a scramble for cash presented a serious problem. In the first great financial crisis of capitalism in 1825 the government instructed the Bank to pay out to the last penny (Feaveryear, 1963). Instruction was thought to be needed as it was feared the still privately owned bank might otherwise have looked after its immediate profits due either to insufficient heed to the long term or to caution over its own survival. But then the 1844 legislation made it difficult for the Bank to perform its key role in a crisis, that of lender of last resort. The act needed to be suspended and that required a letter from the Governor to the Chancellor seeking the necessary exemption. That happened in the crisis of 1847 and again in the crisis of 1857. Then again at the height of the Victorian boom in 1866 crisis struck again in the famous case of Overend Gurney. The Chancellor agreed that it was, "requisite to extend their discounts and advances upon approved securities, so

as to require issues of notes beyond the limit allowed by law". But he continued: "No such discounts or advance, however, should be granted at a rate of interest less than 10 per cent, and Her Majesty's Government reserve it to themselves to recommend if they should see fit, the imposition of a higher rate." (Quoted in Fetter. See also Gregory.)

So when crisis struck the rules were such that government again dictated how the Bank should behave. Fetter concluded for the 19th century, "the Bank and the Government ... continued the fiction of official independence" (Fetter, p. 280).

That was true again in 1914. At the outbreak of war in August 1914 there was a major crisis. The Governor was invited to a meeting in Downing Street and told to sign a statement and to promise: that during the war "the Bank must in all things act on the direction of the Chancellor of the Exchequer whenever in the opinion of the Chancellor the national interests are concerned and must not take any action likely to affect credit without previous consultation with the Chancellor". (Sayers 1976, pp. 99–107)

Cunliffe, the Governor, initially refused to sign and had the support of the Bank, where they believed, "it was impossible for the Bank thus to renounce its functions". But some face saving was allowed and Cunliffe agreed to comply.

For the interwar years the Bank of England was of the view that it should be operationally and institutionally distinct from government regarding this as independence, but it should accept Treasury control of policy – which was an implicit target regime on the exchange rate. The Governor throughout the interwar years, Montagu Norman, made it clear that ultimate authority rested with the Treasury. "I assure Ministers that if they will make known through the appropriate channels what they wish to do in furtherance of their policies they will at all times find us willing with good will and loyalty to do what they direct, as though we were under legal compulsion". (Collins, p. 294.) Norman went further than that when he told a meeting of Commonwealth bankers, "I am an instrument of the Treasury". Following the Great Depression that affected much of the world and for which the blame fell on bankers, both central and commercial, central bank room for manoeuvre became further circumscribed.

It is often assumed (or asserted) that after the Bank was nationalised by the Labour Government in 1946 everything changed and the Bank henceforth became a subsidiary of the Treasury. But in fact very little changed. While there were complex drafting requirements to specify the functions, powers, and purposes of the new public corporations being formed after the war, in the case of the Bank this was unnecessary because there was "never any question that it should not continue doing what it had been doing for a very long time". (Chester, p. 196.)

The fact that little had changed following nationalisation so irritated the Labour Party when in opposition in the 1950s that it was instrumental in getting the Radcliffe Committee established to enquire into the nature of the monetary system. It was particularly concerned to bring the Bank to heel and have the Treasury clearly dictate the terms.

The question of Bank Rate setting was at the centre of the discussion. It was partly one of principle and partly symbolic. The Bank took a strong line from which it never deviated: this was an operating rate and only the Bank knew which way it should be moving. This was largely accepted by govern-

ment. The Bank delegated its power to set Bank Rate to the Governors, with the Chancellor giving formal approval to any change. And that was essentially what happened. The Bank would, primarily for external reasons, decide that a change in the rate was required. It would notify the Treasury of their view and expect to have the decision rubberstamped. There are some isolated examples of disagreement for political reasons or for timing but generally these simply took the form of the Treasury suggesting a delay of a week or some such trivial alteration.

Across the period from the 1950s to the 1970s the Bank operated with considerable freedom, what it liked to think of as independence (Capie, 2010). Its principal function of defending the exchange rate was restored. Things were as they had been in the golden age before the First World War. Many actions were taken but most important was the use of its oldest instrument – Bank Rate. And Bank Rate was regarded as primarily of use for external purposes, and as noted movements in Bank Rate were not merely executed but determined by the Bank. Whenever there was a developing threat to sterling the Governor would tell the Chancellor that a rate change was proposed on a particular date. The Chancellor's reply was simply a one line memo of approval. (Capie, chapters 4, 5, 6.) The relative freedom began to come under serious pressure in the 1970s following the loss of the explicit exchange-rate target. When monetary targets were introduced monetary policy became increasingly politicised as politicians and civil servants had a simple number on which to focus. They wanted to see what action was being taken to meet the target and if it was not met to be shown why it was not.

Something else that contributed to the relative freedom the Bank enjoyed was the method of its financing. How central banks are financed matters for independence. There are essentially three ways in which a central bank can be financed: first, it could be done straightforwardly out of taxation; secondly, it could be allowed to retain seignorage; or thirdly, it could be achieved by placing a levy on the financial institutions. The first two means present problems in terms of independence. The third raises fewer objections in this respect since the Bank is being financed privately. It was, as a consequence of its history, the last of these that was used to finance the Bank of England (and it continues to be the means of financing the Bank).

This potted history shows that ever since the founding of the Bank of England a dependent relationship with government was accepted. Since the country was at war more often than it was not between the Bank's founding and 1815 and the state needed funds, it needed the Bank and the Bank depended on the state for preservation of its privileges. In the 19th century whenever crises flared, under the gold standard the Bank needed government approval to act in the necessary way and that came with conditions. In the first half of the 20th century war dictated much of what happened; again the Bank responded to the needs of the state. There was a brief period after the Second World War when another exchange-rate target was in place and the Bank enjoyed a similar freedom of action that it had in the past but that all came to an end in the debacle of the 1970s. The next attempt at restoring some independence in 1997 has lasted only so long as there was no crisis.

United States

When the Federal Reserve was founded in 1914 financial stability was its chief focus and it was intended that the bank be independent of political influence. It was founded after a long period of peace, but war broke out soon after and the Fed was almost immediately involved as the Treasury's banker. (Further, indicating another level of independence, the twelve district banks were free to operate independently of each other.) The Federal Reserve Act was quickly amended so that banks could borrow from the Fed using government securities as collateral. Inflation followed but the Fed could not raise its discount rate without Treasury approval. So it did not get off to a good start in terms of either independence or inflation control and it took some years after the war before it returned to its intended path of being an independent institution. In the years after the War and particularly following the recession of 1920–21 the Fed discovered open market operations and the Open Market Investment Committee was established. The New York Fed became the dominant bank under the leadership of Benjamin Strong.

Hardly had the post-war adjustment taken place before new problems confronted the Fed, at the end of the 1920s, and its actions and its failures to act resulted in the Great Depression. (Friedman and Schwartz, 1963) Following the Great Depression and the criticisms, subsequent and sometimes consequent, that were made of banks and central banks the Federal Reserve Act was again amended, by the Emergency Banking Act of 1933. That Act, amongst other things, gave the President powers to regulate credit, whatever that may mean. But calls for greater reform were strong and a new Banking Act was designed, for implementation in 1935. Initially, the principal aim had been to provide a small but flexible monetary authority with its independence restored. The vague mandate that the Fed had been given in 1913 was, however, preserved in the 1935 Act. Further, in the 1930s if the Fed did not stay in line with the Treasury's wishes it was readily brought back into line by the Treasury acting through the new Exchange Stabilisation Fund or other Treasury accounts. Meltzer (2009) is critical of the chairman of the time, Marriner Eccles, who, he said, failed to defend the Fed's independence under Roosevelt.

In any case within a matter of a few years there was war again and in war the Fed was obliged to support the prices of government securities. It was an instruction in time of crisis. Tensions

arose immediately between the Treasury and the Fed, with the Treasury seeking low rates to support the sales of bonds for war finance. In 1942, Federal Reserve banks were authorized by government to buy government securities directly from the Treasury. The dangers that gave rise to remained in place for years after the war. Throughout the pe-

riod of low interest rates commercial bank reserves grew hugely and the inflationary dangers rose with them.

Tensions between the Fed and the Treasury over interest rates came to a head in 1950 and there broke out what has been called the "greatest battle in the history of central banking" (Davis, 2012). Sproul of the New York Fed was sufficiently worried after the outbreak of the Korean War in 1950 to force the

issue. In what he saw as a dangerously inflationary situation he thought it was time to exercise some independence. So the Board of Governors announced rate increases and indicated they would take further action if required to restrict credit.

The turning point came in January 1951. There was a special meeting between the FOMC and the President. That meeting was a direct consequence of an instruction by the Treasury to the Fed to buy government bonds at a specified price. The Treasury released a public statement after the meeting that suggested that the Fed would do as it was told. This so enraged Eccles, still a board member though a former Chairman, that he broke confidentiality rules and gave the press the Fed's record of the meeting. The Fed's record had suggested no such thing. Discussions then began in earnest between the parties and these led to the Accord of March 1951. The Chairman (McCabe) resigned soon after and his replacement was William McChesney Martin Jnr., the Treasury assistant undersecretary who had conducted the meetings on the Accord. This might have looked like a cynical Treasury move but subsequent events indicate otherwise. Some see the Accord as the turning point in the Fed's history, the point at which it became a truly independent central bank. How true that is will continue to be debated. What it does for our purposes is remind us of how fragile independence can be. When any kind of emergency appears the dangers are that the response to these circumstances will be actions and sometimes legislation that seem at the time entirely appropriate to the problem. But it then weakens the central bank's position when "normality" is restored. Although Martin went on to become the longest serving Chairman of the Fed, and is generally credited with maintaining the Fed's independent position, he still held a slightly ambiguous view of independence. He liked to repeat the words of Sproul that the institution should be, "independent within government not independent of government". Does that match Friedman's favoured definition of independence? It might, but then it might not.

The inability to write complete contingent contracts ensures that independence is compromised in a crisis. One route by which that compromising occurs is when emergency legislation is passed whose scope after the crisis turns out to be greater than had been realised at the time.

Reactions to the recent crisis may turn out to be an example of that; but whether they are or not, they certainly exemplify how a crisis can thrust a central bank into the arms of its government.

Conclusion

It might be tempting to conclude by constructing a counterfactual, so as to consider how a "truly independent" central bank might have acted in financial and other crises. But that temptation is resisted, as the argument of the paper is that such a creature can not exist. There is, however, another and more fruitful way of getting close to the question. What might a central bank guided by and adhering to the principles set out by Henry Thornton, Walter Bagehot, and R. G. Hawtrey have done in these circumstances? I believe the answer is clear. They would have provided liquidity until the liquidity aspect of the crisis was over. They would have had nothing to do with the provision of capital to support individual banks. That was not their responsibility quite apart from it being beyond their balance sheet capacity. Most importantly it was a contradiction of the principles guiding lender of last resort action.

In Great Britain the recent crisis revealed inadequacies in the set of instructions provided by government. But in addition the Bank of England went far beyond the quantitative easing for liquidity purposes and got involved in buying up a big proportion of debt issued by government. It certainly appeared to compromise its independence over inflation by consistently failing to achieve its target, a failure always accepted by the Chancellor, and carried out a policy of financing the Government's budget deficit. Meanwhile, the problem of how to get capital into a failing bank to prevent contagion was dodged by seeking to put in place measures to make retail banks failure-proof.

Much of Alan Meltzer's history of the Federal Reserve is concerned with its independence. But independence was not defined in law but rather left to the interpretation of its chairmen. Nowhere did it set out its lender of last resort policy leading to increased uncertainty. And nowhere was this more evident than in the recent crisis. The Federal Reserve worked erratically and unpredictably along with the Treasury, in ways not consistent with its mandate, and also, as Meltzer put it, changed from protecting the value of the US-dollar to being the "financing arm of the Treasury".

If ever a central bank was designed to be independent it was the ECB using the Bundesbank as a template. But in the recent crisis the ECB's behaviour can only be described as political. The ECB has been politicised under the pressure of numerous heads of government. It switched from control of inflation by monetary policy to a policy of buying government debt to keep the euro area together at least long enough for further political changes to be implemented in the EU. That this has not threatened inflation so far is an accidental by-product of the severe recessions in a substantial part of the euro area. Despite that it represents a complete change in the objective of the ECB.

So long as there have been central banks governments have used them at times of crisis, and have not hesitated to override whatever set of rules supposedly constrained the central bank. This is a consequence of several factors. First there is the inescapable fact that uncertainty makes it impossible to write complete contingent contracts for central banks. Second, even if it were possible to write such contracts, there are few countries where a constitution could prevent them being overridden, were doing so to be temporarily convenient. Rules constrain only so long as belief holds that the rules cannot be broken.

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The Political Economy of Central Banking: Historical Perspectives

The question of central bank independence as we discuss it nowadays has been mainly shaped by the theoretical debate on rational expectations which emerged around 40 years ago, during the age of the Great Stagflation. In a famous series of articles published in the 1970s, Thomas Sargent and Neil Wallace argued that changes in the public's expectations are bound to frustrate *any* attempt of impacting the real economy through variations in the money supply.[1] If Sargent and Wallace were right, just the suspicion that monetary authorities might be pursuing some kind of nonmonetary target was, *per se,* sufficient to make monetary policy a useless macroeconomic tool. The conclusion which was generally drawn from these theoretical findings was that monetary policymaking could only be credible when monetary and fiscal authorities were clearly separate institutions, pursuing clearly different targets. This provided the basis for the doctrine of central bank independence, which gained widespread popularity in the following decades.

The question of the relationship between monetary and fiscal authorities is, however, far older than that. More than to pure macroeconomics, it essentially relates to the domain of *political economy*. Political economy is the branch of economics which analyzes how the interplay among different interest groups determines economic policymaking as well as its distributional effects. The adoption of a political economy approach to the study of monetary policymaking is legitimate: As a matter of fact, central banks are – as any other institution – the outcome of some form of collective bargaining among different interest groups. Therefore, trying to relate the evolution of monetary institutions to the evolution of the *social contract* appears to be a particularly insightful endeavor today, at a time when some major changes in the role of central banks are suspected to be underway.

In order to shed some light on the political economy of central banking, it is convenient to take a very-long-term view on the subject. This means going back to a time when central banks as we know them today had not appeared yet. Although modern central banks did not exist before the late 19th century, central banking *did* exist to a certain extent. Over the centuries, a variety of different organizations have happened to perform the same main functions central banks do perform nowadays – i.e., to ensure a stable value of money as well as stability in the financial system. Some of these institutions (e.g. early banks of issue) somewhat resembled modern central banks, but some others did not. As a matter of fact, plenty of alternative arrangements have been engineered over time in order to ensure monetary and financial

[1] *For a summary of this influential research strand, see Sargent and Wallace (1976).*

stability within domestic banking systems. Sometimes, such functions were provided directly by the government; sometimes, they were provided by some private intermediary which enjoyed a predominant market power in the domestic payments system; sometimes, they were provided by a special corporation which was granted a particular privilege by government.[2] Looking at the way monetary institutions gradually crystallized into their current form is instructive; In fact, it helps us understand to what extent modern central banks are the outcome of complex historical processes, rather than the only viable solution to the demand of monetary and financial stability.

How did political economy issues actually shape the evolution of monetary institutions, then? To try to answer this question, let us first take a microeconomic view and focus on the

provision of *financial stability*. The basic microeconomic function of central banks consists in the management of the payments system. The *payments system* is the infrastructure established in order to implement transfers of value discharging mutual obligations between parties. As soon as economies start to become sufficiently advanced to entail the execution of large payments on a regular basis, the demand for the establishment of such an infrastructure naturally arises. To work properly, a consistent payments system implies the existence of a central place where all transactions are effectively cleared. In the early stages, intermediaries will typically agree to create a clearinghouse: At the end of each day, all intermediaries adhering to the clearinghouse will discharge mutual obligations without having resort to reserve assets. However, this kind of solution has historically tended to be unstable. As most network businesses, the payments business actually appears to be strongly subjected to economies of scale: The higher the turnover, the lower the costs. As a result, what has occurred in many different contexts is that a few intermediaries – most often, a single one – have gradually ended up dominating the whole payments system.[3] The concentration of market power with a single intermediary in the clearing process is a particularly serious concern. Claims on the institution sitting at the center of the payments system enjoy a high degree of liquidity: As a result, they naturally tend to assume the status of money even though such status is *not* sanctioned by law. The possible dangers relating to a situation of this kind have constantly called for government intervention in this very sensitive sector of the economy.

In the light of what precedes, government intervention in the payments system can conveniently be seen as regulation of a natural monopoly – i.e., as a question of political economy properly-speaking, permeated by major distributional issues. Were rulers sup-

[2] *For a detailed survey, see Ugolini (2011).*

[3] *A clear exposition of this problem can be found in Goodhart (1988).*

posed to fight such a monopoly power? Were they to keep it for themselves? Or rather, were they do leave it to a private corporation subject to some special constraint? All three approaches have been adopted by governments in different historical circumstances. In some cases, regulators have preferred the *free-market* solution and defended the clearinghouse system. Yet, the choice of breaking down the natural monopoly has been the exception rather than the rule; It only has prevailed in some particular contexts in which centralized solutions were politically unviable. This was the case in decentralized countries like the 19th century United States of America – where local elites long fought the emergence of a national banking system.[4] Much more often, however, governments have kept the natural monopoly untouched, and sought to take advantage from it. One solution has consisted in *nationalizing* the clearing process and confining it to a state-owned organization. This was the case in city-states like early-modern Venice, Amsterdam or Hamburg. In Amsterdam, for instance, the municipal government founded a public institution known as "giro bank" and decreed that international payments would be legally enforceable only if cleared via the bank's books. This strict regulatory constraint automatically made the Wisselbank the seat of interbank clearing in Amsterdam.[5] The alternative solution has consisted in *subcontracting* the management of the natural monopoly to a private company. This was the case in monarchical states like early-modern Sweden, England or Austria. In England, for instance, the government provided the shareholders of a bank of issue with the monopoly of banknote issuance and joint-stock banking in London (the country's only international financial center). The "privilege" was only granted for a limited period of time and the deal had to be renegotiated at expiration, but the solution was effective in establishing the Bank of England as the seat of interbank clearing for the whole country.[6]

Therefore, the structural features of domestic political systems have been crucial in determining the way payments systems have been organized in different times and places. Changes in the organization of payments systems have coincided with major changes in the balance of power – e.g. the rise of the federal government in the United States; the fall of the municipal government in Amsterdam; or the gradual democratization of English society.

Let us now abandon a microeconomic viewpoint and look at the very same facts from a macroeconomic perspective. This means focusing on the provision of *monetary stability*. The basic macroeconomic function of central banks is *money creation*. Central bank money consists of sight liabilities of the organization standing at the center of the payments system: To make a parallel with sovereign debt, we can say that these sight liabilities – which actually correspond to central bank "debts" – can be either "inscribed" (it is the case with deposits) or "securitized" (it is the case with banknotes). Strictly speaking, central bank money is issued only when the bank's liabilities exceed its reserves of gold or foreign currency – i.e., when the central bank engages into "fractional reserve banking" in order to buy

[4] *Timberlake (1993).*

[5] *Gillard (2004).*

[6] *Broz and Grossman (2004).*

some non-reserve asset. Here, the crucial question is to know why money is issued – or, to put it differently, what is the counterpart to money creation. Once more, it is a political economy question with non-negligible distributional consequences. If the counterpart to money creation is dubious, holders of money – who are, in fact, creditors to the central bank – are exposed to the risk of being confiscated a considerable portion of their purchasing power.

American humorist Will Rogers is credited to have once jokingly said: "There have been three great inventions since the beginning of time: fire, the wheel, and central banking." No doubt, this joke has a lot of truth in it. Indeed, money creation is an extremely powerful instrument: It is, potentially, one of the most efficient means to perform wealth redistribution. This is why it is easily prone to abuses. The problem, then, is to find a way to convince potential "creditors" that the instrument will not be abused, so that they will "stay" the market and hold central bank money instead of other assets. Historically, different kinds of equilibria have been found between those sitting on the liabilities side of the central bank's balance sheet (the holders of money) and those sitting on its assets side (the recipients of central bank credit). To illustrate this, let us just focus on the two early types of money-issuing organizations that we have already mentioned: giro banks and banks of issue.[7]

As we have previously said, giro banks (e.g. Amsterdam's Wisselbank) were state-owned institutions bearing the monopoly of legal interbank payments. Besides enjoying this valuable privilege, they had no capital endowment and were not subject to any strict limit in their money creation. How were institutions with such an enormous discretionary power able to attract the confidence of potential money-holders? The fact is that the model of giro banks was adopted in city states like early-modern Venice, Amsterdam, or Hamburg. In these international financial centers, the government was in the hands of an oligarchy of bankers and tradesmen who also were the main users of the payments infrastructure. This means that the main creditors to the giro bank basically coincided with its main debtor – which was, of course, the State.[8] As a result, there was no risk that the State would, one day, indulge into money creation to fund enterprises whose aims conflicted with their own interests. This worked as a guarantee that money creation would not be systematically used to confiscate money-holders' purchasing power: as such, it played a role in widening the popularity of central bank money to agents that did not have a stake into the oligarchic government.

The situation was very different in monarchies like early-modern Sweden, England, or Austria. There, the potential creditors to the money-issuing institution (i.e., bankers and tradesmen) did *not* coincide with its main debtor (i.e., the State). In this context, the problem consisted of finding an equilibrium which would – on the one hand – allow the monarchic government to monetize debt and – on the other hand – guarantee money-holders that they would not be systematically confiscated their purchasing power. Banks of issue were created as a solution to this problem. As we have previously recalled, a bank of issue (e.g. the early Bank of

[7] *More details are available in Ugolini (2011).*

[8] *Gillard (2004).*

England) was a privately-owned company to which the government "subcontracted" the management of a certain monopoly for a given period of time. The shareholders of the bank were free to make use of this monopolistic power to their own advantage for the entire duration of the subcontracting deal, but at a cost. First, they had to pay down immediately a given amount of capital (i.e. the stock capital of the company), which would be mainly lent to the government. Second, they had to face some constraints to money creation – typically embodied by the requirement to assure gold or silver convertibility of banknotes.[9] As a result, the deal between the government and the shareholders was based on a system of mutual limitations to the discretionary power of each party; these guarantees proved effective in widening the popularity of central bank money to agents that did not have a stake into the monarchic government or into the company itself.

Many things have changed substantially since the early-modern era. Old banks of issue (like the Bank of England) have come across major transformations of their corporate structure and their position with respect to fiscal authorities. It is fair to say that these mutations have largely coincided with shifts in the balance of power between different interest groups – shifts which have been mostly connected to big external shocks. The fragile equilibrium between creditors and debtors to central banks has typically been overturned by wartime inflations, often associated with a redrafting of the *social contract* previously in force. Such reshuffles have often implied the termination of earlier monetary arrangements: This was, for instance, the case of giro banks, which disappeared together with the city-states they had been associated to.

Let us try to sum up the implications of this brief historical overview of the political economy of central banking. In the light of our findings, the question of the relationship between monetary and fiscal authorities seems

to be more complex than the recent debate on central bank independence would suggest. In the simple framework inspired by Sargent's and Wallace's theoretical contributions, the recipe for establishing an untarnished confidence in central bank money consisted in severing all links between governments and central bankers. In reality, however, monetary and fiscal authorities can hardly be separated at all: in fact, they are the two sides of the same coin – which is, the modern state. On the one hand, central banks would hardly survive in the absence of a solid political backing: the opportunity to create money depends on the circumstance of being at the center of the payments system, and this is a legal privilege whose fate depends on the one of the political regime which has granted it. On the other hand, advanced fiscal systems would hardly survive in the ab-

[9] *Broz and Grossman (2004).*

sence of a full-fledged payments system and of an efficient mechanism for the absorption of government deficits: These conditions can only be ensured by the existence of a widely-trusted agency capable of monetizing debt in a sustainable way. The idea that monetary and fiscal authorities can live their lives oblivious of each other does not seem to be validated by historical evidence: And in fact, the recent appearance of the very first fiscal troubles in forty years has sufficed to put this concept under severe strain in most developed countries.

Under many respects, the architecture of the Eurosystem was originally conceived as an incarnation of this once-fashionable "principle of separation". The crisis begun in 2007 has seriously questioned the philosophy underlying the whole project. As a matter of fact, it is now generally admitted that at the roots of the euro area crisis lay a number of major distributional problems. In a rather dismissive way, most commentators have depicted such problems as specific to the peculiarities of a monetary union. Sure, the special structure of the Eurosystem has been responsible for making distributional issues emerge in a particularly spectacular fashion. However, history suggests that these are universal features of central banking, inevitably resurfacing in any time and place. If this is true, the belief that monetary and fiscal troubles can be solved separately is a great delusion – and a potentially dangerous one. The legitimacy of monetary and fiscal authorities rests on the very same foundations; should inability to address these troubles imperil the *social contract*, neither authority could reasonably expect to survive the fall of the other one.

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Klaus Liebscher Award

Klaus Liebscher Award for Scientific Work on European Monetary Union and Integration Issues by Young Economists

On the occasion of the 65th birthday of Governor Klaus Liebscher and in recognition of his commitment to Austria's participation in European monetary union and to the cause of European integration, the Oesterreichische Nationalbank (OeNB) established in 2005 the Klaus Liebscher Award. This award is the highest scientific distinction, the OeNB offers every year for up to two excellent papers on European monetary union and European integration issues written by young economists (up to 35 years) from EU member or EU candidate countries. The award is worth EUR 10,000 per paper. The papers are refereed by a panel of highly qualified reviewers.

The Klaus Liebscher Award is granted this year for the ninth time.

The winners of 2013 are Luca Fornaro, London School of Economics for his paper "International Debt Deleveraging" and Jenny Simon, Stockholm Institute of Transition Economics and Justin Valasek, Social Research Center Berlin (WZB) for their joint paper "Efficient Fiscal Spending by Supranational Unions".

In his paper "International Debt Deleveraging" , Luca Fornaro analyzes the macoreocnomics of a simultaneous deleveraging of countries in a currency union. The drop in aggregate demand and in the level of interest rates that follows as a consequence cannot be compensated by exchange rate adaptions. The paper shows how in such a situation a systemic recession can spread among all countries in the currency union. The paper discusses various policy measures that can help to support macroeconomic stabilization in such a situation.

In their joint paper "Efficient Fiscal Spending by Supranational Unions" Jenny Simon and Justin Valasek ask whether a union of sovereign countries

are able to efficiently raise and allocate a common budget, even if they are motivated by self interest only and particpation in the union is entirely voluntary. Using concepts from bargaining theory the authors show that in such a problem bargainig power is not ex-ante given but arises endogenously in the negotiation process. This fact creates a link between budget contributions and budget allocation. Within this framework the authors discuss conditions under which a common budget can be raised and allocated efficiently.

Session 3
Central Banking and Macroeconomic Theory

Martin Summer
Head of the Economic Studies Division
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Introductory Remarks

Ladies and Gentlemen,
Welcome to our 3rd session on Central Banking and Macroeconomic Theory. In this session we will discuss the interaction between the practice and theory of monetary policy. There are two main reasons, why we want to address this interaction in this conference:

First, central banking is one of the areas of economics where the interaction between academic research and policy has been particularly intense. The foundation of inflation targeting, the case for low inflation, and the case for rules rather than discretion are all ideas that have been very much shaped by this interaction. It is therefore interesting to hear from a perspective of macroeconomic theory, what issues with respect to the central bank mandate are of central concern to academics.

Second, the theoretical foundations, which should guide central banks in their policies, have been extensively criticized since the crisis. It has been argued that with respect to financial stability practitioners of monetary policy have been poorly supported by theorists of monetary policy. While there is some truth in this criticism as far as the literature of a few years ago is concerned this is certainly less valid with respect to current academic developments. The question of the fundamental macroeconomic role of the financial sector as well as issues of potential trade-offs between price stability and financial stability has come back into the centre of the academic debate. This debate certainly has also implications with respect to the mandate of central banks.

I am very happy that we could attract two experts who have studied these issues deeply and have acquired broad experience in both the theory and the practice of monetary policy. Let me briefly introduce both of them:

Xavier Ragot is an associate professor of economics at the Paris School of Economics. His main fields of research are monetary economics, macroeconomics and finance and the macroeconomics of incomplete markets. Xavier Ragot is a graduate of the École Polytechnique and holds a Ph. D. in economics. He was also a post-doc at MIT. After his studies he became a researcher at the Centre National de la Recherche Scientifique (CNRS). He held several advisory positions at various institutions in the private and public sector before joining the faculty at the Paris School of Economics. He has published widely mainly in the field of macroeconomics and finance and has been active in economic policy debates and

as an economic advisor. He is a member of the French National Comittee for the Evaluation of Science, CNRS; since 2009 he has been Co-director of the Macroeconomic program of the CEPREMAP. He also was a member of the scientific council of the Fondation Banque de France pour la Recherche en Économie Monétaire Financière et Bancaire from 2008 to 2011. Since 2011, he has also been a Member of the Board of the Fondation Banque de France pour la Recherche en Économie Monétaire Financière et Bancaire.

Athanasios Orphanides is currently at MIT Sloan School of Management. He served as Governor of the Central Bank of Cyprus between 2007 and 2012 and he was also a member of the Governing Council of the European Central Bank between 2008 and 2012.

Prior to his appointment as Governor, he served as Senior Adviser at the Board of Governors of the Federal Reserve System in the USA, where he started his professional career as an economist in 1999. While working at the Federal Reserve he taught undergraduate and graduate courses in macroeconomics and monetary economics at Georgetown University, Johns Hopkins University and the Kiel Institute for World Economics and the Center of Financial Studies at Goethe University Frankfurt. He holds undergraduate degrees in mathematics and economics as well as a Ph. D in economics from the Massachusetts Institute of Technology. He is well known for his research on the evaluation and design of monetary policy, and his critical analysis of the measurement of the output gap. He also contributed significantly to the literature on inflation expectations as well as to the problem of monetary policy near the zero lower bound.


A CHANGING ROLE
FOR CENTRAL BANKS?
ORPHANIDES

Xavier Ragot
Associate Professor
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Should the ECB Have a Dual Mandate? Probably Yes

The nature of the mandate of the central banks summarizes the social contract between the citizens and the institution, which has monopole of money creation. In the mandate, social preferences are summarized in broad terms. The mandate provides guidelines to central bankers to restrict the set of legitimate goals. What appears as a restriction of the freedom of central bankers is the wisdom of the past. To be efficient in the long run, central banks should focus on a limited set of goals, which can be reached with a limited number of instruments.

There remain important differences between mandates of central banks around the world. The ECB has only a monetary mandate: Reaching the objective of price stability over the medium-run, which is understood as inflation below but close to 2%. In contrast, the Fed has some real objectives in its mandate: maximum employment in addition to stable prices and moderate long-run interest rates.

Are those differences in mandate the results of differences in social preferences or diverging views about what central banks can achieve over the medium-run ? This question is all the more complicated in Europe as one can suspect that social preferences about the tradeoffs between inflation and the stabilization of economic activity may differ across EU Member States. Instead of speculating about these social preferences, which are so difficult to measure, one can observe the action of central banks during the crisis to infer the true objectives of central banks.

The actual practice of central banks during the crisis and recent advances in economic research suggest that price stability as a unique mandate may be too limiting. In this chapter, it will be argued that central banks should have a real objective such as maximum economic activity in addition to a monetary objective, which is stable inflation. This second real objective would be better than a financial stability objective or an objective to prevent financial crisis. Indeed, it is not clear that one should try to stabilize financial fluctuations, when they have no adverse effect on economic activity. This may hamper the functioning of financial markets. Moreover, a condition to stabilize economic activity is to avoid financial crises which have adverse effects on economic activity. A real objective is sufficient for a central bank to try to identify financial imbalances, which could lead to financial disruptions and negative effects on output and unemployment.

The first section of the chapter develops the argument by first analysing some of the tools elaborated by central banks in the crisis to stabilize financial markets and economic activity. It will then be argued that an evolution of the mandate of the ECB would first allow recent (and desirable) decisions to be consistent with the mandate, and second that it would give more freedom to implement new tools, which may be necessary in Europe. The second sec-

tion justifies this change in the mandate by answering to four main criticisms of an introduction of a real objective in the central bank mandate, using recent economic research.

1 When Central Banks Stabilize the Economy

Central banks have taken decisive actions to stabilize economic activity at various stages of the recent economic crisis. These actions are described at length in various reports (IMF, 2013; Gros, 2012, among others). What is

more interesting than the detailed nature of these actions are the market failures that central banks had to cope with. At least four types of policies were implemented.

The first type of intervention is the provision of some funding to specific non-financial actors who were credit constraint. The Fed has implemented a policy to massively buy commercial papers during the most dramatic moments of the financial crisis. The Commercial Paper Funding Facilities (CPFF) allowed the Fed to buy for USD 350 billions of commercial papers at the beginning of 2009. Indeed, the run on the shadow banking system generated a huge decrease in the investment of money market funds (MMFs) in commercial paper, which reduced dramatically the ability of firms to borrow short term. The Fed has to substitute for MMFs to avoid bankruptcies of non-financial firms. The ECB has introduced the same policy at a smaller case with the Covered Bond Program, which allowed the ECB to buy covered bonds to ease the financing of some firms.

The goal of these two policies was not to stabilize financial markets, but to limit the effect of the financial crisis on real economic activity. In other words, these policies were mostly aiming at improving capital market allocation during the financial turmoil. It is very possible that more could be needed in this direction in the euro area. Small firms (SMEs) have been facing very hard financing conditions in southern European countries in 2013 due to the bad qualities of some assets on some banks' balance sheets. A more direct financing channel toward SMEs might avoid inefficient bankruptcies. It is thus possible that the ECB could improve capital allocation due to the poor state of the banking sector.

The second type of policy intervention is the provision of liquidity to financial institutions. In Europe, this has been done by the spectacular Very Long Term Refinancing Operations (VLTRO) which allowed financial institutions to borrow up to three years at a fixed interest rate with full allotment. These operations are standard operations of lender of last resort, which allowed solvent but liquid financial institutions to borrow from the central banks (but here at no cost or even with a subsidy in case of the VLTRO, due to the low interest rates). Those operations were basically aimed at avoiding inefficient bankruptcies which could translate into a severe credit crunch. In Europe, these actions were thus related to the traditional role of banking stability, which has been a

traditional function of central banks since the creation of the Fed in 1913.

The third type of policies concerns the policy toward public debt and the financing of States. With quantitative easing, the Fed has bought a huge share of public debt. With Outright Monetary Transactions (OMT), the ECB has announced that it may, under certain conditions, buy public debt to stabilize financial markets. Key to the success of the OMT was the commitment to buy any necessary amount. As is widely acknowledged, the action of the ECB has contributed to stabilize the European financial markets and has avoided contagion effects of the Greek situation.

The fourth type of action is a more standard monetary policy action to affect the business cycle, which is the management of the short-run interest rate. The management of the business cycle by monetary authorities is part of the Keynesian legitimacy after the Second World War. The amount of price and nominal wage stickiness that is observed in Europe proves that the central bank can indeed have a substantial role in stabilizing short-run economic activity. In this respect, both the Fed and the ECB have now introduced forward guidance to coordinate expectations of economic agents to low interest rate, as long as necessary, if medium-run inflation expectations remain anchored.

From this brief overview, the ECB and the Fed have contributed to reduce the effect of financial crisis on economic activity and to stabilize financial markets, although the quantitative impact of these policies is still under debate, (see IMF (2013) for references).

Economic justification

There are strong economic justifications for central banks policies aiming at stabilizing economic activities. Most of these economic justifications rely on the possibility of multiple equilibria and the ability of central banks to avoid a bad equilibrium, where economic activity is low. The seminal paper of Diamond and Dybvig (1983) formalized the possibility of an inefficient run on the banking sector, which could be avoided by an adequate policy of the central bank. This model has generated a huge literature to analyse the conditions of optimal public intervention. The run on the shadow banking system in the USA has resurrected these models as a convincing explanation of financial instability after the subprime crisis. Literature on information asymmetry has since many years provided framework to think about inefficient credit rationing for non-financial firms (Holmstrom and Tirole, 1997).

The possibility of multiple equilibria in the financing of public debt is also well known since the work of Cole and Kehoe (1996). For sufficiently high level of public debt, financial market may generate self-fulfilling financial crisis: The fear that a country may face financing difficulties in the future may drive capital outflows, which indeed creates financial difficulties today. This mechanism could explain the problem of the Greek public debt. Observers now acknowledge that Greece has a solvency problem as it is not able to pay back its full stock of debt whatever the "equilibrium" is. Nevertheless, self-fulfilling default risk has probably destabilized the Italian sovereign bond market before the OMT announcement.

Importantly, the role of the central bank intervention in the aforementioned models is known to rely on the failure of other policy interventions to stabilize more directly economic activity. When fiscal policy and financial regulation are not optimally designed, a benevolent central bank can stabilize economic activity. In the case of self-

fulfilling public debt crisis, Uhlig (2011) shows that the existence of multiple equilibria derives from the fact that the State issues too much debt due to its own preferences. As a consequence, the public debt becomes high enough to enter a region of multiple equilibria. It is thus a general conclusion that central banks can stabilize economic activity (independently of its effect on inflation) because of the existence of constraints on other policy tools. Only if we accept the idea that other policies (financial regulation and fiscal policy among others) are not sufficient in stabilizing economic activity, central banks have a role to play in this respect.

All these new tools and policies have been implemented by the ECB in its current mandate, which is to focus on price stability by referring to the necessity to restore the transmission channel of monetary policy. It is claimed that it is a necessary condition to be able to insure price stability, which is its only final goal. Jürgen Stark in a recent public intervention (Keynote intervention at the MIPIM in 2013) contests this interpretation and argues that the OMT program was in fact "Out of the Mandate Transactions" because price stability was not at stake: The problem was the financing of some European states which is a fiscal problem.

It is not the goal of this chapter to discuss this claim. It will be argued that introducing a quantitative objective within the mandate of the ECB, such as the stabilisation of economic activity at the highest level consistent with price stability would have avoided non relevant discussions about the interpretation of the current mandate of the ECB. Second, it may allow the ECB to take more actions to stabilize economic activity in Europe, without referring to price stability. In short, the ECB can and should stabilize economic activity. Such an evolution would move the mandate of the ECB closer to the one of the Fed, introducing a dual mandate.

The case for this strong claim will be indirect. Indeed, the next section will justify the need for a change in the mandate by answering to four main criticisms of such a dual mandate.

2 Objections to a Change in the Mandate

Keep central banks focused on one objective: Financial regulation and fiscal policies will now be enough to stabilize economic activity

Let's first develop this criticism. First, as written above, in all theories where the central banks can and should stabilize economic activity, this result relies on some restrictions put on other policies, which are not optimally designed (Farhi and Tirole, 2012; Challe et al., 2013; Shleifer and Vishny 2010, among others). As a consequence, improvement in financial supervision in Europe, both at the macroeconomic and the microeconomic levels, such as the implementation of the new regulatory framework for the banking system, will imply that there is no more role for central banks to stabilize economic activity. A more elaborate version of the argument relies on the Tinbergen principle. There should be one tool for each objective and eventually one institution responsible for this tool: Financial regulators for financial stability, fiscal stabilizers for economic activity and central banks for price stability. Introducing an institution in charge of a dual mandate might create some confusion in the responsibilities of each institution and might thus blur the incentives of some of them.

The answer to this criticism is twofold. First, although different institutions should be in charge of monitoring various aspects of economic activity,

there will inevitably emerge a hierarchy among them. Indeed, the power of central banks, which have a monopole of money creation, will always be much stronger than the power of any other institution. For this obvious reason, the central bank will always remain the residual lender of last resort in front of unforeseen contingencies in times of crises. These unforeseen contingencies will always exist, although we learnt from the crisis. It might be very dangerous to think that financial regulation is perfect and would prevent all future forms of financial instabilities. This conception contradicts the very notion of financial innovation and entrepreneurship in the financial sector. On the contrary, a lesson of the crisis might be the opposite: Imperfect financial regulation and constrained fiscal policy may be the rule. Finally, evolution, of the financial regulation in the USA leaves a key role for the Fed and is consistent with its dual mandate.

Second, recent research indicates that previous results claiming that central banks should only focus on price stability only rely on a naïve view of the functioning of financial markets. First, a popular view in monetary economics assumes a dichotomy between financial economics and monetary economics: Money and credit are different and independent objects. Following the seminal contributions of Patinkin (1956) and Clower (1967) and more recent theoretical contributions in the monetary search literature (such as the search-theoretic view on money, such as Kiyotaki and Wright (1989)), money is introduced in macroeconomic models as friction in the goods market. Due to this constraint, money is used mostly for transaction motives (cash-in-advance constraint, or standard money-in-the-utility function). This formalization allowed DSGE models to consider monetary policy in models with perfectly functioning financial markets. Starting from this environment, New Keynesian theories showed that the quantity of money was not really relevant in these framework and that one could consider cashless economics (models without money) to study monetary policy.

The result of this evolution of monetary economics is that monetary policy was mainly analyzed in models with perfect financial markets, without any money, and with some frictions on the goods market to generate a role for monetary policy. It should not come as a surprise that the normative conclusions of these models are that central banks should look for price stability. This framework has now generated a huge literature introducing financial frictions in this framework to study the nature of optimal monetary policy. This literature will generate interesting

results but the role of money may not be adequately specified.

Recent contributions in monetary economics show that the data do not support a dichotomy between monetary and financial economics, and that it is hard to think about money without considering financial frictions which affect both asset price and money demand dynamics. In other words, the monetarist dichotomy between monetary

and financial economics may hide the key role of financial frictions in the conduct of monetary policy.

This claim is based on an analysis of money demand at the household's level to discriminate between different theories of money demand, which is done in Ragot (2013). If money is mainly used in the economy for transaction motives (and hence because of a friction on the goods market) money demand should be related to consumption expenditures at the households level. More precisely, money demand should be proportional to consumption expenditure, the relationship between the two depending on transaction technologies (credit card development for instance). In other words, the shape of the money distribution across households and the shape of the consumption expenditures across households should be close. A direct consequence is that standard inequality measures (such as the Gini coefficient) should be the same for both the distribution of money and the distribution of consumption expenditures. For the USA, the Gini coefficient for consumption expenditure is close to 0.3 but the Gini coefficient for money is close to 0.8. Money is much more unequally distributed than consumption expenditures. Moreover, the Gini coefficient for the distribution of assets is close to 0.8 as well. As a consequence, money is similar to other financial assets and very different from a transaction tool. This property also holds for Italian data for which data are available.

This empirical distribution of money can be reproduced in a model with two financial frictions. The first one is a financial structure where agents face incomplete insurance markets and some credit constraints, and where they face fixed participation costs to financial markets. To avoid those costs, households hold money to self-insure against income risks. This theory of money demand is related to two lines of research in money theory. The first one is the Bewley theory of money demand, which stipulates that money is an asset used to self-insure against income shocks in an economy where financial markets are very incomplete. The second one is the work of Baumol and Tobin, who introduced fixed participation cost in monetary analysis. Both frictions, incomplete financial markets and fixed participation cost are necessary to reproduce the empirical distribution of money (Ragot, 2013 for the definition of money used and the various robustness checks).

As a consequence, the analysis of evolutions of money demand and of the effects of changes in money supply must rely on an analysis of financial markets imperfections. In other words, one cannot separate monetary analysis from financial markets studies. Economic research after the financial crisis will probably generate a more integrated framework where financial markets and monetary analysis are more deeply integrated. It is too early to speculate about what would be the optimal monetary policy (which maximizes welfare) in these new environments. Nevertheless, it may now be difficult to take for granted that central banks should unambiguously only target price stability

without considering changes in economic activity.

Central banks should not generate some redistribution of wealth across economic agents

Central banks have no political mandate to justify redistributive policy across agents. This is the goal of fiscal policy after a democratic debate.

This objection considers that a unique goal such as inflation targeting does not generate redistribution across agents. This does not seem to be the case. Any monetary policy change, either conventional or non-conventional generates some redistribution across agents. There exists a literature on heterogeneous agents in monetary environments. In these models, agents hold different nominal position and the models try to generate a realistic amount of wealth inequality. A first class of models the redistributive effect of changes in long-run inflation (Erosa and Ventura, 2002; Akyol, 2004; Algan and Ragot, 2010). More recent papers study the short-run redistributive effects of inflation shocks (Doepke and Schneider, 2006; Meh, Rios Rull and Takajima, 2010). Finally, the current research tries to identify the short-run redistributive effects of monetary policy, considering the inflation dynamics as endogenous (Gornemann, Kuester and Nakajima, 2012; Algan, Allais, Challe and Ragot, 2013). All these models show that changes in inflation, in the money supply or in the short-run interest rate generate a substantial amount of redistribution across agents.

This does not imply that we should accept not mitigating the redistribution risk. Monetary policy should try to minimize the short-run redistribution risk and fiscal policy should correct for long-run redistributive effects. Nevertheless, the redistribution risks generated by central banks intervention should be included as part of a tradeoff in front of other objectives such as the stabilization of economic activity (or even price stability). At this stage the literature with heterogeneous agents and a realistic monetary environment does not allow to derive clear normative results. Some promising current research will probably provide results in a close future (Gornemann, Kuester and Nakajima, 2012; Challe, Matheron, Ragot and Rubio-Ramirez, 2013; Ravn and Sterck, 2013).

Central banks should not provide too much insurance to economic actors, who would take too much risk

This moral hazard argument has been elaborated for the relationship between central banks and private agents, and is sometimes invoked for the relationship between central banks and politicians in charge of fiscal policies. This objection is obviously valid and has been studied in various papers (Farhi and Tirole, 2010 among others for references). For this reason, it may not be a good idea to introduce financial stability as an objective for central banks. Central banks should be concerned only by financial instability, which has adverse effects on real activity and on some actors who were not involved in financial risk taking. Systematic intervention to reduce financial instability may indeed provide wrong incentives and, more generally, reduce the informational content of financial prices.

The moral hazard issue concerning the State is more difficult to discuss. For instance, considering the European situation, it is difficult to assess how much of the fiscal problems faced by some southern countries (and hence the financial instability generated) is the results of the anticipation of central bank intervention. More generally, it may be difficult to deduce from the European

situation if state governance is really affected by central bank intervention. Some academic papers, such as Uhlig (2011), assume a suboptimal public policy, independent of monetary policy (which generates high public debt) to deduce the optimal intervention with other tools.

Finally, the moral hazard problem in the USA seems at least equally the result of poor financial regulation than the result of the anticipation of a bailout policy by the central banks. Hence, although moral hazard consideration may be crucial to design the tool to reach the objective of a dual mandate, it is difficult to argue that it should prevent any dual mandate for central banks.

The dual mandate is too broad and not operational

An easy answer to such a criticism would be to claim that the result of the Fed in terms of stabilizing inflation and economic activity does not seem inferior to the result of the ECB. This easy answer would miss several important points concerning the implementation of monetary policy objectives.

First, a too broad mandate for central banks may generate some lobbying activities or some political interference to affect, for instance, unemployment in the short-run. This objection concerns more central bank independence than the nature of the mandate. A broad mandate can be attributed to a central bank in charge of independently assessing the relevant tradeoffs.

Second, a dual mandate is not quantitative enough to evaluate the performance of central bankers. One must observe that a quantitative objective for inflation targeting is a recent innovation. In addition, one can consider that central banks could quantify some objective (inflation over the medium run) and justify deviations for other objectives. For instance, the Fed has recently defined quantitatively an objective for the unemployment rate.

Third, trying to reach many objectives with one tool is not a good idea. First, central bank intervention in the recent crisis has first shown that monetary policy can actually be implemented by various instruments. Second, unfortunately, tradeoffs are the rules and some institutions may be in charge of internalizing these tradeoffs.

Finally, central banks are not competent to assess both financial and economic activity in addition to monetary developments. After a change in the mandate, a learning curve is likely to be experienced, and some additional human resources may be necessary, but it is difficult to think that this would be a problem.

Conclusion

Although economic analysis plays a role in changes in the doctrine and mandate of central banks, these changes may first come from the outcomes of alternative central bank practice. In this regard, the difference in central bank policies in Europe, in the USA, in UK an in Japan will create enough variety to guarantee a lively debate. Anticipating the discussions, this chapter has argued that there are good reasons to include a real objective in the mandate of the ECB, to bring it closer to the mandate of the Fed.

The main difficulty of such a change is the uncertainty about the additional redistribution it would create among European countries. This subject is very sensitive in Europe, as the discussions about Target2 have shown. As a consequence, it seems more realistic to think that a change in the mandate can be possible when the European sovereign debt problem has been definitely solved. This political economy problem has been deliberately ignored, but some additional quantitative research in this direction would be very useful.

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Is Full Employment an Appropriate Monetary Policy Target?[1]

Full employment is an important public policy objective. The unprecedented level of unemployment observed in the aftermath of the global crisis represents a major policy failure. This paper re-examines whether this policy failure is one we should associate with monetary policy and whether full employment is an appropriate target for monetary policy. It is recalled that a few decades ago, full employment was considered by many to be a proper monetary policy target. This changed with the advent of inflation targeting that recognized the value of the primacy of price stability. Following a brief historical review, it is argued that full employment is not an appropriate target for the central bank and should be avoided for the same reasons that led central banks to put price stability above other objectives as an operational target in the latter part of the 20th century. Lack of knowledge about what constitutes full employment in real time and the risk of politicization of the central bank in the face of possibly politically motivated disagreements about its measurement make full employment an unsuitable target.

Keywords: Natural rate of unemployment, full employment, potential output, monetary policy, real-time output gap
JEL Classification: E50, E52, E58

Full employment is an important public policy objective. The unprecedented level of unemployment in the aftermath of the global crisis has become a cause of grave concern in a number of developed economies. Aggregate production remains far below what would have been expected before the crisis. "Underutilized" resources impose a welfare loss on any economy and a strong desire is seen for public policy to intervene and correct the situation.

In the euro area, the situation is particularly dramatic in countries under an IMF/EU program, where in some cases unemployment has reached depression era proportions (chart 1). The contrast with Germany, where unemployment has been declining during the crisis is striking. Focusing on youth unemployment rates (chart 2) highlights the risk of creating a lost generation as a result of the potentially permanent scarring effects of unemployment.

Without question, the dismal performance of unemployment reflects a major policy failure. But is the failure we observe in the elevated unemployment rates one we should associate with monetary policy? Alternatively, is full employment an appropriate monetary policy target? Should full employment be part of the legal mandate of central banks or should the mandate of a central bank be interpreted in this manner?

To address this question it is useful to consider the role of monetary policy in the broader context of serving the public interest. In theory, all government policies and institutions, including the central bank, could coordinate to achieve maximum social welfare. Monetary, fiscal, regulatory, labor, structural and other policies could contribute, in small or large part, to the attainment of multiple objectives: Price stability, financial stability, full employment, high productivity, fairness, equality, social justice and so on. But at times there may be conflicts among the various objectives and the roles of different institutions. Different policies and different institutions may vary widely in the effectiveness with which they can

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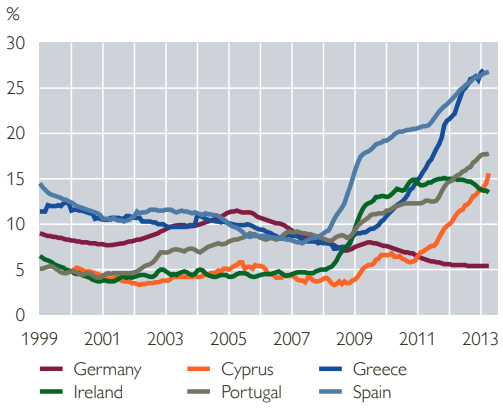
Chart 1

Unemployment Rates

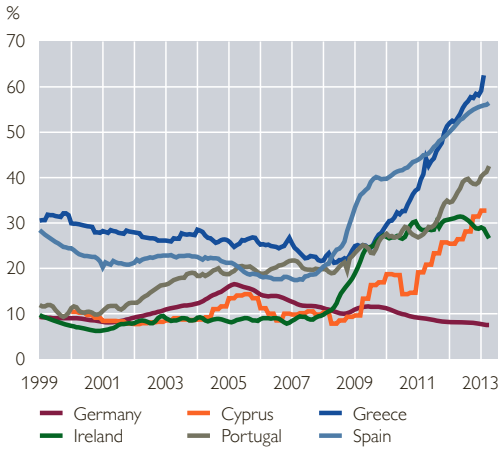


Source: Eurostat.

Note: Germany versus program countries.

Chart 2

Youth Unemployment Rates



Source: Eurostat.

Note: Germany versus program countries.

contribute to their attainment. And in the context of modern democracies, intertemporal conflicts may arise due to electoral considerations. Elected governments and politicians more generally, may have different objectives and shorter horizons than would be ideal for society as a whole.

In practice, these considerations suggest that better results may be attainable for social welfare as a whole if institutions and policies are assigned more specific targets and, further, that the targets assigned should be achievable. With regard to monetary policy, these considerations have led to the view that it is best performed by independent central banks and that a primary task can be identified in the preservation of price stability, an objective which is squarely under its control over time. Because of the short-term influence of monetary policy on aggregate demand and employment, monetary policy is also recognized as a countercyclical stabilization tool and, in this light, full employment might be considered as another objective. A practical difficulty arises, however, once it is recognized that full employment cannot be accurately determined, especially in real time, when monetary policy decisions are taken. As a result, the pursuit of full employment as a monetary policy target may compromise the pursuit of price stability. In this context, the question to address is whether full employment is an appropriate monetary policy target despite the risks this could pose to the achievement of price stability over time.

In fact, full employment had become part of the legal mandate of some central banks during the 20th century, and, in some cases, monetary policy was de facto operating with full employment as a target. In the United States, the Employment Act of 1946 proclaimed that it was the continuing policy and responsibility of the government and the Federal Reserve to "promote maximum employment, production and purchasing power." The Act was enacted in the shadow of the Great Depression, a period when the social pain associated with persistent unemployment was as dramatic as ever. As DeLong (1997) notes, however, precisely this motivation to achieve full employment following the experience of the Great Depression, led to a ne-

glect of price stability as the predominant objective of monetary policy, leading to the Great Inflation. Nelson (2005) documents that neglect of price stability as a responsibility of monetary policy was observed in a number of countries.

The infeasibility of pursuing full employment policies in the manner pursued following the Employment Act, and the inflationary consequences that would eventually materialize by such policies was a recurring theme in Milton Friedman's work (1947, 1953, 1968). Friedman stressed that our lack of knowledge of the precise dynamics of the economy and of the measurement of the business cycle made it infeasible for monetary policy to pursue a full employment target. Friedman argued that doing so would likely increase instability in the economy as it would compromise what monetary policy could achieve, that is to deliver price stability over time. Unfortunately, the consensus policy advice provided by our profession failed to heed these warnings at that time. It was only following the Great Inflation, a disastrous experience with high and volatile inflation accompanied by slow growth and high unemployment, that the error was recognized.

Misperceptions in real-time estimates of full employment and potential output unavoidably become a significant problem when policy is guided by a full employment target. A monetary policy strategy based on a full employment target would produce periods of high and sustained inflation and periods of sustained and low inflation (or deflation) depending on whether estimates of the economy's potential used to guide policy subsequently prove to have been overoptimistic or over pessimistic. Recent macro econometric exercises have confirmed that, as Friedman had argued, such errors add to economic instability (Orphanides and Williams, 2013). But revisions in real-time estimates of the economy's potential need not be symmetric. Then, in addition to greater instability, such policies may induce a bias.

Politics and human optimism could result in an asymmetry in the revisions of full employment estimates in a manner that would imply an inflation bias if

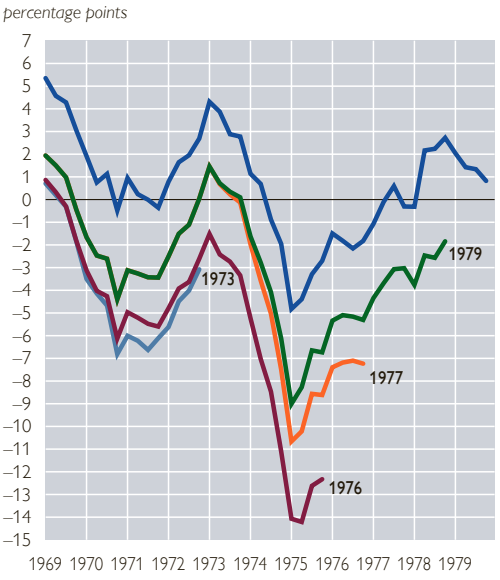
full employment is used as a policy target. Political pressure to attain higher and higher employment when the precise definition of full employment remained unknown could induce faster revisions from estimates that appear pessimistic than from estimates that appear optimistic. Such a pattern in the process of revisions would result in an inflationary bias, overall, when monetary policy is guided by a full employment target. Meltzer (2005) argues that such a political dimension is essential to fully understand the origins of the Great Inflation. When policy is guided by two targets – full employment and price stability – conflicts arise as "[p]oliticians elected for four-or five-year terms put much more weight on employment – jobs, jobs, jobs – than on future inflation."

The pattern of revision of official estimates of potential output and the

associated output gap in the United States during the 1970s offers a clear case of the resulting inflationary dynamic. Chart 3, reproduced from Orphanides (2003), shows the evolution of historical estimates of the output gap during the 1970s. The chart shows official estimates of the output gap produced by the Council of Economic Advisers in 1973, 1976, 1977 and 1979. At that time, other institutions, including the Federal Reserve, employed the Council's estimates for potential output in their analysis. For comparison, the unlabeled line at the top shows the Federal Reserve staff's estimate of the output gap based on estimates of potential output produced in 1994. During the 1970s the US economy had experienced a productivity slowdown and an increase in the natural rate of unemployment. But these adverse supply developments were recognized only gradually and with a significant lag. This delay in recognition, while policies targeted full employment, led to a series of policy errors.

Chart 3

US Output Gap Revisions: 1973, 1976, 1977, 1979



Source: Orphanides.

Note: Reproduced from Orphanides (2003).

The experience at the Federal Reserve at the beginning of the 1970s is characteristic of the errors. When Arthur Burns became Chairman of the Federal Reserve in 1970, the economy was entering into a recession. Even though inflation was on the rise, the estimates of the output gap available at the time argued that aggregate demand was below the economy's potential and policy was eased. Similarly, in 1973, the economy appeared to underperform, and estimates suggested that only part of the output gap resulting from the recession of 1970s had been recovered. At the time, both fiscal and monetary policy actively targeted full employment and the estimates of the output gap influenced policy decisions towards excessive accommodation. As the decade progressed, growth generally frustrated expectations and inflation exceeded forecasts.

Subsequently, it was realized that earlier estimates of full employment were overoptimistic. This led to upward revisions in the natural rate of unemployment and corresponding downward revisions in the estimates of potential, as seen in the chart. By 1979, several percentage points of the output gap previously estimated for the early 1970s were revised away. Still, the 1979 vintage of the output gap only corrected part of the problem. Subsequently, potential output estimates were revised to show that the output gap was generally positive during the decade, consistent with the inflationary experience. On the basis of these revised estimates, the economy was overheated both in 1970 and in 1973. Had monetary policy not targeted the flawed estimates of full employment, and instead focused on price stability, the inflation experience would have

been averted and the economy would have experienced less instability.

The traumatic experience associated with the Great Inflation around the world, shifted attitudes and led to the rebirth of modern central banking (Bordo and Orphanides, 2013). The limits of monetary policy were better recognized and central bank mandates adjusted to avoid the risk of compromising price stability. For example, in the case of the European Central Bank, the 1992 Treaty explicitly recognizes that: "The primary objective ... shall be to maintain price stability." The Treaty goes on to recognize that the central bank can possibly help attain other objectives but that these should follow: "Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union ..." This mandate suggests a lexicographic nature, with goals such as full employment seen as subordinated to that of price stability. The primacy of price stability is also a prominent feature of the Inflation Targeting (IT) framework for monetary policy.

In the quarter century or so before the recent crisis, the policy strategy of putting price stability first, and avoiding a parallel target of full employment was practiced successfully by a large number of central banks. The framework is associated with inflation targeting but has been practiced explicitly or implicitly both by central banks that self-describe themselves as inflation-targeters and others. The success of the framework can be summarized as ensuring a credible nominal anchor, helping central banks achieve an environment of well-anchored inflation expectations around the central banks' price stability objectives which in turn enhances stability in the real economy and indirectly attains full employment.

Unlike the ECB, the Federal Reserve's mandate has not been as explicit on the primacy of price stability. The Federal Reserve Act was revised in the 1970s to recognize explicitly price stability as one of its objectives. According to the revised Act, the Federal Reserve should "promote effectively the goals of maximum employment and stable prices." However, literal interpretation of this language continued to suggest full employment as a target for policy, and thus would not have freed the Federal Reserve from the failed policies of the 1970s.

One might ask how policy was actually practiced in the United States

following 1979, when starting with Paul Volcker the central bank dealt decisively with its inflation problem. The answer is that both Chairman Volcker from 1979 on and Chairman Greenspan who succeeded him in 1987 effectively interpreted the legal mandate of the Federal Reserve as if it recognized the primacy of price stability. That is, the Fed was implicitly acting as an inflation targeting central bank (Orphanides, 2006).

Consider for example how Chairman Greenspan explained the success

of policy in the post-1979 period. In an address in 2004 he explained this was achieved by: "... maximizing the probabilities of achieving our goals of price stability and the maximum sustainable growth that we associate with it." The key, in this interpretation, is that by focusing on price stability, the Federal Reserve could ensure that the real economy could grow along its maximum sustainable growth path which is associated with "it" – that is with price

stability – that need not be explicitly identified nor targeted by the central bank.

One may ask why this roundabout way to help the economy achieves maximum employment over time? As mentioned earlier, the answer is our lack of knowledge regarding the appropriate real targets, concepts such as the natural rate of employment and unemployment and potential or natural output. For example, as Chairman Greenspan noted back in 1994, "while the idea of a national 'threshold' at which short-term inflation rises or falls is statistically appealing, it is very difficult in practice to arrive at useful estimates that would identify such a natural rate." He went on to conclude: "In light of these uncertainties, I do not think that any one estimate of the natural rate is useful in the formulation of monetary policy." In the Volcker-Greenspan era, the Federal Reserve respected the primacy of price stability in the formulation of monetary policy.

More recently, the role of full employment as part of the mandate of the central bank has again been brought into question. Frustration with the slow improvement in output and employment growth following the 2008 global collapse permeates most developed economies. Decisive policies averted a repetition of the Great Depression experience, but in the aftermath of a prolonged period of subpar growth and high unemployment, expectations are high that monetary policy can do more to facilitate faster growth and employment. Should full employment once again become a monetary policy target?

At the Federal Reserve, the communication of the committee in the recent past has shifted following the crisis to place more symmetric emphasis on employment and price stability than had been the case during the Volcker-Greenspan era. In its announcement following the November 2010 meeting, the Federal Open Market Committee (FOMC) added the following description of its objectives: "Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability." According to the minutes of the meeting, "members agreed that it was appropriate to adjust the statement to make it clear that the unemployment rate was elevated, and that measures of underlying inflation were somewhat low, relative to levels that the Committee judged to be consistent, over the longer run, with its dual mandate." The change in communication in part reflected the frustration with the pace of economic recovery. During the discussion "[p]rogress toward the Committee's dual objec-

tives of maximum employment and price stability was described as disappointingly slow." In December 2012, the FOMC has introduced explicit mention of the rate of unemployment as a guide to its unconventional measures during the crisis. Specifically, the associated statement stated that the FOMC "currently anticipates that this exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6.5%." These changes have created a tension that could be interpreted as a shift away from the recognition of price stability as primary to the achievement of other objectives. In a recent speech, Chairman Volcker reiterated the concern that if policy is explicitly directed towards a dual mandate that puts employment on par with price stability, the outcome could well be counterproductive. "Asked to do too much ... [the Federal Reserve] will inevitably fall short. If in the process of trying it loses sight of its basic responsibility for price stability, a matter which is within its range of influence, then those other goals will be beyond reach." (Volcker, 2013.) It seems that much like in the aftermath of the Great Depression, frustration with the slow pace of economic recovery in the United States and elsewhere has elevated demands to place greater attention on the achievement of full employment.

Should full employment once again become a monetary policy target? One way to examine the issue is by asking a number of related questions reflecting the rationale for recognizing the primacy of price stability as a policy strategy: Has the measurement problem associated with what constitutes full employment been solved? Can we reliably detect shifts in the natural rate of unemployment in real time? Can we tell when a shift in output is temporary and when it may be more permanent in nature?

Unfortunately, the answer to all these questions is "No!" Confidence in the reliability of real-time estimates of either the natural rate of unemployment or the corresponding level of potential output, if anything, can only be lower today than it had been before the crisis. The extent of the decline in economy activity during the crisis had been so large and the damage to the financial sector so extensive that it is harder to assess how much of the fall is structural and likely persistent, and how much could be corrected with further policy-induced increases in aggregate demand.

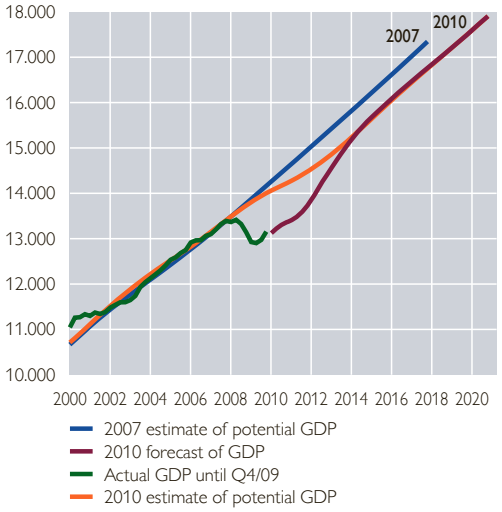
The difficulty of assessing the path of full employment in the past few years can be highlighted by examining the recent pattern of revision in the estimate of potential output published by the Congressional Budget Office (CBO). The CBO is an independent, non-partisan organization tasked to evaluate the government budget for which estimates and forecasts of both actual and potential output are a critical input. Chart 4 presents the data as available in early 2010. The blue line shows the estimate of potential GDP available in early 2007, before the crisis. The green line shows actual GDP, ending with the fourth quarter of 2009, the last available data point at that time. As can be seen, for several years prior to the crisis, output growth exhibited remarkable stability and deviations of actual GDP from what was thought to have been potential output were very small. The recession opened a considerable gap that was forecast to close slowly over many years. The CBO revised downward its estimate of potential output (the orange line) going forward and adjusted its forecast of actual GDP so the gap closed by 2014. Unfortunately,

the subsequent growth in the economy did not meet the forecasted path for GDP. Chart 5 presents the data as available in early 2013, replacing the 2010 vintages of actual and potential GDP forecasts with their 2013 counterparts.

Chart 4

US GDP and Revisions of Potential GDP: 2010

Trillions of 2005 USD

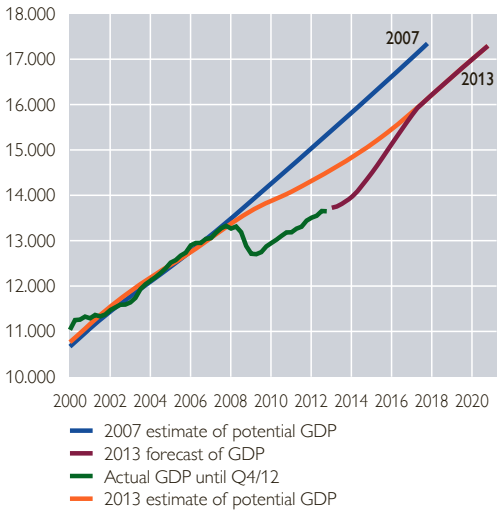


Source: Congressional Budget Office.

Chart 5

US GDP and Revisions of Potential GDP: 2013

Trillions of 2005 USD



Source: Congressional Budget Office.

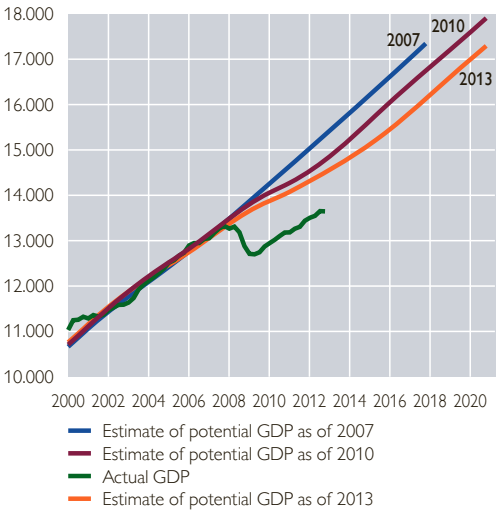
The green line with actual GDP data now extends to the fourth quarter of 2012. As can be seen, the disappointing growth led to a further significant downward revision of potential GDP and a corresponding less optimistic path for the level of GDP of the economy. But whether this revision will prove adequate cannot be judged yet. Chart 6 plots together the evolution of actual GDP and the three vintages of potential output 2007, 2010 and 2013. Despite the evident downward revision, the output gap implied by the current estimate over the past five years remains implausibly persistently large. At the same time, inflation has not declined over the past several years, as would have been expected if the economy was persistently operating substantially below its potential. This suggests that the output gap may have been significantly smaller than what is implied by even the recent downwards-adjusted estimates of potential output.

Using past experience as a guide, it is more likely than not that the CBO

Chart 6

US GDP and Revisions of Potential GDP

Trillions of 2005 USD



Source: Congressional Budget Office.

will further revise downwards its estimate of potential output for the first half of this decade. If the disruption in the growth path of the economy proves as dramatic as the slowdown experienced in the 1970s, another decade may need to go by before we can accurately assess whether and to what extent the economy today is underperforming its potential. The main difficulty with full employment as a target for monetary policy remains that we cannot know how to measure it precisely enough in real time, when it is needed as an input to policy decisions. If monetary policy decisions are guided by full employment, instead of assigning a primary role to price stability, then, sooner or later, price stability will be compromised and the economy will likely experience greater instability overall.

Assigning full employment as a target to monetary policy under such circumstances would raise expectations that the central bank can do what it takes to deliver on higher employment. The threat of politicization of the central bank and eventual neglect of price stability could soon follow. In an environment with asymmetric political pressures for "more jobs," uncertainty regarding the measurement of full employment would once again introduce an inflationary bias to policy.

Assigning full employment as a target to monetary policy also obscures the role of other policies and institutions and can be counterproductive for the very attainment of higher employment. After all, monetary policy does not determine the level of employment consistent with full employment and maximum sustainable production over time. Other policies, together with household preferences determine the level of employment that is consistent with full employment over time and these factors together with technology determine potential output. Over the medium term, fiscal policy can provide better incentives for job creation and investment. Over the longer term, structural and labor policies determine the degree of flexibility and efficiency

of labor markets in an economy, and thus the level of employment and production corresponding to full employment over time. The cases of Spain and Greece where, as can be seen in charts 1 and 2, the unemployment rate has risen particularly dramatically during the crisis are instructive. The greatest tragedy of the current record high unemployment rates in these countries primarily reflects a failure of the euro area construction and flawed policies that predate the crisis. Instead of hastening reforms that could have enhanced productivity and flexibility, the euro perpetuated dysfunctional elements in labor markets. Needed adjustments that ideally should have taken place before the crisis were avoided. The failure to correct these sources of vulnerability before the crisis added rigidity to labor markets and magnified the impact of the crisis on the rate of unemployment.

Understandably, the slower than desired progress of the recovery following the crisis is frustrating to

politicians and monetary policymakers. But the temptation to seek an improvement by declaring full employment a monetary policy target is likely to do more harm than good. The primacy of price stability as the bedrock of monetary policy should not be compromised.

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Session 4
The Political Economy of Central Banking in Crisis and Post-Crisis Situations

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From Political Economy ("PE") to Economics ("E") and Back?[1]

Some Thoughts on the Political Economy of Central Banking in Crisis and Post-Crisis Situations

It comes as no surprise that the topic *The Political Economy of Central Banking* in its broader context of the *Changing Role of Central Banks* as well as the ongoing European crisis can – and have to – be addressed from different perspectives. This issue contains a broad range of relevant aspects and is for sure a particularly difficult one: At the same time, it is extremely relevant, as many – if not all – of the „hot economic policy topics" discussed nowadays in the area of central banking and monetary policy are of an intrinsic „political economy nature". As a matter of fact this automatically gives rise to a number of quite controversial discussions.

What Does the "Political Economy of Central Banking" Mean?

Central bankers tend to have an automatic response when discussing Political Economy (PE) issues: "This is a question of central bank independence." Very likely, the first and only thought that comes to most economists' minds is that the political economy of central banking deals with central bank independence (only). Of course, there is some relevance in this approach. However, often and very quickly PE then is confused with „politics", in a way which is not really helpful to define and to deal with the right questions. PE in its fundamental sense is something quite distinct from politics, even though both areas are closely related (and intertwined). In addition, PE is not only different from politics, it is also a much broader concept than Economics (E) in the narrow sense this term is used and understood today (most of the time).

When James Stewart published his book on *The Principles of Political Economy* in 1767, it dealt mainly with questions like „how nations grow" and what can be done „to increase production". The "political" perspective in his approach was represented by an (economic) "policy" aspect on the one hand and an extensive institutional context on the other hand. Later on, starting with Alfred Marshall's famous „Principles" in 1890, this classical understanding of the term „Political Economy" was replaced by „Economics" in a very narrow, market-focussed interpretation. This dichotomy is perhaps best illustrated by the fact that institutional economics up to today has established itself as a mainly independent branch outside of economics, which concentrates on understanding evolutionary processes and the role of institutions in shaping economic behaviour and policy making.

[1] *Particular thanks go to Claudia Kwapil for insightful and very helpful input.*

Contrary to this, independence from "politics" in the area of monetary policy has been concentrating on central bank independence since the early 1990s, based on the inflationary experience since the mid-1970s. For example Goodman (1992) argued that the historical empirical evidence of central banking – especially in Germany but also in France and Italy – illustrates the importance of the degree of central bank independence from the political authorities. He concluded that central bank independence leads to lower inflation outcomes. This road of research was followed and empirically explored by an increasing number of researchers – for example Alesina and Summers (1993) or Eijffinger and de Haan (1996). The results of this strand of literature had a significant impact on the modern "design" of central banks. That is why most economists would expect something along these lines under a headline

like *The Political Economy of Central Banking*. But there is still this widely neglected different approach of putting PE into a much broader classical context, which seems to have become forgotten in the historical transformation from PE to E. As many of the crisis-related questions and challenges central banks face today seem to be much more of this classical PE nature, it might make sense to concentrate a little bit more on this side of the coin is helpful.

The Need for a Return of (Classical) "Political Economy"

Historically, the roots of the discipline "political economy" trace back to the 18th century. The world's first professorship in political economy was established in 1754 at the University of Naples, where the Neapolitan philosopher Antonio Genovesi was the first tenured professor in PE. When talking about PE here in Vienna, one has to mention also that only some years later Joseph von Sonnenfels was appointed a PE chair at the University of Vienna in 1763. To underline the broad meaning of PE at that time, it makes sense to point out the Sonnenfels article *Ueber die Abschaffung der Tortur* (1775) that made him famous for bringing about the abolition of torture in Austria. This illustrates very well that PE has its roots in moral philosophy, which closes the circle to James Stewart and Adam Smith and their broad foundation of E in PE. And as late as in 1911, Josef Schumpeter in his *Theory of Economic Development* used the term „systems of political economy" based on „certain principles". In short, PE was developed as the study of the economies of states or nations, hence the term political economy.

Substantially, in this transformation from PE to E a specific focus on historical processes or determinants as well as on institutional settings, change and adjustment was lost. These issues only "survived" outside „Economics" as a rather distinct discipline and up to today there is no clear paradigm or widely accepted understanding what the exact meaning and role of PE is in our existing modern market-based economy. However, one should not forget, that PE and E simply represent two differ-

ent perspectives on the same set of economic issues or on the same historical developments – and very likely if not for sure – these both perspectives are important at the same time!

Taking political economy seriously in a modern context, PE contemporarily deals with the interplay between economics, law and politics, trying to analyse and to understand how public policy is created and implemented. In a very recent contribution explicitly using the term PE on the *Political Economy of the Euro*, Paul de Grauwe (2013) criticises the founding fathers of the European Monetary Union for not having understood the necessary economic conditions for a successful monetary union and for not recognising the inherent fragility of the monetary union they established. It is this broader approach of the term "political economy" that may help better understand some of the recent problems we face and which may help to overcome some of the mistakes of the past and to improve the situation for the future.

Relating this perspective to central banking, important elements of this view are to qualify central banks as (historically grown) institutions and to understand that central banking is not an end in itself. Central banks are specialized institutions that serve societies' interests based on delegated functions and tasks, including central bank independence as a particular design element based on historical experience. However, these interests are not set in stone. They might change over time, especially if economic crises shake common wisdom of how to make (macroeconomic) policy or new views concerning the adequate institutional setting gain ground. Consequently, it seems natural that also the objectives of monetary policy and/or the range of central bank functions may change.

The "Great Moderation" as the Golden Age of Central Banking?

During the closing decades of the 20th century a consensus about the institutional design of central banks had emerged. Central banking was largely characterised by one instrument (a short-term policy interest rate) and one target (an inflation objective) assigned to an independent body. Moreover, the so called "divine coincidence" implied that "even if policymakers cared very much about activity, the best they could do was to maintain stable inflation" (Blanchard et al., 2010). As long as inflation was low and stable, the output gap was likely to be small. However, the economic and financial crisis that started in 2007 taught us that imbalances can build up underneath the calm macroeconomic surface of the Great Moderation (Bernanke, 2004) leading to financial vulnerabilities and ultimately to a kind of unexpected severe financial crisis, which transmitted itself globally as well as to the real economy. We had to recognise that the achievement of price stability does not guarantee financial stability and the avoidance of all the negative consequences of a financial crash. This triggered substantial innovations in the overall institutional design of the European Union.

Some of the currently most relevant aspects of the PE challenges for central banking are related to a forthcoming new institutional structure of banking supervision as well as the newly introduced macroprudential regulation and oversight structure. Before the present crisis, the responsible institutions for banking supervision in the euro area differed considerably from country to country. In the late 1990s, however, there was a trend for financial supervision outside central banks. Very often these institutions were in charge of supervising banks, insurance companies

and securities markets. However, the lessons from the crisis seems to have reversed this trend, as recent reforms in the USA and Europe show. Today, most European central banks are banking supervisors at least to some degree.

In addition, the European Union is creating a banking union, in which an important building block is the Single Supervisory Mechanism (SSM) giving supervisory powers of a European dimension to the central banking system. The SSM's task is to build one system of European supervision with the European Central Bank (ECB) at its centre, given the final responsibility for supervision over all banks in the participating countries, with a special focus on big banks of a systemic nature and on cross-border banking. Therefore, even if the ECB will not be able to directly supervise all the existing banks, the more systemically important banks will be subject to that direct supervision on a continuous basis.

This is the European answer to one of the weaknesses of the economic system unveiled by the crisis. However, with each answer to a specific question, new and perhaps more difficult questions pop up. Considerably deviating from the "before-crisis"-mainstream consensus, the ECB will be entrusted with additional functions and objectives to be tackled, and direct banking supervision is one example only of the increasing number of responsibilities which are formally or informally seen with central banks now. However, in accordance with the rule that there should be as many instruments as targets, the ECB will also be equipped with an extensive set of micro- and macroprudential powers. Hence, the well-known issue of the link between different policies and whether there are trade-offs between policy-areas has returned. It was only temporarily hidden by the "Great Moderation" when everything looked fine almost automatically. The future will tell, whether a central bank responsible for several functions (i) will find it harder to achieve the primary objective of price stability, (ii) will be able to maintain its high level of credibility, (iii) will be successful in establishing financial stability although there is no commonly agreed definition of it and (iv) will face policy conflicts between price and financial stability; to name but a few of the challenges that will arise.

A Changing Landscape for Policy Making

While the new situation will be challenging, it also bears the potential of great success. In the future, the assessment of the macroeconomic situation in the Eurosystem can be based also on data and analysis conducted as part of banking supervision, thereby providing much more information on monetary policy counterparties and their behaviour. Hence, monetary policy decisions can be taken on grounds of more and better information. Moreover, monetary policy will focus on price stability and prudential policy will focus on financial stability. The objectives are assigned to different bodies within the ECB. The supervisory branch will have a clear incentive to intensify the prudential policies seeking to counteract emerging financial imbalances and financial risks. This will in turn reduce the likelihood of crises and therefore lender-of-last-resort interventions. Consequently, there are not necessarily policy conflicts – the policy areas can also complement each other well.

The crisis has brought to light not only banks are prone to (bank) runs, but also sovereigns with high debt levels face the risk of (bond market) runs. The existence of a bad equilibrium, in

which a high debt level calls the sustainability of government finances into question, which in turn leads investors to turn away from this country, increasing the country's refinancing costs and finally indeed making public finance unsustainable, became evident in some European countries in summer 2012. A very high interest rate can make even a low level of debt unsustainable and consequently be self-fulfilling.

In principle, central banks can reduce the probability of a bad equilibrium by providing liquidity to the government if needed. However, this lender-of-last-resort function for governments raises the risk of moral hazard. Governments would face a reduced incentive to press ahead with their consolidation efforts necessary to reduce the debt burden. This line of argumentation will ultimately lead to a kind of unwarranted fiscal dominance, which – from a monetary policy perspective – has to be avoided. It risks sizeable costs in the case of high and uncontrollable inflation rates.

As most governments in advanced economies face elevated debt levels, financial markets are pressing for consolidation, which puts their countercyclical policy role – if not their overall fiscal function – into a narrow corset. Consequently, the room of manoeuvre for fiscal policy is very likely to be small also in the years to come. Hence, a significant policy issue is the adequate speed and size of fiscal consolidation: A speed which does not lose sight of the medium term objective of bringing down government debt levels, but leaves enough scope to support growth when necessary.

Easy to understand that all these challenges are of a very institutional and, therefore, political economy nature. In a nutshell: PE deals with the question, how social institutions, the political environment and the economic system interact and how they influence each other. And one may come to the conclusion that this perspective got somehow lost in the economic development before the current crisis. However, it would have been especially important for a better understanding what happened during this phase of a crisis unfolding and it will be

essential for an unwinding of the institutional challenges which are still ahead of us.

Blanchard et al. (2013) rightly remark that "the contours of a new macroeconomic policy consensus remain unclear". Will the objectives of price stability and financial stability indeed reinforce each other? Will macroprudential policy tools work as currently expected? Will the new institutional setup contribute to a more stable environment? Indeed, there are many open questions of how macroeconomic policy will look like in the future. At the same time it seems to be very clear that the relevant issues cannot be addressed by pure "E" considerations. What we will need is definitely an approach including many important elements of "PE", even if we seem to be at the very beginning only on how to make use of these. These are exciting times.

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Central Bank Independence in Times of Tranquility and Stress

Central banks are major players in setting national and international economic order and policies. This is true both in times of financial tranquility and in times of stress. However, the particular role central banks are allowed and expected to play can change drastically over time. A spectacular example in case is provided by the shifting responsibilities assumed by, and given to, central banks over the recent past. The financial and economic crises of the last ten years have dramatically changed views and beliefs concerning appropriate and admissible central bank policies.

The Role and History of Central Bank Independence

Over the 1990s and early 2000s, central bank independence has become widely accepted as a crucial instrument of creating and safeguarding central bank credibility and monetary policy effectiveness. Central bank mandates enacted during this period almost universally reflected this view, granting central banks independence – to varying degrees – from their respective political authorities. There exist solid theoretical arguments and a convincing body of empirical evidence demonstrating a clear correlation between the independence of a central bank and its performance in terms of monetary stability. At the same time, there is no evidence that, in terms of long-run averages, this is achieved at the cost of below-average economic growth or increased instability of real economic variables.

Independence from government and pressure groups keeps central banks out of day-to-day politics and allows them to take a long run perspective on their policies and goals. It has always been well understood, however, that central bank independence can never be absolute, but makes sense only under a mandate set out clearly by law or constitution and within a reliable framework of accountability and responsibility towards society and its political agents.

There are differing views about the precise form central bank independence should take and how far it should go.[1] An important distinction can be made between „instrument independence“ and „goal independence“. Instrument independence refers to the central bank's ability to set instruments autonomously and without any interference by government to achieve a goal. If this goal is set by the government and not by the central bank, say in the form of an annual inflation target, the central bank has no goal independence according to this distinction. Debelle and Fischer (1994) and subsequently others[2] have argued that central banks should have instrument independence but not

[1] *Central bank independence has many different dimensions; on details see, e.g., Cukierman (1992).*

[2] *See, e.g., de Haan et al. (1999), Mishkin and Schmidt-Hebbel (2001) or Blinder et al. (2001).*

goal independence. The argument is that goal independence of a central bank contradicts democratic principles so that the goal has to be set by government. The central bank, however, should have instrument independence, insulating it from short-run political manipulation.

Other authors, among them this writer, have argued that this view is questionable and that goal independence, if properly understood and implemented, represents the superior solution (Baltensperger, Fischer and Jordan, 2007). There can be no question, of course, of central banks being totally free to do whatever they want. However, if granted under a clear legal or constitutional mandate, notably one for monetary and price stability, and within a reliable framework of accountability, goal independence in no way contradicts democratic legitimation of central bank policy. Goal independence then merely means that the central bank has more scope for short-run flexibility in fulfilling its mandate, compared to a framework where government determines central bank policy goals on a short term basis, e.g. by setting annual inflation targets. This is valuable, especially for central banks with a high level of accumulated credibility and reputation, and can contribute to improving central bank policy performance in response to shocks.

Beyond this, and more importantly, a firm legal or constitutional commitment to a monetary stability goal for central bank policy, supplemented with goal independence, reduces the danger of abuse of the government's monopoly power for creating (central bank) money. Society's stability objective is better protected by such an arrangement than by one allowing the government to determine central bank policy goals. After all, major threats to monetary stability emanate much more often from government, and from public pressure groups influencing government, than from the central bank itself.[3] Central bank goal independence can be a valuable guard against political temptations to trade off short run gains of one sort or another against long run risks to monetary stability.

There are three major sources of such temptation. They are related to government's fiscal motivations, to its short-run stabilization and growth motives, and to the danger of overburdening central banks' financial stability function. They will be taken up in turn below.

Political Threats and Uncertain Status of Central Bank Independence

However, a word of caution concerning the power and status of central bank independence – and of central bank mandates and legal or constitutional norms in general – is in order first. This status by necessity is always uncertain and frail. It would be an error to assume that it is given once and for all. Central bank independence, and laws and norms in general, can be granted by so-

[3] *On this danger, see e.g. Friedman (1960), Hayek (1978), Friedman and Schwartz (1987) or Bernholz (2003).*

ciety and its political agents, but they can also be questioned and, if so desired, adjusted or withdrawn. They can be reinterpreted, evaded or even, in certain cases, simply ignored. This is an experience we witness in many instances today. Central banks around the world, with fairly widespread public approval, have extended their range of actions in „innovative" and hitherto unimaginable ways. *Unconventional monetary policy measures* have become common, including *quantitative easing* and *credit easing* in various forms, meaning direct interventions of the central bank in segments of the credit and capital markets where, with good reason, they have traditionally refrained from being active. Central bank independence from government and politics has been questioned and effectively weakened in many cases, most notably and recently in Japan.

Central bank independence and central bank mandates are important and valuable, in spite of all this. They represent obstacles which must first be overcome if a violation or change is considered. These obstacles are the higher, the more forceful and politically binding the underlying laws and norms are. To what extent this is the case depends crucially on how well these norms are supported by political actors and the general public. Confirmation by a public vote is probably the strongest form of legitimation we can think of. In the final analysis, the battleground for all this is the competition of intellectual concepts in the marketplace for ideas.

Fiscal Motives and Central Bank Policy

Independence of monetary policy from fiscal decisions of governments is a central element of successful monetary constitutions. This has been increasingly recognized over recent decades. I am strongly convinced that this remains true for the future and should be preserved at all cost. A dependence of monetary policy on the decisions of fiscal authorities is, historically speaking, the biggest danger to monetary and financial stability.[4] In today's context of debt crises and frail banking systems in many countries and regions, this is a potentially explosive risk.

Of course, in a consolidated view of the public sector, monetary and fiscal decisions are linked to each other through the sector's budget constraint. Central bank profit (seigniorage) is part of public sector revenue. In this sense, monetary and fiscal actions are necessarily linked and must be coordinated in one way or another. But precisely for this reason it is of paramount importance to choose the appropriate pattern of coordination. The monetary authority must have priority in setting its instruments in pursuit of its mandate (which must ask for monetary stability and not, not even indirectly, for fiscal objectives), and the fiscal authorities must adjust and passively accept whatever fiscal revenue results from this central bank action. This is the only type of coordination consistent with enduring monetary stability and success. In the case of the euro area, where the fiscality of not just one federal government is involved, but that of 17 independent and sovereign members, this is all the more obvious.

In response to recent financial and economic turbulence and crisis, central banks all over the world have moved towards a dangerous course mixing up monetary and fiscal motives for public policy actions. The Federal Reserve

[4] *See, e.g., Bernholz (2003).*

and the Bank of England have been engaged in massive purchases of government debt through their programs of *quantitative easing* for some time. Japan has just recently announced even more aggressive steps in this direction. The European Central Bank, while more reluctant than others vis-a-vis a policy of quantitative easing, has started its own controversial program of acquiring sovereign debt of financially troubled member countries, beginning with large purchases of Greek government debt in May 2010 and extended since in various ways. While all this is defended by central banks as monetary policy measures, it clearly has the effect of financially supporting the governments whose debt is acquired by keeping their refinancing conditions more comfortable than they would otherwise be.

Is it acceptable for central banks to buy government debt? Let me briefly examine this much discussed question and the line separating admissible from non-admissible actions. In this, we must clearly differentiate according to motivation:[5]

- *Government debt purchases as an instrument of „normal" monetary policy.* Many central banks have a tradition of buying outstanding debt of their governments on the secondary market as a matter of routine, typically short-term debt. This is the textbook example of an open market operation. There is nothing wrong with this, as long as the central bank is guided by monetary policy motivations, i.e. it is setting the conditions for these purchases (price, quantities) in accordance with its monetary policy objectives and mandate.
- *Government debt purchases as an instrument of „unconventional" monetary policy.* Some central banks, notably the US Federal Reserve and the Bank of England, have engaged in large purchases of government debt, of different maturities, in order to directly influence the conditions in the corresponding market segments. The shift to this policy of quantitative easing is due to the fact that central banks' traditional policy rates, like the Federal Funds Rate in the US for example, were close to zero already and thus not useable as an active instrument anymore. Again, in principle, there is nothing wrong with such measures, as long as the central bank's underlying motivation is one of monetary policy. However, these policies and the huge increase in liquidity generated by them are risky. The time will come when this liquidity will have to be withdrawn from the market again. Only the future will tell whether central banks will be politically able and willing to rein in this liquidity in due time, once economic conditions normalize and the demand for liquidity returns to traditional levels.
- *Government debt purchases with a (possibly hidden) fiscal motivation.* In practical terms, it is difficult to keep monetary and fiscal motives apart, once the central bank starts intervening directly in the markets for long-term government bonds and consciously works at keeping long-term rates low. Central banks such as the Federal Reserve or the Bank of England officially justify their policies of quantitative easing in monetary policy terms. Intellectually, this is defensible. Nevertheless, suspicion that fiscal motives may also play a role cannot be very far. Fiscal motives can enter in two ways. First, keeping rates low means a direct relief for

[5] *On this, see also Baltensperger (2012).*

current government finances. Second, factoring in future inflation may lower the real burden of existing government debt, as long as inflation premiums in nominal rates adjust only with lags. Not infrequently, more (future) inflation is actively advocated for precisely this reason. In Europe, the ECB defends its sovereign debt purchases with the need to stabilize money markets and ensuring the transmission of monetary policy in the troubled periphery countries, and thus in the euro area overall. Again, this is an intellectually supportable argument. However, since the effects of these purchases are so obviously and directly fiscal, and since fiscal woes are at the very heart of today's euro area problems, it is difficult to accept it at face value.

In practice, separating admissible from non-admissible actions is difficult and the line between them all but clear-cut. Even if the present motivation is clean, at least on the part of central banks, the heavy burden of public debt and the bad state of public finances in many countries and regions, combined with weak banking systems and a possible need to recapitalize banks will make it very difficult to normalize monetary policy in due time and withdraw the drug of near-costless money our economies have become so accustomed to. Reducing the size of central banks' balance sheets will put pressure on asset prices and create losses for many market participants. An increase in interest rates will render sustainability of fiscal programs in many countries more doubtful than ever and limit severly available options for current and future expenditure and tax policies. Central banks may suffer losses on their accumulated portfolios of government debt. Commercial banks will bear losses on their holdings of public and private debt, making them vulnerable to shocks of all kinds and an indirect threat to government finances. For all these reasons, political pressure to postpone policy corrections „in order to buy time to adjust" is bound to be strong. Central bank independence is a major instrument of defence against such pressure.

It will be more important than ever and needs to be strengthened wherever possible. Regretfully, the same forces which create this pressure are likely to also weaken the independence of central banks.

Short-Run Stabilization and Growth Motivations

A second danger to central bank independence can result from societies' desire to support cyclical stabilization and growth of the real economy. As a result of the „Keynesian revolution" of the 1940s and 1950s – but partly even before – the idea received increasing strength that monetary policy should be considered as an instrument of cyclical stabilization and growth. Central bank mandates of earlier times, such as the Federal Reserve's *Full Employment and Balanced Growth Act* of 1978, re-

flected this view. In the 1960s and 1970s, the idea of a tradeoff between inflation and real economic conditions which could, and should, be exploited by central bank policy became firmly entrenched, both among main-stream academic economists and in policy circles. It became commonplace to accept „a little" inflation as the price for improving employment and growth. Given the low-inflation experience of the 1940s and 1950s, keeping inflation within manageable bounds was thought to be easy.

This view was thoroughly discredited by the history of subsequent events. It became increasingly clear that it was much more difficult to control the dynamics of inflation than was initially believed. Inflation expectations arose and became more and more firmly entrenched. The monetary impulses (and inflation accelerations) required to keep unemployment low became larger

and larger. The credibility of monetary policy suffered accordingly. The result was the „Great Inflation" of the 1970s and 1980s which, initiated by the USA, eventually spread all over the world. Severe costs in terms of monetary restriction and resulting stabilization crises had to be suffered to re-establish conditions of monetary stability over the 1980s and 1990s.

A central part in this return to monetary stability and „normality" was played by the „Monetarist counter-revolution" of the 1970s and 1980s, which emphasized the role and endogenous nature of inflation expectations and initiated a return to more classical positions on monetary policy, both in academic economics and in central bank thinking. As a result, price stability / low inflation returned as the overriding objective of monetary policy, with the stabilization objective as an additional, subsidiary goal to be aimed at, granted that the core objective of stable money was ensured. This shift back to a monetary stability objective is also reflected by a variety of central bank mandates issued in more recent times, e.g. in the UK, for the euro area, in Japan or in Switzerland.

At the same time, this change in perspective led to a much more structured approach to monetary policy-making, compared to earlier times, an approach based on a coherent analytical framework and established economic theory. Two separate, but equally important roles of such a structured approach can be distinguished: its internal role for the analysis and decision-making process of monetary policy on the one hand, and its external role as a device for communication with market participants and the general public on the other hand. A first such approach, employed by some central banks in the 1970s and 1980s already – notably the Deutsche Bundesbank and the Schweizerische Nationalbank, but for a limited period also the Federal Reserve – was the framework of Monetary Targeting with its emphasis on (usually annual) money growth targets. In the course of the 1990s, this approach was supplanted on a wide scale by the strategy of Inflation Targeting with its emphasis on (again, usually annual) infla-

tion targets for central bank policy. A third approach, which received considerable academic attention but was never put into practice in actual policymaking, is represented by the framework of Nominal Income Targeting with its emphasis on short-run (say annual) targets for nominal GDP. A common and central feature of all these approaches, as they were usually used and discussed in the literature, is that the core objective of monetary policy is price stability (low inflation) and that the central bank's money growth target, inflation target or GDP target (whichever it may be) must aim at this ultimate objective, i.e. must be set such that long run price stability and low inflation expectations remain firmly anchored.

Today, such a strategy may formally still be in place at most central banks, but actual policy decisions bear little relation to it. Actual policy instead is determined to an overwhelming extent by a *crisis mode* of one sort or another. The insights these strategies are based upon, gained at great pain and cost during the 1970s and 1980s, are in danger of being lost again. In this regard, the current situation reminds me strongly of the prevailing mood of the 1950s and 1960s. Two decades of low inflation have once again created a wide-spread belief that inflation is not a problem anymore, not even potentially, that inflation dynamics can be easily controlled if inflation should return nevertheless, and that „some inflation" may even be desirable as a means to stimulate the economy and overcome recession and lack of growth. The fact that, due to accumulated deficits and excessive levels of debt, fiscal policy in most countries is hardly availabe anymore as a workable and effective instrument of macroeconomic policy contributes to the sense that central banks are the only institutions which can save the world from endless recession and decay. That this means asking much more of central banks than they can reasonably be expected to deliver is largely suppressed.

In this context, Nominal Income Targeting has experienced a somewhat strange revival. Under Nominal Income Targeting, a target rate of growth for nominal GDP would be fixed which is consistent with long-run price stability (low inflation). If, say, „accepted inflation" is 2% and potential long-run real growth is estimated to be 3%, the target rate of growth for nominal GDP would be 5%. As long as actual nominal GDP grows at a rate of less than 5%, monetary policy would remain expansionary, i.e. it would aim at raising the nominal rate of growth (bringing it up to its desired level), regardless of whether inflation exceeds its long-run acceptable value of 2% or not. In the current context of recession and economic slack, this would force monetary policy to remain expansionary, of course. This is precisely the reason the switch to the Nominal GDP strategy is recommended by its proponents: as an instrument to make higher inflation acceptable (and consistent with the new strategy).

But the new strategy, if it were to be implemented as a successful long-run framework, would also require monetary policy to switch to a restrictive mode (i.e. aim at lowering nominal GDP growth) as soon as the target rate of growth is exceeded, regardless of whether this is the result of high inflation or real growth. If, say, real growth were to stay at a (still „unsatisfactory") level of 2%, but inflation rose to 3.5% or 4%, monetary policy would have to shift to restriction. For the new policy to gain credibility it would have to strictly obey these rules.

But would this really be credible in today's world and under today's conditions? Hardly so. It is obvious that sceptics (probably rightfully) would expect the current proponents of the new strategy to quickly argue that 2% real growth is still too low, that 3.5% or 4% inflation is not really a problem and should not allow us to prematurely stifle economic recovery. A new strategy needs time to gain credibility and cannot be expected to work upon mere announcement. Sceptics would see, or at least suspect, that today's proponents of such a policy shift are mainly concerned with real economic conditions, especially unemployment, and that they are trying to correct real economic problems through monetary policy means not really suitable for achieving this end. Sceptics would (probably rightfully) expect that the proponents would quickly be willing to adopt yet another new strategy, if their suggested policy change does not work as desired. If credibility were so easy to gain, what is attempted through a change to Nominal GDP Targeting according to this proposal could just as easily be achieved through a temporary increase in inflation targets within a framework of Inflation Targeting. It is not clear why a fundamental policy and strategy change would be helpful in this. On the contrary, it would raise uncertainty and weaken central bank credibility and reputation, if adopted for the reasons suggested here.

This proposal represents a remarkable example showing how stabilization and growth motivations can generate intellectual pressure and political influence on central banks and their monetary policies. Such pressure can get very strong and it would be naive to believe that an existing central bank mandate, even if well designed, can fully protect against it. Central banks operate not in a vacuum, but within a social and political system and are unavoidably prone, to some extent, to respond to such pressure. Nevertheless, the design of central bank mandates and the degree to which central bank independence is institutionally secured and supported by society are of great importance in this regard.

Central Banks and Financial Stability

Maybe the most important threat to central bank independence today stems from the central bank's financial stability function and the way in which this function has been extended, and is still being extended, in the wake of recent and current financial and economic crises. The role of central banks in financial supervision and bank regulation has been expanded in many countries and systems. The idea of giving central banks a very broadly defined mandate for financial stability, next and parallel to its monetary policy mandate, finds wide acceptance. In my view, this is a „toxic gift" offered to central banks, and I would much prefer if it could be declined.

There can be no doubt that central banks have certain responsibilities for financial sector stability. This is a major reason why historically they were created. But traditionally, and for good reasons, this role has been limited to ensuring an adequate system-wide provision of liquidity and guaranteeing the safety and efficiency of the payment system. These tasks are inseparably linked to the regulation of money and the central bank's monetary policy. In consequence, they must necessarily be assigned to the central bank. The main function of the central bank which follows from this is the function of a Lender of Last Resort, i.e. of an agent who stands ready to provide emergency

funding to banks in times of crisis and scarce liquidity, ensuring an adequate supply of money and means of payments for the system as a whole. According to traditional doctrine, lending of last resort help must be restricted to banks which are (temporarily) illiquid and therefore in need of funds, but may not be extended to fundamentally insolvent banks.[6]

Fiscal measures are not and should not be tasks of the central bank. Saving insolvent banks and other institutions with public money or guarantees are fiscal measures. The responsibility for them must rest with government, or with a separate regulatory authority mandated by government for this task. The same applies to preventive measures and regulations aimed at reducing the likelihood of events which might make necessary emergency help of this kind. Emergency help to governments, e.g. to euro area member state governments by the ECB, is even much more obviously fiscal in nature and was never part of traditional doctrine of lending of Last Resort. This doctrine was always meant to apply to banks only – as a response to a problem of asymmetric information specific to private capital markets and banks – but never to governments and states. Today's frequently heard call on the euro area to allow such help „in order to make the ECB a true central bank" is an absurdity, in my view.

Admittedly, the distinction between illiquidity and insolvency can be difficult in practice and there exist links between the two. Illiquidity can force emergency sales of assets and may lead to losses and insolvency. Conversely, insolvency can cause a loss of confidence on the part of customers and markets and lead to problems of refinancing and illiquidity. Nevertheless, at a fundamental level, the distinction is of central importance. Lending of Last Resort is justified as a reaction to the existence of money and capital market imperfections. Its purpose can never be to keep alive institutions with no credible long-run survival capacity.

For this reason, measures and decisions involving the liquidation, restructuring or recapitalization of insolvent or nearly insolvent banks must be clearly separated from Lending of Last Resort actions. Preventive measures and regulations serving the avoidance of insolvency problems must be seen along the same lines. In my view, it would be best to assign responsibility for these tasks to a separate supervisory and regulatory agency, distant enough from both government and the industry and endowed with sufficient authority to allow it to set up a successful and effective supervisory regime independent of day-to-day politics and its pressures.

However, since the decisions of this agency may have direct and important fiscal implications – most obviously if the recapitalization of a bank is at issue – such an agency can never have the degree of independence granted to central banks today. The financial author-

[6] *The classical reference is Bagehot (1873).*

ity by necessity is closer to government and politics than the central bank should be. For this reason it is best not to link both institutions under the same roof, even if the proximity of tasks makes coordination between them obviously important.

In principle, a double mandate for the central bank for both tasks is possible, of course. Indeed, the overwhelming part that central banks have played in recent crisis management throughout the world, and the fact that they often appeared to remain as the only institutions still able to act, have induced many countries and regions to go precisely that route, notably the USA, the United Kingdom or the euro area. In my view, this is a dangerous course. The potential fiscal implications of financial authority decisions are likely to bring the central bank much closer to government and politics than is desirable. The independence of central banks could be easily damaged as a consequence. Efforts to separate the two functions through internal institutional devices („Chinese walls") can never be fully effective, as long as the final responsibility for actions in both functions rests with the same central bank governing board. Only full institutional separation could correct that. The potential for conflicts of interest between the two functions is obvious, notably if monetary policy decisions (e.g. central bank asset sales, interest rate increases) create losses in bank portfolios and risks for bank's equity positions and solvency. It is not difficult to imagine that this could create great pressures for central banks to deviate from what would be an appropriate policy under its monetary policy mandate alone.

Perspectives and Outlook

What is likely to happen? Political pressures on central banks are and will remain strong. It would be naive to expect that this will have no effect on their actions. Monetary policy is likely to stay under this influence for some time and remain weak. In Europe, the additional argument that the ECB and its monetary policy are the only effective instruments still available to save the euro, and that they must be used to this end at all cost, reinforces this tendency. Not a pretty outlook for monetary stability.

Should we expect a future of monetary decay and chaos beause of all this? I do not believe so. In spite of my scepticism concerning current central bank policies, I do not believe that excessive pessimism is in place. Fundamentally, knowledge of the fact that sound money is of central importance for a successful eonomic and social system, and that sound money requires sound monetary policy, is still firmly anchored. Hopefully, this insight will gain strength again in the future. It is likely, though, that this will be the case only after the risks and the costs of the current policies have become more visible and painful.

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Dinner Speech

Maria Fekter

Austrian Federal Minister of Finance

Public Finances and Financial Stability

Dear Governor,
Ladies and Gentlemen,

Thank you very much for the invitation. I am very pleased to have the opportunity to discuss with you how to restore and maintain sound public finances and financial stability in Austria and in the EU.

The financial and sovereign debt crisis has put the previous strategies of EU economic and financial policies and its institutional decision-making settings to a hard test.

The Lisbon Treaty did not provide for an effective framework to deal with the major challenges linked up with the banking and debt crisis in the EU. Partly because we did not apply our own rules and partly because our rules did not cover the relevant policy areas.

Thus, the first question was, whether we would be able to deal with the financial stress in a cooperative manner. And secondly, whether we would be able to reform the architecture of the euro area so that we effectively prevent future crises.

As to the first point, let me stress that there has been a willingness within the euro area (and the EU) to come together and to help. We established financial solidarity instruments, first bilaterally in the case of Greece and then multilaterally with the European Financial Stability Facility, the European Financial Stabilisation Mechanism and the European Stability Mechanism. The ECB played a particularly positive role within the limits of its mandate. Let me note that also non-euro area countries contributed bilaterally, and thus solidarity went beyond the euro area.

Solidarity can mitigate the effects of a desaster but it cannot and should not prevent the need of each country to return to sustainable policies and business models based on productivity and not based on credit and excessive leverage.

This brings me to a second point. The strong correlation between sound public finances and financial stability has become evident over the past years. This holds true not only in a national context, but especially for the stability of EMU. Budgetary deficits and debt ratios rose significantly due to the crisis and turned the financial crisis into a sovereign one. Ultimately, it was not only the stability of certain Member States that was at stake, but the stability of the common project *euro* and even the whole European Union.

We learned from the crisis that dealing with the fiscal issues alone would not solve the problem and thus also new rules for the financial sector became necessary.

1 Fiscal Issues

At the European level, we have brought forward a comprehensive European fiscal and macrogovernance package of new rules. This package focuses on ensuring the stability and sustainability of public finances, avoiding macroeconomic imbalances and strengthening competitiveness.

The *Sixpack*, in force since December 2011, lays down both preventive and corrective fiscal rules. It reinforces

the old Stability and Growth Pact. Now, the Stability and Growth Pact has much more bite in order to detect and tackle excessive deficits much earlier.

These fiscal rules have been complemented by the Fiscal Compact, in force since the beginning of this year, and the so called *Twopack*, which entered into force on 30th May 2013.

The Fiscal Compact contains the requirement for Member States to broadly balance their general government budgets in structural terms by implementing a national debt brake with automatic correction mechanisms.

The Twopack implements a new and harmonized framework for the preventive coordination of national budgetary processes and puts the procedures in case of financial assistance on a legal basis.

At the national level, the Austrian Federal Government together with the federal states "Länder" and municipalities have done their job by embarking on an ambitious budgetary reform path.

On the one hand, we transformed very comprehensively the EU fiscal rules into national law; in particular with our national debt brake. On the other hand, we adopted the Stability Package 2012–2016.

Moreover, fiscal discipline from all levels of government has been enshrined by the Austrian Stability Pact, which entered into force on 1 January 2012. This Pact transposes the provisions of the Stability and Growth Pact into binding national rules. This guarantees that the transition to the national medium-term objective of –0.45% of GDP in structural terms by the general government will be achieved by 2017 at the latest.

The Austrian economic and fiscal strategy can be characterised by four key objectives:

- fiscal discipline by the swift consolidation of public finances
- implementation of structural reforms
- future investments into education, innovation and infrastructure
- ensuring a sound financial sector

Our fiscal consolidation commitment has been further underlined by the adoption of the Stability Package 2012–2016. All measures have been consistently implemented so far. The total volume of the package sums up to nearly EUR 28 billion over the full period, with around two-thirds of the consolidation stemming from the expenditure side.

It is to be noted that the budgetary outcome of a deficit of –2.5% of GDP for 2012 (despite the costs of banks) was significantly better than expected, and the second in a row below 3% of GDP. Projections for this year confirm the durable success of the Austrian consolidation path.

Restoring budgetary sustainability, hoewever, is just one side of the coin. A sound economic policy strategy extends consolidation with efficient investments and structural reforms. Education, innovation, energy efficiency and infrastructure are key future growth drivers.

Based on these facts, the Austrian Federal Government already decided in 2012 to allocate more financial resources to the areas of education, universities, R&D (research and development) and infrastructure. Overall, in the period 2013 to 2016 almost EUR 4.5 billion are going to be spent additionally on these matters.

Other preconditions for an efficient growth model in times of tight budgets and persistent challenges as ageing societies or migration are ambitious structural reforms.

Austria is consistently addressing pensions, health and long-term care,

public administration, subsidies and labour markets. The objective is to maintain the already high quality at more reasonable costs.

2 Financial Sector

We are all aware that a lot of taxpayers' money was spent in order to stabilise the financial system in the crisis. Alongside many other countries, the Austrian Government released a package of measures to stabilise the Austrian financial system in October 2008.

With the "Vienna initiative" we also assumed responsibility for the stability of the banking sector in the CESEE-region (Central, Eastern and Southeastern Europe), where Austrian banks are very active.

- From an ex-post perspective, the measures taken in 2008 were effective and helped to avoid significant damage to the Austrian economy. Thus, most of these measures have already ended or could be significantly reduced.
- The measures providing liquidity for the interbank market (via the Intermarket Support Act (ISA)) were particulary successful. The envelope of EUR 75 billion in 2008 could be reduced step by step and the ISA expired by 2011.
- Instruments allowing the contribution of equity – for example by the provision of participation capital or shareholder contributions – and instruments granting governmental liabilities were used intensively. In total, eight Austrian financial institutes requested and received governmental support based on the Financial Market Stability Act.
- In three cases, the only way of avoiding significant impacts on the Austrian economy was to take over ownership of the financial institutes by the Republic of Austria (Kommunalkredit AG: November 2008, Hypo Alpe Adria: December 2009, Österreichische Volksbanken-AG: April 2012).
- The current challenges are to find sustainable and value-conserving solutions for the state-owned banks, which will reduce the costs for the taxpayer.

3 EU-Legislation

Here, I believe that we have our lessons learned: We are currently shaping the EU legislation in a way which will lead us to a more stable banking sector.

3.1 CRD (Basle III)

One important part is already finished at EU level, and we are now transposing the Capital Requirements Directive (CRD IV) into Austrian law.

The main objectives of these legal acts are:

- to enhance financial stability and the capability of institutions to bear losses. Credit institutions will have to hold a capital buffer to raise the institutions' loss-absorbing capacity.
- to ensure that Austrian companies and individuals are supplied with credit.

- to strengthen and harmonise the supervision of credit institutions, investment firms, insurance companies and financial conglomerates.
- to improve the *corporate governance* of banks.

To make it short: In the future it should not happen as easily as in the past that banks are getting in financial troubles.

3.2 BRRD/ BIRG

Another directive is on the brink of finalisation, the Bank Recovery and Resolution Directive (BRRD) will lay down union-wide rules for the recovery and resolution of banks. In the future, important banks in troubles, which were considered to be too big to fail in former times, should be resolved. The new framework will allow for in-depth restructuring of banks but keeping its vital functions for the real economy in order to protect financial stability.

The losses and costs of failure will be born by shareholders and creditors, thereby putting an end to the need to finance the process with public ressources. This is what we call the "bail-in". The taxpayer funded "bail out" should be a thing of the past.

Another equally important aspect of this directive is prevention and early intervention.

We decided to bring forward the main elements of prevention and early intervention by the "Bankeninterventions- und -restrukturierungsgesetz" (BIRG) on national level and not to wait for the finalisation of the (European) negotiations. According to this new law, the Austrian credit institutions will be obliged to draft recovery and resolutions plans. The Financial Market Authority (FMA) will also be equipped with early intervention tools.

3.3 Banking Union

In the medium to long-term, the EU will be going towards a Banking Union. The goal is to break the vicious circle between the banking sector and the sovereign.

We have already agreed on one important pillar, the Single Supervisory Mechanism, giving the ECB the competence to directly supervise significant banks of the euro area. Unfortunately, only the Member States of the euro area are to participate, but I hope that the various incentives for closer cooperation for the other Member States will be sufficiently attractive for them to join the Mechanism so that the benefits of the system can be fully gained.

For the second pillar, the Single Resolution Mechanism, the Commission put forward its proposal on 20 July. Here, it is absolutely crucial, that we must avoid a system that creates moral hazard and gives incentives for free riding due to a single fund.

There is no doubt that a Single Resolution Fund must be financed by the banking sector. Otherwise it would be again the taxpayer that will finance the resolution – and I will not agree on that.

3.4 ESM

Last but not least, I would like to mention that the European Stability Mecha-

nism (ESM) is now better linked up to restoring soundness in the banking sector, in particular with the now negotiated instrument of direct recapitalisation of banks. However, we still need to solve some problems in the design, for example how to avoid moral hazard.

To sum up, we have made substantial progress – both at EU and at national level.

In Austria, we have done our homework. I am sure that this is why the Austrian economy has consistently performed better than the euro area in terms of GDP-growth, it has the lowest unemployment rate in the EU and a very good record in terms of "well-being" indicators and an excellent rating of its credith-worthiness.

Still, a lot of work needs to be done to make the European Union more resistant. But I am quite confident that we have defined the new building blocks so that it can withstand future storms or floods.

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Session 5
Central Banking, Financial Stability and European Banking Union

Andreas Ittner
Vice Governor
Oesterreichische Nationalbank

Introductory Remarks

Ladies and Gentlemen,
If Mahatma Gandhi was right, when he said: "Honest disagreement is often a good sign of progress", then the ongoing and controversial discussions on the European Banking Union show that we are progressing on our way to find balanced and deliberate responses at the European level to the weaknesses that have been revealed by the current crisis.

The European Banking Union has been *the* current major issue in the field of banking supervision in Europe in the recent past – or more precisely since the outbreak of the recent crisis. Several developments have already been initiated in this field – but it is also more than clear, that those developments can only be considered as the first step on the way towards an European Banking Union.

When we talk about the European Banking Union, discussion usually focuses on one of its comprising parts: Supervisory, Resolution or Deposit Guarantee Schemes. But a sole examination of each of these parts is not adequate, as they all interact. Therefore, discussion should always comprise them all.

Our todays guests – who I will introduce in detail at the end of this introduction – have made grave contributions to these discussions, expressing their views on the main and unifying questions: Which problems should be addressed by European authorities? Is there any need to leave certain problem-solving at the level of national authorities? And who should pay the costs, and to what extent? In addition, Dirk Schoenmaker recently widened the discussion, as he expressed that the three named pillars of the European Banking Union should be *supplemented by Macroprudential competences* of the ECB, in order to close possible gaps between micro- and macroprudential supervision.

We learned from the crisis, that the emerging number and size of *cross-border-active banking groups calls for an integrated cross-border- supervision, based on harmonized standards.* With the Single Supervisory Mechanism (SSM), we made the first and important step in this field. It is of course desirable that not only banks from a group of member

states, but banks from all member states are subject to supervision by the very same authority. But I guess that there is unanimity in this question, nonetheless this remains an important issue for countries like Austria, who are home to banks that are heavily active in Member States outside the euro area.

Our discussion today will supposably rather focus on the unsolved issues of the European Banking Union – on Resolution and on Deposit Guarantee Schemes, and how they should be approached.

With regards to the handling of ailing banks, we have to stress that a European *Recovery and Resolution Directive* should be in place in the near future. This will lay down a set of rules how to handle an ailing bank – but the question, who will be assigned to apply this set of rules, will not be ultimately answered by this directive. For the moment, the application will remain at national level, but there are substantial ar-

guments to shift this responsibility to a European authority. A European Resolution Authority would provide a level playing field, and it would also prevent from tensions between the European supervisor and the national resolution authority. But is it likely that an European Resolution Authority would be endorsed unanimously? And what would be the economic effects of the implementation of an European resolution authority?

Furthermore, the future of *deposit guarantee schemes* in Europe has not been decided yet. There have been calls for establishment of an European-wide deposit guarantee scheme, others argue heavily against. For the moment, I think this topic is of secondary importance in comparison to supervisory and resolution issues – where solutions have to be in force the sooner the better.

Ultimately, these questions are always connected to the question: Who pays the costs? A European fund, national funds, governments, investors, banks …?

As we can see, in all of these fields is more than enough *room for discussion*. Therefore, I am really looking forward to hear the opinions of two distinguished international experts who kindly followed our invitation to share their views on these important topics with us today.

Charles Goodhart was the Norman Sosnow Professor of Banking and Finance at the London School of Economics until 2002; he is now an Emeritus Professor in the Financial Markets Group there. Before joining the London School of Economics in 1985, he worked at the Bank of England for seventeen years as a monetary adviser, becoming a Chief Adviser in 1980. During 1986, Professor Goodhart helped to found, with Professor Mervyn King, the Financial Markets Group at London School of Economics, which began its operation at the start of 1987. In 1997, he was appointed one of the outside independent members of the Bank of England's new Monetary Policy Committee until May 2000. Earlier he had taught at Cambridge and London School of Economics. Besides numerous articles, he has written a couple of books on monetary history, and a graduate monetary textbook, *Money, Information and Uncertainty (2nd Edition 1989)*; and has published two collections of papers on monetary policy, *Monetary Theory and Practice* (1984) and *The Central Bank and The Financial System* (1995); and an institutional study of The *Evolution of Central Banks*, revised and republised (MIT Press) in 1988.

Dirk Schoenmaker is Dean of the Duisenberg School of Finance and Professor of Finance, Banking and Insurance at the VU University Amsterdam. He has published in the areas of central banking, financial supervision and stability, and European financial integration. He is co-author of the textbook Financial Markets and Institutions: A European Perspective with Cambridge University Press, and author of *Governance of International Banking: The Financial Trilemma with Oxford University Press*.

He is a member of the Advisory Scientific Committee of the European Systemic Risk Board. Before his appointment at the Duisenberg School of Finance in 2009, he served at the Ministry of Finance and the Ministry of Economic Affairs in the Netherlands. In the 1990s, he served at the Bank of England and was a Visiting Scholar at the International Monetary Fund.

He studied business economics and law at Erasmus University Rotterdam and earned his Ph. D. in economics at the London School of Economics.

Charles A. E. Goodhart
Professor
Financial Markets Group
London School of Economics

Lessons for Monetary Policy from the Euro Area Crisis

1 The 2007/08 Crisis

The crisis with the most lessons for monetary policy was the original 2007/08 crisis, not the subsequent euro area crisis. This initial 2007/08 crisis, however, originated in the US housing market, and was not specifically European. Nevertheless the resulting financial debacle entailed numerous important lessons for monetary policy. Amongst these were:

1.1 Price stability does not necessarily guarantee financial stability

As Hy Minsky demonstrated, price stability may even conflict with financial stability, rather than complement it. This is because a reduction in macroeconomic volatility may seem to reduce risk, and therefore make financial institutions raise their leverage, and reach for yield.

Hence, there is a need for counter-cyclical macroprudential instruments. The use of these would be relatively new, and remains unproven. In particular, macroprudential counter-cyclical measures would have to be imposed against the momentum and grain of the market. If an asset price boom was perceived to be unsustainable, it would immediately subside under its own weight. Accordingly, the majority of those involved must be believing that further price increases in the relevant asset market(s) may well continue. Politicians may believe that the asset markets have risen because of their own successful policies. Consequently, macroprudential counter-cyclical policies would have to be introduced at a time when they are likely to be opposed by many politicians, most borrowers and lenders, and many, probably most, commentators in the press.

It will be hard enough to be counter-cyclical in a boom; it will be almost impossible to do so in a bust. In a bust, counter-cyclical measures would suggest reducing capital and liquidity requirements. But the availability of bank capital and liquidity has just been shown, almost by definition, to have been insufficient in the preceding bust.

In a boom, macro- and microprudential measures go hand-in-hand; but in a bust, the microprudential authorities will want to toughen regulations, while counter-cyclical macroprudential measures would need to involve the opposite. The banking industry fears that macroprudential measures will be tightened in the boom period, but not then relaxed in the bust period; so that such macroprudential measures would get continuously ratcheted up. Moreover, since they would be operating against the trend of the market, the likelihood is that they would not be sufficiently vigorously and aggressively introduced in order to provide much of a mitigation of the cycle. The example of the Spanish dynamic pre-provisioning scheme comes to mind; this was a well-designed counter-cyclical measure, but of insufficient scale and extent to pro-

vide much of a mitigant to the Spanish housing cycle.

1.2 The Basel II Capital Adequacy Requirements (CARs) were insufficient loss absorbers in the crisis

Hence, there was a need for reinforced and extended CARs under Basel III. Even so, there remains a question whether this has gone far enough, and has been sufficiently radical. The main shortcoming of the banking system prior to 2007 was its extended leverage. But the backstop simple leverage ratio imposed under Basel III still allows that to be up to 33 to 1, which is surely too high. Similarly, Basel III still puts its main reliance on a Risk Weighted Asset approach to CARs, although the RWA regime has been shown to be faulty and capable of manipulation. There is, therefore, a serious question whether the reform and increase in CARs has gone far enough. This is the main burden of the new book by Admati and Hellwig, entitled *The Bankers' New Clothes*; and also the work by Miles et al. in *The Economic Journal*.

Moreover, the attempt to strengthen the equity basis of the banking system has been badly mishandled in Europe. The banks have been requested to raise their equity ratio. This has been done at a time when the incentives for bank senior officials remain focussed on the desire to maintain a high Return on Equity (RoE). With bankers simultaneously focussing on RoE, and being forced to improve their equity ratios, the inevitable implication is that this has reinforced the pressure to deleverage and reduce the outstanding volume of assets on banks' books. This sharp reduction in leverage has had a significant negative effect on the ability to recover from the financial crisis.

1.3 At times of crisis, funding liquidity via wholesale markets dries up

Hence, there has been a need to introduce liquidity ratios again, for the first time since they became dropped after wholesale markets developed in the 1970s. These new liquidity ratios include the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). The LCR has already been introduced; but its introduction has not had a deleterious effect in further putting downwards pressure on bank assets. This has been because the collapse of many wholesale funding markets has been offset by a massive expansion of central bank balance sheets, providing a similar huge increase in commercial bank deposits (reserves) at the central bank, which has in most cases more than sufficed to meet the new required LCRs. With the volume of loans having expanded faster than the volume of deposits in the run-up to 2007, (Schularick and Taylor), much of the excess in loans over deposits was financed through relatively short-term wholesale deposits. The introduction of an NSFR would most likely have put further downwards pressure on credit expansion by banks; but its introduction has been deferred, and it remains unclear when, and with what parameters, it may eventually be introduced.

1.4 In crises the zero lower-bound to interest rates becomes a reality

Hence, there has been a need for unconventional expansionary monetary measures in the forms of quantitative easing (QE), credit easing (CE), long-term refinancing operations (LTRO), and Abenomics, etc. The initial introduction of these measures in 2009 and 2010 did lead to a considerable immediate recovery in confidence, and brought the initial sharp downturn in economic output to an end. It also led to a further reduction to official interest rates on government debt, and to some, albeit somewhat minor, reduction in the enhanced risk premia. But with official interest rates having already being reduced to levels close to zero by the first round of such measures, it has not been clear whether subsequent rounds of these expansionary monetary measures has actually done very much additional good to our economies.

1.5 In particular, the increase in the monetary base did not lead to a wider increase in either bank credit expansion or the broader monetary aggregates

The expansion of M0 does not guarantee an equivalent expansion of M2; the money multiplier can, and did, collapse in this crisis. Hence there was a greater need to consider the incentives and underlying driving forces that would lead banks to expand credit, rather than just hold the resulting vastly increased reserves on deposit at the central bank. More consideration might have been given to the (relative) remuneration of such commercial bank deposits at the central bank. The interest payable on such excess reserves (IOER) might have been cut faster and further. More generally, there was more need to understand, and perhaps to nudge, the incentives of bank managers towards credit expansion, especially to SMEs.

2 The On-Going Euro Area Crisis

It is far less clear what *additional lessons* for monetary policy were provided by the specific euro area crisis, starting in 2010 and continuing thereafter. This crisis underlined the failings of the risk-weighted asset approach, notably the zero-risk weight on all developed countries sovereign bonds, with Greek sovereign debt, held by the private sector, being restructured, and the credit risk of many other peripheral countries declining sharply; but we knew that already. The main lesson, in my opinion, is that a single currency covering several diverse states does need, inter alia, a Banking Union. As noted earlier, the initial financial crisis hit the USA just about as badly, or perhaps more severely, than Europe. Nevertheless, the economies of the various states in the USA has, since then, converged back, and the USA as a whole recovered, whereas in the euro area the states continue to strongly diverge, certainly in their unemployment experience. What then were the main differences between the experiences of the USA and of European states? As shown in the charts below, the initial housing shock was much the same in both, but the USA then converged, whereas the euro area strongly diverged. Why, then, has the USA been such a much more successful currency union than the euro area?

The main adjustment mechanisms in the face of asymmetric shocks in a currency union are:

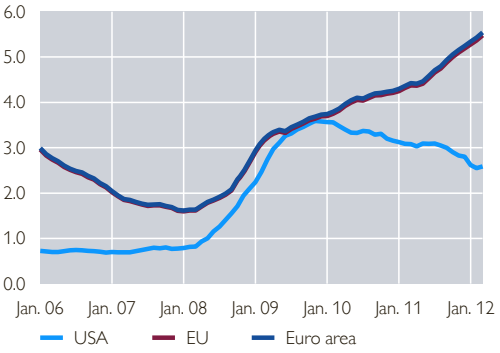
- Wage flexibility
- Migration
- Fiscal federalism
- Cross-border (Federal) banking, thereby breaking the doom loop between the sovereign and the banks in each state.

This is not the place to go at any length through the differences between the

Chart 1

Standard Deviation of Unemployment Rate – Population Weighted

Standard deviation

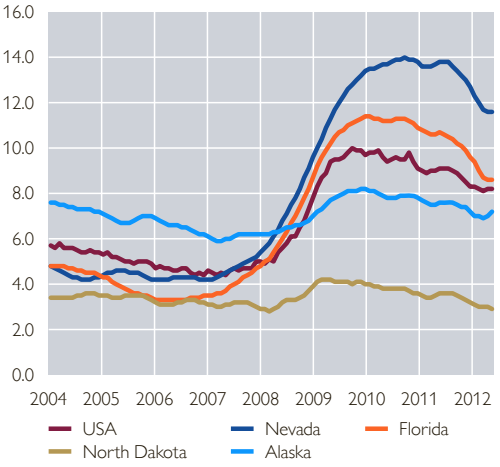


Source: US Bureau of Labor Statistics and Eurostat.

Chart 2

US Unemployment Rate – Seasonally Adjusted

% of labour force

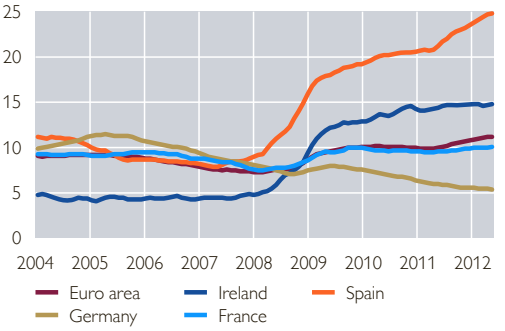


Source: US Bureau of Labor Statistics.

Chart 3

European Unemployment Rate – Seasonally Adjusted

% of labour force

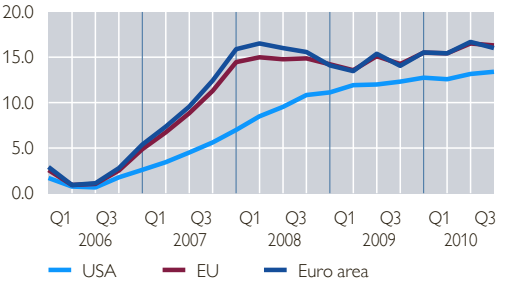


Source: Eurostat.

Chart 4

Standard Deviation of Housing Price Index

Index 2006 = 100, standard deviation



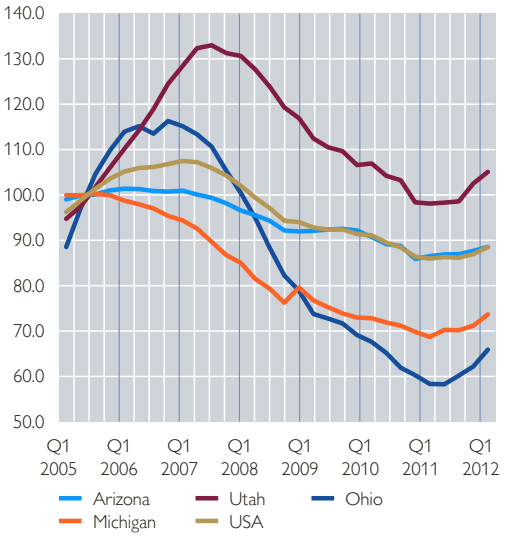
Source: Goodhart and Lee (2013).

USA and the euro area; I have done so in a recent separate paper (2013) in *Open Economies*. Nevertheless, it may just be worth noting that wage flexibility is no more a major mechanism for adjustment in the USA than it has been within the euro area. Indeed,it is possible that in the last few years the adjustment in terms of wage flexibility has been greater in some European states than it was in the USA. Meanwhile migration is somewhat easier in the USA than it has been in the euro area; nevertheless there has been much more flexible labour migration within Europe recently, than there used to be previously. A large proportion of the Latvian working population, for example, moved out of Latvia to other countries in the course of the crisis. What is, perhaps, more striking about differences between Europe and USA in this respect is not so much the flexibility of migration, but how it is perceived. In the USA the willingness of people to move from areas of low job opportunities to areas with better job opportunities is regarded as a good thing, an indication of the entrepreneurial, get-up-

Chart 5

US HPI for Chosen States and Federal

Index 2005 = 100

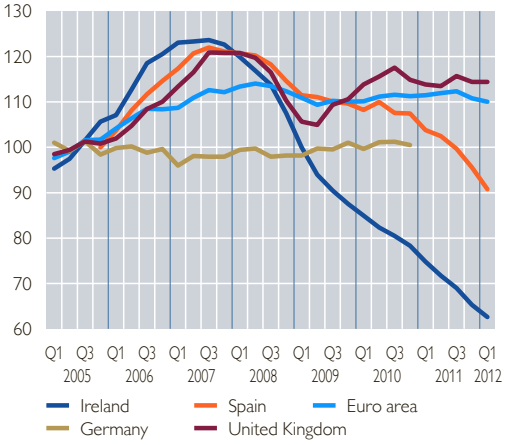


Source: Goodhart and Lee (2013).

Chart 6

Euro Area HPI Chosen States and Federal

Index 2005 = 100



Source: Goodhart and Lee (2013).

and-go characteristics of the American population, while within Europe, the disadvantages of migration both to the receiving and to the departing countries are emphasised much more. Clearly the barriers to migration in terms of differences in language, culture, law and other social conditions are much greater in Europe.

Again, I need not emphasise the difference between the fiscal federalism in the USA, and the fiscal state nationalism within Europe, a distinction which was highlighted for me by the dinner speaker at this conference.

In states in the USA which were badly affected by the housing shock,

such as Arizona and Nevada, there were many small banks which were headquartered in those states. And several of these may have failed during the financial crisis. But the main providers of banking services in these states, were the federal, cross-state-border banks such as Citi, Bank of America, JP Morgan Chase, and Wells Fargo. Although there will have been many non-performing-loans in those states on the balance sheets of these large cross-border banks, their overall funding costs will have been determined nation-wide. Their credit-expansion criteria will again be determined nation-wide, so those seeking new loans in Arizona will not necessarily have that much worse a set of credit and financial conditions, e.g. for collateral, than those seeking loans from the same banks in Texas or New York.

In contrast, most banking within euro area states was done by banks which were headquartered, and very frequently entirely operating, in those states. Thus all Spanish banking, or virtually all such banking, was done by Spanish banks; and most of these banks, excluding Santander and BBVA, had very little exposure and activity outside of Spain. Thus, when Spain got particularly badly hit by the housing shock, the Spanish banks became particularly badly hit. With the Spanish banks being particularly badly hit, and no banking union, there was no alternative then, but that the local state government would have to bear the main burden. In contrast, the states of Arizona, Nevada, or Florida bore virtually no extra burden from the particular difficulty of housing in their own states. But the euro area member states were not re-

ally in most cases strong enough to bear this additional burden without their own credit rating being adversely affected. The worsening credit rating of the Irish and Spanish governments in turn dragged down the credit ratings of their banks yet further. This meant that the terms and conditions and interest rates at which the local banks could provide new credit to the local state population worsened; this then further reduced economic activity, yet further reducing the tax revenue of the state, and enhancing the weakness of the economy more generally. To take a counter example, in Latvia banking is half done by Swedish banks and half done by local Latvian banks. When the Latvian crisis took hold, the external Swedish banks did three quarters of the additional new credit expansion, on the base of half of the local deposits.

So, one answer for dealing with asymmetric shocks within a currency union, is to ensure that there is a banking union over the whole of that currency area.

But a banking union, involving common deposit insurance and a common resolution fund, may be less attractive to the (stronger) creditor states within a currency union than would be mechanisms to bail-in the local bank creditors. Thus, the example of Cyprus, whereby local uninsured depositors took a major hit in order to recapitalise the local Cypriot banks, has been perceived as a possible template for future measures to recapitalise banks which might otherwise be failing. This reduces the possible call on taxpayers and banks in the wealthier and stronger states of northern Europe from having to support banks in the weaker countries. Such a bail-in of uninsured depositors is much more likely both to impose losses on local residents and thus reinforce the doom-loop, and also to enhance the likelihood of contagion, with large depositors fleeing northwards whenever a crisis appears imminent. This reluctance of northern creditor states to come to the support of banks in the weaker southern states has, of course, been reinforced by a recent ECB study suggesting that the median German household had less net financial wealth than households in the southern states. The German position appears to be that whereas a banking

union might be desirable in the long-run and in principle, it should not be introduced in the short-run, nor seen as a mechanism for dealing with current (legacy) problems of adverse downwards spiral interactions between the economy, banks and the local government within the euro area.

As was shown in the earlier charts, divergences in economic conditions, especially in employment and labour markets, throughout the euro area, have been continuing throughout these crisis years. It is not clear what is going to stop this divergence continuing, even if pressures for further austerity recede. What is going to make the weaker peripheral countries begin to grow faster than the core countries? That is one question that I wish to leave with you.

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Governance Challenges for Global Finance

"Global banks are global in life but national in death."

Mervyn King (2009)

The global financial system facilitates global trade, the exchange of goods and services across borders. Some would even argue that international finance has outgrown the needs of international trade. The unprecedented rise of global financial markets over the last decades has brought us the Second Age of Globalisation. International financial integration was high from 1870 to 1914, the First Age of Globalisation. It declined sharply through the Great Depression and the Second World War. Recovering after that period, the Second Age of Globalisation took off in the 1980s, as documented by Obstfeld and Taylor (2004). This second wave culminated in the Great Financial Crisis that started in 2007 and is not yet finished, as of this writing. The large international banks were found to be at the core of transmitting the shock from the US housing market collapse to the global financial and economic system. Substantial amounts of government support, in particular in the USA and Europe, were needed to steer international (and domestic) banks through the Great Financial Crisis.

The rise of large international banks is comparable to that of multinational companies, which underpin global trade. While multinational companies started with importing raw materials to, and exporting products from, their home base, the last decades have witnessed a shift towards direct foreign investment to produce goods locally. Similarly, large banks have expanded on a global scale by establishing branches and subsidiaries abroad, often through acquisition of local banks. These banks have grown into global powerhouses with balance sheets of up to USD 3 trillion of assets and span the global financial system.

New international institutions, like the International Monetary Fund (IMF) and the World Trade Organisation (WTO), were instrumental in restoring the global financial and trade system in the aftermath of the Great Depression and the Second World War. The central question in my new book *Governance of International Banking* (Schoenmaker, 2013) is, what institutional changes are needed to restore the stability of international banking? As the response of the international policy community, embodied in the newly emerged Group of Twenty (G-20), is slowing down, national supervisors are increasingly retrenching banks on national lines in the aftermath of the Great Financial Crisis.

The costs associated with financial crises can be large. They not only affect banks and their creditors and stakeholders, they also extract a toll from taxpayers and the real economy, as witnessed during the Great Financial Crisis. A central aim of financial regulation is to internalise these negative externalities, so as to provide banks with appropriate incentives to manage – and limit – their risks and authorities with the appropriate tools to reduce the impact of a failure on the wider financial

system. Regulation can achieve this central aim by reducing the incidence of distress at individual banks and by intervening in an efficient manner if insolvencies or financial crises do occur. However, this is complicated by the rise of large international banks that operate on a global scale across several jurisdictions. Most national authorities only address the spill-over effects gen-

erated by a distressed bank within their national perimeter and ignore cross-border spill-over effects. To summarise this point, Mervyn King (2009), the former governor of the Bank of England, has coined the famous sentence: "The collapse of Lehman Brothers showed us that global banks are global in life but national in death."

Since the 1990s, national authorities have adopted several policies based on essentially voluntary cooperation embodied in non-binding Memoranda of Understanding (MoUs). This policy approach failed during the Great Financial Crisis. The basic reason for this coordination failure is that both the incentives and the institutional framework for cooperation have been lacking. To overcome this policy failure, this book explores mechanisms for binding cooperation in the supervision and resolution of large international banks. While that is technically feasible, the real hurdle is politics. Countries want to preserve their sovereignty, and are thus not keen to share the control over their national banks, even when they operate on a global scale.

1 Governance Challenges

The international monetary and financial system poses several governance challenges for nation states. Monetary as well as financial stability are a public good. Can national governments still produce this public good at the national level in today's global financial markets?

Nation states

The coordination debate starts with the nation state as the holder of sovereign power. The modern state emerged after the peace of Westphalia in 1648. In reaction to the numerous complications of the feudal system in the Middle Ages, political philosophers like Jean Bodin (1530–1596) stressed the necessity for sovereignty to be one and indivisible. The key element of the nation state is that the ultimate sovereign power (state) and the cultural entity of people (nation) overlap. The nation state has become the dominant form of state organisation. In particular, the democratic nation state has emerged, in which the people determine public policy by electing the legislature and/or government. Key symbols of a nation state are its flag, its sword power, and its currency. The state and its currency are circular. While each state wants its own currency to foster its (monetary) independence, each currency needs a strong sovereign backstop to be credible (Goodhart, 1998). The power to tax (the "deep pockets" of government) is an important aspect of this sovereign backstop.

In the Westphalian system of nation states, the balance of international power rests with clearly defined, centrally controlled nation states, which

recognise each other's sovereignty and territory (Cooper, 2003). In this system, states are equal and independent. States do not have to recognise a higher authority than their own, while their relations with other states are conducted on equal footing. The Westphalian system of states has evolved over the centuries into the global standard for the conduct between states. In his recent book, *The Globalization Paradox*, Dani Rodrik (2011) argues that the nation state remains the only game in town, when it comes to global governance.

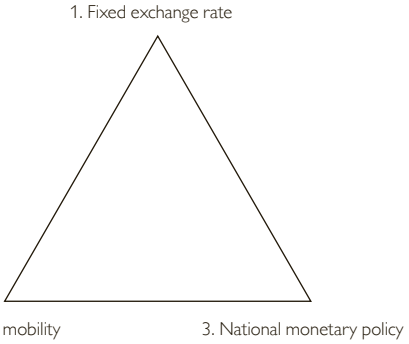
However, Padoa-Schioppa (2010) challenged this notion and suggested that new thinking on the concept of the state is needed. The Westphalian system of international relations between sovereign nation states may not be as absolute in a globalised world as it has been in previous centuries. International organisations such as the IMF and the WTO are already playing an important role in the present system of global governance. My new book explores the potential role of international organisations for the stability of the global financial system. A key element is the command over fiscal resources, which until recently were the exclusive domain of nation states, to provide a backstop to the global financial system. The IMF is the first example of an international organisation that can – albeit indirectly – marshal fiscal resources (from its member countries) to maintain global monetary and financial stability. Nevertheless, this command is constrained, as the IMF has an intricate governance structure involving member countries in the ultimate decision on financial support for countries in difficulties.

Monetary trilemma

Moving to the coordination challenges in a global financial system, fixed exchange rates have been found to be unstable on the monetary side. This led to the formulation of the monetary trilemma by Mundell (1963) and Fleming (1962), which states that (1) a fixed exchange rate, (2) international capital mobility, and (3) national independence in monetary policy cannot be achieved at the same time; one policy objective has to give. The corollary is that governments face a trade-off among these objectives and have to make a choice of two objectives. Chart 1 depicts the monetary policy trilemma.

Chart 1

The Monetary Trilemma



Source: Mundell (1963) and Fleming (1962).

Mundell and Fleming provide a theoretical underpinning for the monetary trilemma. The Mundell-Fleming model of an open economy portrays the short-run relationship between an economy's nominal exchange rate, interest rate, and output. By contrast, the closed-economy model focuses only on the relationship between the interest rate and output. The open economy assumption is the innovation in their model. They show that the interest rate and the exchange rate cannot be set independently in an open economy model.

The intuition of the model is as follows. Assuming perfect capital mobility and a fixed exchange rate, the slightest interest rate differential causes infi-

nite capital flows. Suppose a central bank tightens monetary policy by increasing its domestic interest rate. Portfolio holders worldwide shift their wealth to take advantage of the new higher rate. They buy domestic assets, tending to cause the exchange rate to appreciate. This forces, in turn, the central bank to intervene to hold the exchange rate constant. The central bank buys foreign money in exchange for domestic money, reversing the initial monetary tightening. This process comes to an end when the domestic interest rate is back at the foreign interest rate.

It follows that a country cannot pursue (3) an independent monetary policy under (1) a fixed exchange rate and (2) perfect capital mobility (chart 1). Interest rates cannot move out of line with those prevailing in the world market. Any attempt at independent national monetary policy leads to capital flows and a need to intervene until interest rates are back in line with those in the world market. The following simple equation gives the relationship between the domestic interest rate i_d and the foreign interest rate i_f:

$$i_d = i_f \qquad (1)$$

The monetary policy trilemma is thus built on an arbitrage relationship between domestic and foreign interest rates. Any deviation from world interest rates would put pressure on the fixed exchange rate. Independent interest rate decisions are only possible when the economy is "closed" through capital controls, or the exchange rate is flexible.

The trilemma concept introduces a binding constraint for nation states that operate in the global financial system. In this case, the constraint makes it impossible for a country to have simultaneously a fixed exchange rate, capital mobility across its borders, and an activist national monetary policy. This is general equilibrium thinking and it implies that capital flows in global financial markets cannot be analysed independently of foreign exchange regimes and domestic macro policy (Obstfeld and Taylor, 2004).

While in "good" times pursuing the three objectives seems to be feasible, a crisis provides the real test. History has shown time and again that fixed exchange rates ultimately break down unless monetary policy is sufficiently powerful (large reserves) and only used to support the exchange rate. Moreover, underlying economic divergences, for example in productivity, may also lead to a breakdown of a fixed exchange rate. So, both monetary and macro policies need to underpin the exchange rate target.

Countries have taken different approaches towards the monetary trilemma. The USA, for example, has flexible exchange rates and national monetary policy. Europe has irrevocably fixed exchange rates and given up national monetary policy within the euro area. Finally, China has a fixed exchange rate in combination with capital controls.

Financial trilemma

On the financial stability side, Thygesen (2003) and I (Schoenmaker, 2005) suggested the possibility that a financial trilemma as financial integration is ongoing, both at a global level and in the European Union (EU). We raised the question; to what extent can countries manage financial stability at the national level in a financially integrated system? However, we did not provide a theoretical underpinning of the financial trilemma at the time. The lack of a rigorous underpinning is related to the lack of a clear and consensus definition of financial stability.

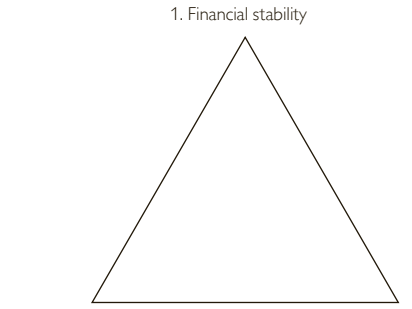
In a first model of the financial trilemma, I relate financial stability to the concept of externalities caused by a bank failure (Schoenmaker, 2008). The key insight is that national governments do not incorporate cross-border externalities of the failure of an international bank. They only care about the domestic effects, as they are accountable to their national parliament. Moreover, some banks are too large relative to the economy for a country to save. The Great Financial Crisis has subsequently confirmed that national financial supervision and resolution (i.e. crisis management) can indeed not cope with international banks.

The handling of international banks, such as Lehman Brothers and Fortis, are clear examples of coordination failure. The USA acted unilaterally, providing a resolution for the US broker/dealer arm of Lehman that, seen in isolation, can perhaps be said to have been orderly. But there was no cooperation offered in the resolution of the foreign Lehman subsidiaries, including the major operations in the UK. During the rescue efforts of Fortis, cooperation between the Belgian and Dutch authorities broke down despite a long-standing relationship in ongoing supervision. Fortis was split on national lines and subsequently resolved by the respective national authorities at a high overall cost.

These coordination problems informed a formal formulation of the financial trilemma (Schoenmaker, 2011), which states that (1) a stable financial system, (2) international banking, and (3) national financial policies for supervision and resolution, are incompatible. Any two of the three objectives can be combined but not all three; one has to give. Chart 2 illustrates the financial trilemma. The financial stability implication of international banking is that national financial policies are no longer adequate. Effective international cooperation for bank bailouts is needed. The full model is explained in chapter 2 of the book.

Chart 2

The Financial Trilemma



Source: Schoenmaker (2011).

Until recently, much emphasis has been on supervisory cooperation. The Great Financial Crisis has shown that the endgame of resolution is decisive for international policy governance.

There is an interesting parallel with the monetary trilemma. The stability of a fixed exchange rate is tested during a crisis. Only then it becomes clear whether the authorities can weather the "attacks" from the markets (often dubbed as speculators) and maintain the exchange rate. Similarly, the stability of the financial system is tested dur-

ing a banking crisis, when it becomes clear whether the national authorities can cooperate to resolve an international bank failure. So, the financial trilemma suggests that international supervisory cooperation cannot be analysed independently of the resolution regime.

2 International Policy Proposals

In the aftermath of the Great Financial Crisis, several international policy proposals have been put forward to repair the fault lines of the global financial system. The politicians have taken the lead in the Group of Twenty (G-20). The G-20, founded in 1999, has a broader membership than the traditional western dominated groupings, such as the Group of Seven (G-7). The new economies of China, India, Brazil, and South Africa, for example, are among the G-20 members.[2] While the G-20 used to meet at the level of finance ministers and central bank governors, it has changed gear after the start of the Great Financial Crisis. Since November 2008, a bi-annual Summit of the political leaders of the G-20 countries has been added on top of the ministerial and governors' meetings. The G-20 is thus pushing the international policy agenda and monitoring progress of the more technical committees, such as the Basel Committee on Banking Supervision and the Financial Stability Board (FSB).

International banking policy coordination got started after the failure of an international, albeit small, German bank, Bankhaus Herstatt, which operated on the global foreign exchange (FX) market. On 26 June 1974, Herstatt became insolvent after the German markets were closed, but before the US markets were closed. Herstatt had thus received its part on the Deutsche mark lag of FX deals, but was not able to pay on the US lag. This small international bank failure led to sizeable losses on the global FX market and prompted the establishment of the Basel Committee on Banking Supervision in 1974 (Goodhart, 2011).

In its early years, the Basel Committee worked on the supervisory coverage of international banks, in particular the relative responsibilities of the home and host supervisors. The main result of this work is the Basel Concordat setting out the principles for the supervision of foreign branches and subsidiaries, which chapter 3 of the book discusses in more detail. At a later stage, the Basel Committee moved to setting minimum regulatory standards to promote a level playing field for international banks. A major result is the well-known 1988 Basel Capital Accord (Basel I), which developed a single risk-adjusted capital standard to be applied throughout the major banking countries of the world. The subsequent 2004/6 Revised International Capital Framework (Basel II) allows the large

[2] *The full list of G-20 members include Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union.*

banks to use their internal risk management models to calculate capital requirements.

The Basel Committee of Banking Supervision is a committee set up under the auspices of the Bank for International Settlements (BIS), but has no legal personality of its own. The Basel Committee does not possess any formal supranational supervisory authority and its standards do not have legal force. The Basel Committee formulates and recommends broad supervisory standards, which can be seen as soft law, to be implemented in hard law by the national authorities. Nevertheless, the Basel standards have a legally significant impact, as the Basel standards have become the effective standards for banking supervision across the world. Because of its lack of legal status, the Basel Committee shies away from sanctions, in case a country does not implement and enforce the agreed standards, and crisis resolution, which involves finance ministries and politicians (Goodhart, 2011). The Committee regards these domains as the prerogative of sovereign states.

The IMF and the FSB have started to fill this international void. The IMF established the Financial Sector Assessment Program (FSAP) in 1999, which provides a comprehensive and in-depth analysis of a country's financial sector. As part of the FSAP, the IMF performs a detailed assessment as to what extent countries observe relevant financial sector standards and codes, including the Basel standards. It should be added that the FSAPs were originally conducted on a voluntary basis. It took the Great Financial Crisis before the USA and China were prepared to submit their financial system to an assessment by the IMF. The US and Chinese FSAP happened in 2010 and 2011 respectively, more than ten years after the start of the programme. Finally, in 2010, the IMF made financial stability assessments under the FSAP a mandatory part of IMF surveillance every five years for the 25 largest countries deemed systemically important based on the size of their financial sector and their global interconnectedness.

The FSB was established by the G-7 in 1999 under the name, Financial Stability Forum, to promote international financial stability. Shortly after the outbreak of the Great Financial Crisis, the G-20 heads of states and governments took over from the G-7 and upgraded the name from Forum to Board, vested the FSB with legal personality (an association under Swiss Law), and enhanced the capacity. The G-20 follows a gradual approach towards the institutionalisation of the FSB. The legal personality is a first step. The G-20 considers a treaty-based international organisation not to be an appropriate legal form at this time (FSB, 2012). The FSB thus falls short of full-blown international organisations, such as the IMF and the WTO. But the strong backing of the G-20 political leaders has increased the powers and standing of the FSB as an international body. The mandate of the FSB includes *inter alia* the following tasks:

- assess vulnerabilities affecting the global financial system;
- support contingency planning for cross-border crisis management; and
- promote members' implementation of agreed standards through monitoring.

But these tasks are still relatively modest, as they enable the FSB to promote, rather than to lead and command, international cooperation.

Reform agenda

The Great Financial Crisis brought into sharp focus the massive costs associated with the bailout of complex systemi-

cally important financial institutions, which were perceived as too-big-to-fail. The too-big-to-fail doctrine has been reinforced, if anything, by governments' handling of the financial crisis. As a result, the most significant regulatory reform proposals have focused on the question of how to curtail the too-big-to-fail problem. Namely, how can one reduce moral hazard and rein back expectations of future bailouts of the global systemically important banks (G-SIBs)?

The main reform proposals to strengthen financial stability are twofold:

1. Reduce the probability of failure by increasing capital substantially. The new Basel III Capital Framework increases the quality and quantity of capital, resulting in higher levels of core equity. Moreover, there is a capital surcharge for the global systemic banks. The objective is for banks to internalise the externalities of a systemic failure and thus to better protect taxpayers against any future public bailouts.
2. Reduce the impact of a systemic failure of a global systemic bank. The FSB has formulated Key Attributes of Effective Resolution Regimes for Financial Institutions. A central plank is a Recovery and Resolution Plan drawn up *exante* with the purpose of using it if a bank gets into difficulties. These plans may allow global systemic banks to fail or, at least, to be unwound in an orderly manner without imposing disproportionate costs on the taxpayer.

Both elements can reinforce each other to potentially reduce the too-big-to-fail problem. Other elements on the reform agenda are proposals to strengthen actual supervision, to move OTC derivatives to central clearing (reducing counterparty risk), to address the gaps in the rules for securitisation (strengthening risk management), to strengthen regulation and oversight of the shadow banking system (extending the regulatory remit towards all financial institutions involved in credit intermediation), and to adopt macroprudential frameworks and tools (preventing/mitigating asset price booms and pro-cyclical microprudential rules). A discussion of these other elements is beyond the scope of the book.

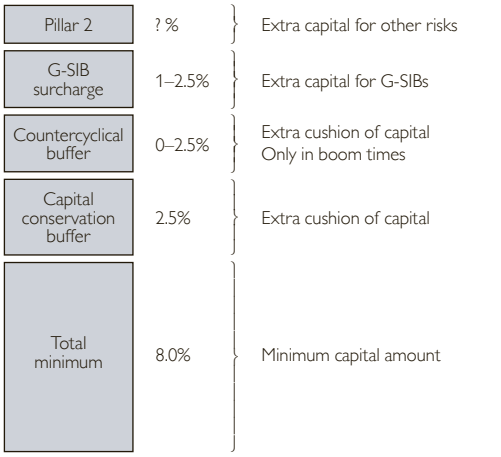
Enhanced capital and liquidity holdings

Banks were caught heavily undercapitalised at the time of the Great Financial Crisis. Some components of regulatory capital, like sub-ordinated debt, were not found to absorb losses. Authorities were afraid to impose losses on sub-ordinated bondholders out of fear for further contagion in the financial system. Moreover, banks had been making large pay-outs to shareholders through dividends and share buy-backs until early 2008, the onset of the Great Financial Crisis.

The main purpose of the Basel III capital reform is to raise the quality and level of capital (Basel Committee on Banking Supervision, 2010). There is a greater focus on common equity (that is shareholders' equity, including reserves) to absorb losses. The common equity minimum is raised to 4.5% of risk-weighted assets. Together with a further 3.5% of Tier 1 and Tier 2 capital, the total minimum capital amount is 8%. Next, a capital conservation buffer, comprising a common equity of 2.5%, puts a constraint on a bank's discretionary distributions, such as dividend payments or share buy-backs. In addition, a countercyclical capital buffer, ranging from 0% to 2.5%, creates a buffer that is built up in good times, and used in economic downturns. The

Chart 3

Basel III Capital Charges



countercyclical buffer is meant to stabilise the supply of credit in an economy.

There is an extra capital surcharge for G-SIBs. These global systemic banks must have higher loss absorbency capacity to reflect the greater risk that they pose to the global financial system. The G-SIB surcharge ranges from 1% to 2.5%, depending on a bank's systemic importance. A surcharge of 3.5% is reserved for G-SIBs whose systemic importance increases in the future. Chapter 3 of the book explains the assessment methodology to identify G-SIBs and contains the list of current G-SIBs.

Chart 3 presents an overview of the new capital buffers in the Basel III framework: the capital conservation buffer, the countercyclical buffer, and the G-SIB surcharge. Furthermore, on top of these capital requirements, supervisors may add extra capital to cover for other risks following a supervisory review process (as part of the so-called pillar 2 of the Basel capital framework). The new Basel III capital rules are phased in gradually from 2013 till 2019.

Another problem with the previous Basel II capital framework was that banks underrepresented their risk-weighted assets to save on capital. Under Basel II banks were, and still are under Basel III, allowed to calculate the risk-weights of the various asset categories with their own internal models. Banks are thus tempted to downplay the riskiness of assets to reduce capital ratios. New research at the IMF reports substantial variations in the calculation of risk-weighted assets across banks and countries, which may undermine the Basel II/III capital framework (Le Leslé and Avramova, 2012). To address this bias, Basel III introduces the leverage ratio, a traditional backstop to the risk-based capital requirement. The leverage ratio is calculated as Tier 1 Capital divided by Total Assets (so without risk-weighting) and set at 3% for all banks. The leverage ratio is a rough measure to ensure there is sufficient capital in the overall banking system and to limit the growth of bank balance sheets (at a given amount of available

capital). Although it would be consistent to apply the G-SIB surcharge also to the leverage ratio (for example a 4% leverage ratio for global systemic banks), the Basel Committee has not (yet) decided to do that.

Banks were also short of liquidity at the onset of the Great Financial Crisis. They had insufficient freely available liquid assets, as the entire system seized up. Moreover, banks relied heavily on short-term wholesale funding for their long term assets, creating a substantial liquidity mismatch. Basel III introduces the liquidity coverage ratio, requiring banks to have sufficient high-quality

liquid assets to withstand a 30-day stressed funding scenario, and the net stable funding ratio, a longer-term structural ratio designed to address liquidity mismatches. The latter ratio covers the entire balance sheet and provides incentives for banks to use stable sources of funding.

Effective resolution

Resolution of international banks was extremely difficult during the Great Financial Crisis. Several countries lacked an effective national resolution regime. On top of that, national resolution proceedings differed greatly, complicating an international resolution. Chapter 4 of the book discusses some major international bank failures in detail. The big lesson of the Great Financial Crisis is that the world needs a way of resolving any financial institution – no matter what size – if it gets into trouble. The establishment of an effective resolution framework is therefore high on the policy agenda. The FSB (2011) has formulated the Key Attributes of Effective Resolution Regimes for Financial Institutions.

The Key Attributes require national jurisdictions to have designated resolution authorities with a broad range of powers to intervene and resolve a financial institution that is no longer viable. These intervention powers enable resolution authorities to order transfers of business and creditor-financed recapitalisation ("bail-in") that allocate losses to shareholders and unsecured creditors, like bondholders, in their order of seniority. So, shareholders and bondholders should absorb losses, before public bailouts are considered. Some countries, such as the UK, the USA, Japan, Germany, the Netherlands, and Switzerland, have implemented special resolution regimes, as reported in chapter 6 of the book.

Next, national jurisdictions should remove impediments to cross-border cooperation and provide resolution authorities with incentives and statutory mandates to share information across borders. It should also achieve a coordinated solution that takes into account financial stability in all jurisdictions affected by a financial institution's failure. While this Key Attribute to share information and achieve a coordination solution is laudable, the FSB fails to specify the incentives for effective cooperation (see below).

Finally, the Key Attributes contain two special requirements for global systemic banks. The first is that recovery and resolution plans are put in place for all G-SIBs. These recovery and resolution plans map out the actions a bank or a supervisory/resolution authority would take in the event of another crisis. These plans provide additional confidence that the bank in question can for-

mally "de-risk" itself to avoid a liquidity crisis, or in the worst case, be unwound in a responsible way that will help avoid sparking a systemic risk event. A particular challenge is to develop a credible group resolution plan, which is more than a string of national resolution plans.

To foster such group-wide thinking, the second requirement is to maintain crisis management groups for all G-SIBs, bringing together home and key host authorities. These groups should be underpinned by institution-specific cross-border cooperation agreements. Again, the challenge is to achieve appropriate incentives for cooperation among home and host authorities.

Incentives for cooperation

In the slipstream of the Great Financial Crisis, international governance has significantly been stepped up. The Basel Committee on Banking Supervision responsible for setting international banking standards is now supplemented by the G-20 on the political front and the FSB on the resolution front. This raises both the quality and the monitoring of standards on international banking regulation, supervision, and resolution. The enhanced monitoring of national implementation of international standards by the G-20 also promotes the harmonisation of national standards, reducing the scope for conflicts of interests between countries. While greater harmonisation *enables* international cooperation, it may not require it.

An additional next step is needed to make cooperation actually occur. The Basel Concordat on Supervisory Coordination specifies the allocation of supervisory responsibility between home and host supervisors for international banks, but the Concordat does not incorporate mechanisms to enforce cooperation or incentives to induce cooperation within these so-called supervisory colleges. The Basel Concordat has given rise to hundreds of Memoranda of Understanding (MoUs) for coordinating supervisory efforts and sharing information across borders. More recently, some of these MoUs have been expanded to include crisis management, establishing (cross-border) crisis management groups. The range of signatories has also been expanded beyond supervisors to include central banks and ministries of finance (see, for example, various EU MoUs). But MoUs are signed on a voluntarily basis, following a soft law approach. The last article of a typical MoU specifies that the arrangements discussed are not legally binding and thus preserves the sovereignty of national supervisors. Claessens et al. (2010) note dryly that these MoUs were not used during the crisis (see also chapter 4 of the book).

International policy proposals have so far focused on a soft law approach to address the governance challenge in global banking (Brummer, 2010; Ferran, 2010). Given the experiences during the crisis, it is somewhat disappointing that the new proposals to strengthen supervision and resolution continue to rely on this soft law basis for supervisory colleges and crisis management groups to facilitate – but not force – cooperation between home and host authorities.

Experience has shown that in times of stress, information-sharing agreements are likely to fray. Bad news tends to be guarded as long as possible. Baxter, Hansen and Sommer (2004, p. 79) note: "Once the bank's condition degrades, supervisors think less about monitoring and more about protecting their creditors. This creates a conflict among supervisors." An example is the reluctance of the Japanese supervisory authorities to share with the USA

authorities their discovery of trading losses in Daiwa's New York branch. A trader in the New York Daiwa office had lost USD 1.2 billion in a series of unauthorised trades over an 11 year period from 1985 to 1996. When the trader finally confessed, and the home country authorities in Japan were informed, there was a two-month lag before the information was shared with the host country authorities in the USA. This is only one of many examples of home authorities showing reluctance to share information on a timely basis with host country authorities (see the case studies in chapter 4 of the book).

Bank managers are often reluctant to share bad news with their supervisors because they hope that it will blow over (wishful thinking) and they fear they will lose discretion for dealing with the problem (and, indeed, lose their jobs as well). Similarly, the primary banking supervisor is likely to be reluctant to share bad news with other supervisory authorities out of concern that the leakage of bad news could precipitate a liquidity crisis, or that the other supervisory authority might take action that would constrain the primary supervisor's discretion in dealing with the problem or exercising forbearance. Often, the primary supervisor uses its discretion to forbear as long as there is a possibility that a bank's condition may be self-correcting, particularly if the alternative is closing the bank. A decision to close a bank is sure to be questioned, so supervisors tend to forbear until losses are so large that there can be no reasonable doubt that the institution is insolvent. Moreover, losses that spill across national borders intensify conflicts between home and host country authorities and make it difficult to achieve a cooperative resolution of an insolvent bank. Thus, international cooperation may break down precisely when it is most needed (Herring, 2007).

3 Conclusion and Organisation of the Book

The global financial system poses several governance challenges for nation states. The underlying problem is that markets and financial institutions are operating on a global scale, while sovereign power is defined at the national level. Financial authorities, such as supervisors, central banks, resolution agencies, and finance ministries, derive their mandate and powers from national legislation and are thus national-based. This scope mismatch between global financial players and national financial authorities creates major coordination challenges. The international financial reform agenda comprises useful efforts to strengthen supervision with substantial higher capital requirements and new resolution standards, but so far fails to provide (binding) incentives for cooperation between national authorities.

The trilemma is a powerful concept stating that only two out of three policy objectives can be achieved at the same time; one objective has to give. The monetary trilemma explains the coordination challenge in the monetary field that (1) a fixed exchange rate, (2) international capital mobility, and (3) national monetary policy are not compatible. The monetary trilemma is underpinned by a theoretical model and well established in academic journal articles, as well as in standard macroeconomic textbooks.

Turning to financial stability, the financial trilemma explains a new coordination challenge, highlighted by the Great Financial Crisis, that (1) a stable financial system, (2) international banking and (3) national financial policies are incompatible. The

financial trilemma is new. The book *Governance of International Banking* (Schoenmaker, 2013) aims to provide a clear and solid exposition of the financial trilemma and explore alternative solutions to the governance challenge in global banking.

Organisation of the book

The remainder of the book is organised as follows. Chapter 2 poses the question whether the public good of international financial stability can be produced by individual nation states, or not. Critical for the argument in this book, our model of the financial trilemma clearly shows that nation states are not able to produce this public good. Each country plays the game of contributing to financial stability as "individually rational" in the sense that each country's payoff is as large as it would be by acting independently. Countries thus arrive at a non-cooperative Nash equilibrium, in which they do not contribute sufficient funds for recapitalising an ailing international bank, even if such a recapitalisation is efficient from a public policy perspective. The model indicates that the potential for coordination failure among national supervisors increases, as internationalisation of banking rises.

Chapter 3 first analyses the business model of international banks. Next, it documents the rise of international banking, both within the major regions and between the three regional blocks. It is found that international banking is most advanced in Europe and least in Asia. The Americas take an intermediate position on the internationalisation scale. Chapter 3 also documents the degree of internationalisation of the large global systemic banks. The Financial Stability Board, the newly emerged body dealing with international financial stability, has produced a list of 28 global systemically important banks (G-SIBs), which face higher regulatory requirements. The chapter confirms that all large and internationally operating banks are on this list.

Next, chapter 4 provides case studies of some major international bank failures during the Great Financial Crisis. It appears that most of these bank failures, such as those of Lehman and Fortis, follow the theoretical model. Coordination breakdown between national authorities thus happens in practice.

Chapter 5 develops some model-based solutions to the financial trilemma. International governance mechanisms for coordination include supranational approaches, where an international institution takes over from the nation states. An alternative approach is burden sharing under which national governments pre-commit to share the burden of an international bailout. To curtail the moral hazard of an international safety net, the chapter proposes to apply the new capital surcharge for the

global systemic banks (the so-called G-SIBs) to all banks that would fall under the proposed safety net. Higher capital reduces the incentive for excessive risk taking. Moreover, there should be effective resolution plans for these banks.

Chapter 6 discusses the political economy of international governance. The fiscal dimension is key to any international governance in global finance. The control over fiscal resources to provide the ultimate backstop for a potential international bank bailout defines the incentives for cooperation. As long as the fiscal backstop is fully national, international cooperation will remain fragile. Only when there is an international governance mechanism to pool fiscal resources, international cooperation can be made to work. Effective international cooperation challenges the core of sovereign power (the power to tax and to set the budget independently). It also touches the core of citizens' identity. Are citizens only prepared to express solidarity within their nation state? Or, can we also develop a transnational identity necessary to shift resources at the broader international level?

Finally, chapter 7 lays down a framework for global governance. In the game-theoretic framework applied throughout this book, we propose a backward-solving approach. The endgame of resolution is setting the incentives for the supervisory agency. So, resolution and supervision should be lifted in tandem to the regional or international level. The chapter outlines the potential for turning existing international bodies, such as the Bank for International Settlements and the International Monetary Fund, into international institutions for financial stability. At the regional level, Europe is contemplating a fully-fledged banking union to match its monetary union. This book focuses on the governance of international banks, but similar arguments are more or less applicable to the governance of other parts of the global financial system.

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Session 6
Monetary Policy Crisis Management and Price Stability

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Monetary Policy Crisis Management and Price Stability

The various far-reaching and unconventional steps taken by central banks since the onset of the crisis raise the question about the extent to which macroeconomic and financial system crisis management and the maintenance of price stability are compatible or in conflict. This brief introduction touches upon five issues.

1 The Short versus the Long Run: Different Agents May Weigh Different Risks to Price Stability Differently

First, risks to price stability may work in different directions over different time horizons. In a short-term perspective, most economists and policymakers would agree that the deep financial, economic and sovereign debt crisis more or less dictated the pursuit of ultra-easy, including unconventional, monetary policies. Without them, central banks would not only have put financial system and macroeconomic stability at peril; central banks would also have been in danger of substantially undershooting inflation targets (possibly driving price growth even into deflationary territory), thereby failing to fulfill their primary objective of maintaining price stability. Hence, in the short run, there was no alternative to ultra-expansionary, crisis management-oriented monetary policy to ensure price stability in the sense of low, positive inflation rates. According to various indicators of inflation expectations, financial markets, economic forecasting experts and the public at large also seem to agree that these measures did not affect central banks' short-, medium- and long-term credibility with regard to their ability to maintain low consumer price inflation (see e.g. Gnan et al., 2011). On the contrary, in a broader sense, these measures may even be seen to have supported central banks' standing as crisis managers and, thus, guardians of macroeconomic stability. One might speak of "anti-deflationary credibility" in this context.

At the same time, particularly in countries such as Germany and Austria, quite a few people seem to be deeply concerned about a possible future erosion of the value of money, as

evidenced for example by the observed flight of savers into "real assets" such as gold and real estate. Judging from media headlines and other anecdotal evidence, there seems to be a dichotomy between economists' and the public's assessment of central banks' actions in terms of inflation risks. Possible explanations might be a) different levels of understanding of economics and, possibly linked to that, higher risk aversion on the part of noneconomists ("fear for lack of knowledge"); b) different weightings of time horizons (i.e. economists, policymakers and professional investors are more short-term oriented, e.g. because they have to address immediate concerns, whereas savers are more concerned with the preservation of their savings in the long run); c) different risk attitudes (policymakers and

large investors weighing short-term deflation risks very high, while savers might weigh the low-probability high impact event of high inflation quite high. Deeply-rooted negative historical experiences of hyper-inflation in the aftermath of past crises (such as wars) may contribute to such perceptions.

2 Incomplete Price Measurement, Neglected Relative Price Distortions, and Negative Welfare and Wealth Effects

Second, there are the difficult questions of how to measure inflation, how to define price stability, and whether the concept of consumer price inflation as used by most central banks eschew prices central to macroeconomic stability but also to economic agents' welfare. Crisis management-oriented monetary policy may exert substantial influence on relative prices, across goods and various forms of real and nominal assets. For instance, while low consumer price inflation prospects in the euro area as a whole call for expansionary monetary policy, the resulting monetary stance may be regarded as too lax in some countries, such as Germany, which has been hit much less by the recent crisis. The aim to keep consumer price inflation for the euro area as a whole close to the definition of price stability may fuel sharp relative price increases in assets deemed safer in a crisis (safe-haven effects). These assets may include real assets such as precious metals, real estate, collectibles or stocks, as well as nominal assets such as German Bunds. For sure, it is commonly argued that monetary policy should not, and cannot, concern itself with relative price movements, but can only aim at price stability for the average of the whole universe of (consumer) prices. But there are also counter-arguments: First, most definitions of price stability exclude real assets typically affected by crisis-induced safe-haven purchases, so extreme movements in these prices are eschewed from monetary policy reaction functions; this may in itself entail welfare implications of monetary policy, in particular in the case of price bubbles in housing, which satisfies a basic need. Second, asset price bubbles may cause further boom-bust cycles, in turn endangering stable growth, employment and, as a consequence, also consumer price inflation. Third, overpricing of assets such as bonds, stocks but also real estate, may substantially affect the real return on investment at least in the short to medium run. The real return on nominal low-risk assets has become clearly negative over the past years. The resulting erosion of real wealth is at odds with the notion of "maintaining the purchasing power of money," which the public and indeed many economists would associate with central banks' price stability mandate.

3 Spillovers and Externalities

A third aspect concerns cross-country spillovers and externalities. The IMF and other institutions have been warning for quite some time that ultra-easy monetary policies in the U.S.A. and other industrialized countries result

in capital inflows into emerging market economies (search-for-yield effects), causing an initial overheating of credit, aggregate demand and assets prices (stock markets, real estate markets) and a subsequent retrenchment once the bubbles burst.

This implies considerable risks both to macroeconomic and price stability in emerging economies (initial upward, subsequent downward pressures on inflation) but may also entail non-negligible de-stabilizing repercussions for industrialized countries (exchange rates, financial market spillovers, trade spillovers, confidence etc.).

4 Technical and Market Aspects of the Exit from Unconventional Monetary Policy Measures

It is frequently argued that central banks might find it difficult to unwind the asset purchases and other changes to their balance sheets resulting from unconventional monetary policies. This may undermine their ability to maintain price stability in the longer term. In particular, the necessary substantial sales of government bonds may not be possible without severely affecting the respective bond market segments; therefore, these sales might not take place at all, nourishing concerns about "fiscal dominance" (see e.g. Leeper, 2012).

The counter-argument is that central banks, from a technical viewpoint, can always drain liquidity from the market to ensure that a monetary stance conducive to price stability is ensured; this need not necessarily be achieved via sales of their acquired government bond portfolios but can be done for instance through the issuance of central bank paper, reverse repo operations, higher minimum reserves etc.

That being said, it may not be sufficient for central banks to technically be in a position to ensure orderly liquidity developments; they must also be able to *convince the public and markets* of this ability *and their willingness* in a timely manner to prevent negative credibility effects, which in turn might endanger their very ability to keep inflation expectations low and stable, without real economic costs.

5 New Paradigms, New Central Banks, New Tasks, New Objectives – Old Problems?

The potentially biggest challenge for central banks and their safeguarding of consumer price stability in the future are deep changes in economic thinking and the resulting changes in institutional set-ups, central bank tasks and objectives. All these changes also affect policymakers' and economic agents' incentives and expectations toward central banks.

First, the crisis is perceived by many experts to have unmasked the "Great Moderation" as a big illusion or a big policy mistake. More bluntly, macroeconomic stability, low consumer price inflation and high growth are seen to have been the result of riding financial and real economic bubbles. What conclusions can be drawn from this perception? During the Great Moderation, central banks were generally accepted to be isolated from other political tasks and influence, using their specific instrument – the short-term interest rate – to pursue a single goal: consumer price stability.[1] The simple recipes of inflation targeting – a core element of Great Moderation thinking – have also proved much less useful by the deep and long-lasting recessions in many coun-

[1] *There was indeed a long debate about the extent to which central banks should take into account asset price developments in one or the other (direct or indirect) way, but this did not substantially alter the main paradigm.*

tries: In a period of such deep and structural adjustments, reasonable estimates of potential growth and output gaps, which were at the core of New Keynesian inflation/output-gap targeting, are

impossible. Instead, arguments such as hysteresis have come to the fore, questioning the previous consensus of monetary policy's long-run neutrality. Indeed, it seems to be rather broadly accepted now that in situations of deep economic and financial system crisis, active and aggressive monetary policy is vital to limit long-lasting real damage to the economy.

Reflecting this, since the crisis, many central banks have tended to gear their monetary policies toward a broader range of macroeconomic developments, with growth and employment taking a more prominent role alongside inflation (as illustrated most recently by communication in the context of various central banks' forward guidance).

Furthermore, financial stability concerns have taken a front seat in central banks' policies. For one thing, many unconventional monetary policy measures have explicitly or implicitly aimed at solving stress in banking systems and various financial market segments, and interest rate policy too has arguably been influenced by such concerns. For another, central banks have become much more heavily involved in macroprudential surveillance and banking supervision. In many cases this has also been reflected in explicit institutional and legal changes. The interactions between monetary policy and macroprudential policies are likely to be much more intense and complex (see e.g. Blanchard et al, 2013) than some may have originally thought or hoped.

The forced close coordination with government policies, the *de facto* or *de lege* enlarged mandates and responsibilities of central banks, and the *de facto* broader monetary policy goals together have implications for central banks' role within government and economic policymaking at large. For one thing, central banks have become more important and powerful. The flip side of the coin is, however, that central banks have become far more involved in important political decisions, raising questions of democratic legitimacy and in the end potentially limiting their hard-won independence (see e.g. Borio, 2011).

Many of these issues contain interesting and potentially far-reaching political economy aspects, which might influence central banks' future ability (or incentives) to maintain price stability at levels seen during the Great Moderation. The (cautious) call for, or active consideration of, higher inflation targets put forward by some prominent economists (e.g. Blanchard et al., 2010) shows that in situations of high government (and, in some countries, private) debt levels, some still regard the old recipe of "silent" debt relief through inflation as an option that should not be discarded right away. Thus, the consensus view of the benefits of price stability (i.e. low positive inflation rates) can never be taken for granted but needs to be convincingly argued and proven to be in the best interest of our economies and societies in the long run.

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Monetary Policy since the Financial Crisis: Why Interest Rates Need to Be Low[1]

Central banks around the world lowered interest rates to almost zero and took exceptional measures in response to the financial crisis. It has been claimed that these policies have unintended side effects while yielding little benefit for the real economy. In particular, a long period with low interest rates may induce unsustainable asset-price developments and financial instability. These concerns need to be taken seriously. Currently, however, there is little evidence that the unintended side effects are dominating the benefits of the expansive monetary policy. Nevertheless, an exit from the low-interest-rate environment will be challenging. Central banks should focus on price stability as their main target.

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1 Introduction

After the collapse of Lehman Brothers monetary authorities around the world lowered interest rates quickly and in a coordinated fashion. When policy rates reached almost zero, central banks in the major advanced economies continued with so-called unconventional monetary policy measures, notably asset purchases, which increased their balance sheets dramatically. Nevertheless, these policies were slow and less effective than desired in reviving growth and (perhaps surprisingly) until now inflation has remained low and stable.

Many objections have been raised against the expansive monetary policy stance since the financial crisis (for instance, White, 2012). They mainly fall into two groups. First, expansive monetary policy does not help to revive the economy because in the current environment the monetary transmission mechanism does not work. Second, expansive monetary policy may actually be harmful since it entails unintended side effects. In particular, low interest rates might lead to a misallocation of real resources and provide adverse incentives to banks and governments. Moreover, the ample provision of liquidity might create asset-price bubbles and thus induce financial instability.

These concerns are important and need to be taken seriously. Nevertheless, I will argue that central banks in advanced economies are right to continue with their current policy stance. But before discussing these issues in more detail, let me briefly review how the monetary transmission mechanism works, i.e., how monetary policy transmits to the real economy.

[1] *This paper was written for the session Monetary Policy Crisis Management and Price Stability at the Oesterreichische Nationalbank's 41th Economics Conference 2013. I would like to thank Romain Baeriswyl, Signe Krogstrup, Thomas Moser, Thomas Nitschka, Samuel Reynard, Jack Tatom and Mathias Zurlinden for comments. The views expressed in this paper are those of the author and do not necessarily represent those of the Schweizerische Nationalbank.*

2 Monetary Policy and the Real Economy

Monetary policy influences the economy through various channels. The most prominent one is the interest-rate channel. Changes in the policy rate have a widespread effect on market rates of various maturities. Market rates in turn determine consumption and investment decisions of agents and thus affect spending.[2] Typically, the central bank can steer the various interest rates in the economy through changes in its policy rate. In many countries, however, this channel cannot be used to achieve a further loosening of the monetary stance as policy rates have reached zero and thus cannot be lowered further. Of course, central banks can and do try to influence market rates in other ways with so-called unconventional measures, like forward guidance or quantitative easing.

In addition to the interest-rate channel monetary policy affects the real economy through exchange rates. When monetary policy becomes more expansive, the exchange rate of the respective country typically depreciates, inducing higher export demand. In the current situation, however, the exchange-rate channel of monetary policy is not very helpful in reviving the economy as most major countries are in a similar situation. Therefore all of them would need to, but could not, depreciate against one another.

Nevertheless, other channels of monetary transmission still operate. This is particularly true for the asset-price channel. Though the link between monetary policy actions and the stock market is generally weak, lower interest rates tend to boost the value of assets because the discount factor decreases. Higher asset prices increase consumption through a wealth effect and investment through *Tobin's q* Tobin (1969). Higher asset prices also facilitate borrowing and spending because the value of collateral increases.

In addition, a risk-taking channel of monetary policy has been identified (Borio and Zhu, 2012). Greater risk taking leads to higher loan demand and to higher leverage in the banking sector. This behaviour assures that the central bank is able to influence all rates of return in the economy, not only those that are close to short-term money market rates. By lowering the yield of safe assets, investors are driven towards riskier investments, which is known as "search for yield".

Monetary transmission thus also works when interest rates are at the lower bound. But even though being expansive, monetary policy has not been able to generate satisfactory real growth. One reason is that in many countries agents found themselves overleveraged. Despite low interest rates, private agents are unwilling to borrow. Instead, they reduce their debt. This

[2] *Low interest rates increase consumption and investment spending because banks use newly created central bank money to grant credit to private agents. The interest-rate channel thus relies on a well-functioning banking sector.*

behaviour is caused by a reassessment of assets and liabilities on part of the private sector, triggered in many countries by a collapse in house prices. Housing constitutes a major asset for many households. When property prices drop and households' liabilities do not decrease accordingly, low interest rates will not be sufficient to change the desire to deleverage. Moreover, reducing debt out of the current income may take a considerable time because low interest rates also reduce the incentive to save.

Next, I will review the evidence for unintended side effects of monetary policy and then turn to the question of financial stability.

3 What Unintended Consequences Have Materialised so Far?

Critics of low interest rates argue that the expansive monetary policy has not helped to revive the economy whereas it has serious adverse side effects. The main objections are that the expansive monetary policy leads to risks for long-term price stability. In addition, a prolonged phase of low interest rates may induce resource misallocation and encourage moral hazard on the part of indebted governments and banks. Nevertheless, despite interest rates at practically zero for several years now, I will argue that at the moment there is little evidence that such unintended consequences necessitate a quick shift in the monetary policy stance.[3]

Risks to long-term price stability do not seem imminent. During the acute phase of the financial crisis, inflation dropped in many countries, often becoming negative. Though inflation rates recovered somewhat, they have remained low and have recently begun to slow again, corroborating that the sizable increase in the monetary base has little direct effect on inflation. Moreover, the inflation outlook is subdued. Most countries still operate well below their production potential. Unemployment is high and exerts downward pressure on wages. Small open economies like Switzerland have been facing significant appreciation, which also contributed to low inflation. From a price-stability perspective, thus, there is little justification for an increase in interest rates.

The evolution of government debt does also not call for a quick increase in interest rates. Driven by the recession and the cost of bailing out struggling banks, government deficits have increased considerably in many countries. Especially in the euro area, some governments have experienced funding problems. Low interest rates help to service the debt. But it is feared that the longer central banks keep interest rates low, the longer governments will wait to correct their fiscal positions. The data, as shown in chart 1 in the Annex, do not confirm this view. Except for Japan, government deficits were reduced after their large increase during the crisis and are projected to improve further. Low interest rates thus do not seem to have systematically distorted fiscal policy decisions.

The argument that a prolonged phase of low interest rates may lead to a misallocation of resources rests on the idea that the long-term interest rate influences the cost of capital and determines which projects are profitable and which are not. If interest rates remain too low for too long, projects will be undertaken that would not be profit-

[3] *There is considerable heterogeneity among countries. In discussing the evidence for unintended side effect, I will base my observations on data for the USA, the euro area, Japan, the UK and Switzerland.*

able under normal interest rate conditions. Once the interest rate rises, these projects will fail, implying that resources have been wasted. If resource misallocation was taking place, however, we should observe a credit-fuelled boom, not sluggish growth. Such a boom is currently not going on. One piece of evidence, for example, is gross fixed capital formation as share of GDP, shown in chart 2. In most economies this ratio is lower than before the crisis and even below its lowest level during the 10 years before the crisis. The worry that agents are engaging in an investment boom and that many of these investments will turn out to be unprofitable does not seem to be confirmed by the data.[4]

Many worries about the long phase of low interest rates thus seem to be overdone. Nevertheless, the most important concern is the question of financial stability and the role of monetary policy in ensuring financial stability.

4 Financial Instability

Does the expansive monetary policy entail risks for financial stability? The current low interest rates may indeed lead to higher asset price volatility. Asset prices generally are seen to reflect the discounted stream of expected future revenues. If lower discount rates persist, revenues further out in the future will become more important because they are discounted less strongly. Since these future revenues are subject to uncertainty, an adjustment of expectations may impact more on asset prices and make them more volatile than in the past (Kocherlakota, 2013).

Equity prices, however, have always shown high volatility. Despite frequent strong declines in the stock market, these generally have not triggered a recession like the current one. One reason is that investments in the equity market are usually not financed by credit. Thus, large declines in equity markets, which potentially could affect loan quality and collateral, do not have a large effect on commercial banks (see also Mishkin, 2013). By contrast, price volatility of credit-financed assets has a strong impact on the balance sheets of the financial sector and thus has the potential to set off a financial crisis.

In that respect, property prices are highly important. Real estate is typically financed with bank credit. This may give rise to feedback loops that induce persistent deviations from equilibrium. Rising property prices will increase the collateral value of the house and at the same time lead to higher credit demand. Thus, a surge in property prices can increase both the demand for and the supply of credit, which can make it difficult to dampen such a credit-financed property boom.

What is the evidence for asset-price bubbles that might be developing because of expansive monetary policy? Equity prices have risen strongly since their downturn in the financial crisis and were near or above their pre-crisis peak levels for the USA, the UK and Switzerland in May 2013. As the outlook for the real economy has not improved very much, this increase is possibly related to the expansive monetary policy.

By contrast, since the financial crisis house prices have decreased in the UK and in the USA, while they have stagnated in the euro area (chart 3). But given their strong increase prior to the crisis, it is difficult to assess whether the house-price adjustment has been suffi-

[4] *Low interest rates help to keep past investments profitable. While this facilitates the adjustment, it may prevent capital to quickly move to the most profitable employment.*

cient. In Switzerland, house prices have risen steadily during the past ten years.

At this point, it might be useful to reflect on why households became overleveraged. A debt overhang normally results from expectations that turned out to be overoptimistic. Either agents have overestimated future asset-price increases, or they expected their future income to be higher, or they underestimated their future liquidity needs. When these expectations need to be adjusted, a debt overhang results. Though monetary policy can play a role in such adjustments to expectations, it may not be the only factor that leads to a reassessment.

Expansive monetary policy is currently alleviating through different channels the costly deleveraging of over-indebted households and the balance sheet adjustments in the financial sector. Low interest rates will bolster house prices, keeping balance sheets of households and banks sound, so that a self-enforcing spiral of over-indebtedness and house sales can be avoided. Low interest rates also lower the interest-rate burden of households, which has a positive effect on consumption. When growth and income finally will increase in response to this supportive policy, households will find it easier to pay off their debts.[5]

Looking forward, the question of an exit from the expansive policy stance will become important. A tightening of monetary policy could lead to an abrupt reassessment of asset values and induce a new crisis. The timing of the exit thus will be critical. On the one hand agents need time to deleverage, on the other hand a build-up of unsustainable developments needs to be avoided. It is difficult to assess whether equity and property prices are out of line with their fundamental equilibrium values. Though indicators like the price-earnings ratios for equities are above their historical averages in some countries, they do not seem exceptionally high.

In any case, it is important that private agents enhance their resilience to withstand adverse economic shocks. In this context, policy makers should focus on providing the right incentives. Besides enacting new regulations, existing incentive problems should also be reconsidered, such as, for example, the bias against equity induced by the tax code or moral hazard problems related to the deposit insurance. In addition, pro-cyclical effects of regulation should be addressed.

When setting monetary policy, central banks need to take financial stability into account. Since detrimental developments are closely related to excessive credit creation, central banks should focus more on the development of money

[5] *Azariades et al. (2013) argue that lowering interest rates to reduce a debt overhang might not raise welfare. The reason is that lower interest rates hurt savers and slow the elimination of the debt overhang. This result, however, is obtained in a model in which only real debt exists and there is no role of monetary policy for business cycle stabilisation.*

and credit aggregates. The current practice of using an interest rate to characterise monetary policy is only admissible as long as no persistent deviations from equilibrium develop. In times when financial sector instability is building up, money and credit developments give important additional information about the stance of monetary policy.

Central banks in several countries have recently adopted new macroprudential instruments. These instruments widen the range of opportunities for the central bank to influence unwelcome developments in credit and asset prices. But their effectiveness is largely untested. Unlike changes in the policy rate, which affect all rates of return in the economy, macroprudential instruments are generally more targeted, i.e. they are designed to change incentives mainly

for banks. Their success remains to be seen, as does their damage to resource allocation and market efficiency.

5 The Swiss Case

Let me now say a few words about the Swiss experience. Switzerland has performed relatively well through the global financial crisis. Though one of the major Swiss banks had to be supported, the economy did not experience a wide-spread banking crisis. Switzerland went through a recession in 2009 with real GDP growth of –1.9%. From the third quarter of 2009 onwards, real GDP growth generally has been positive at an average annual rate of 1.7%.

After the collapse of Lehman Brothers the Schweizerische Nationalbank (SNB) quickly lowered its policy rate to basically zero. At the same time, the Swiss franc appreciated strongly, leading to an unwanted tightening of monetary conditions that could not be addressed with further interest rate cuts. Since September 2011, the SNB has maintained a floor of 1.20 Swiss francs to the euro. Despite the exchange-rate floor, inflation slowed in the wake of the strong appreciation and has remained negative since October 2011.

While monetary conditions are tight for the export oriented sector, the non-traded goods sector benefits from favourable conditions. Credit creation by the domestically oriented banks remains strong. The unemployment rate stands at 3.2% and immigration of foreign workers has been increasing since 2009. These factors contribute to rapid house-price growth. In February 2013 the SNB thus decided to employ a newly obtained macroprudential instrument, namely the sectoral Countercyclical Capital Buffer (CCB). This buffer requires banks to hold more capital against their risk-weighted residential mortgages in Switzerland. The CCB has been set to a level of 1% of associated risk-weighted positions but it can be increased up to 2.5%. The deadline for compliance with the CCB is 30 September 2013.

It is still too early to assess the effects of the CCB. Given its limited size, it will possibly have only a negligible impact on real estate price developments. While the CCB makes mortgage loans less attractive for banks, its

quantitative impact on credit growth remains to be seen. In any event, it will make banks' balance sheets more resilient should a correction in real estate prices occur. From that perspective, the capital buffer is an element that will dampen the pro-cyclical effects of bank lending on the economy.

6 Conclusions

Monetary policy is providing an important contribution to overcoming the effects of the financial crisis and the subsequent recession. Nevertheless, interest rates that are kept too low for too long can have several undesirable consequences. At the moment, however, there is little evidence that these undesirable consequences have started to materialise. Monetary policy thus is still able to buy time for the necessary adjustments.

As long as this remains the case, there is no need to expect that the exit from the accommodative monetary policy will become more difficult over time. Even so an exit from the supportive monetary policy will be a major challenge. Uncertainties are enormous. Unsecured interbank lending remains tight. Bank regulation has changed significantly. These developments will affect monetary transmission and thus complicate the tasks of central banks when designing the exit.

In the wake of the financial crisis, central banks engaged in crisis management and took decisions with far-reaching implications. The flexibility shown by central banks in the crisis was necessary to prevent a downward spiral. When returning to normalcy, however, central banks should focus mainly on price stability. Giving too many tasks to the central bank may overburden it, threatens a clear and effective monetary policy and risks a loss of credibility. For monetary policy, it remains essential that price stability be ensured.

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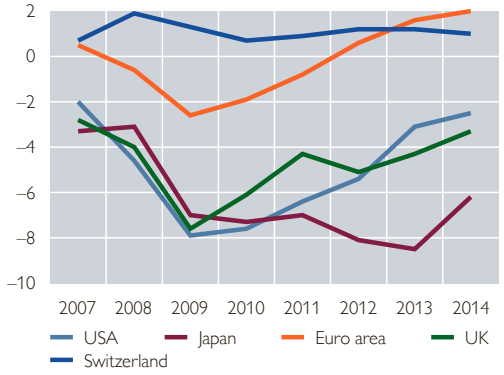
Annex

Chart 1

General Government Underlying Primary Balances

% of potential GDP

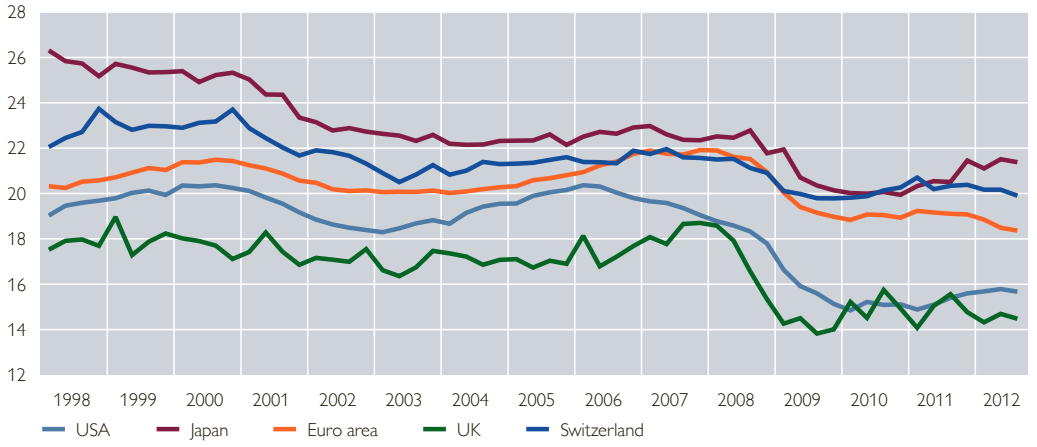


Source: OECD Economic Outlook 93 database.

Chart 2

Gross Fixed Capital Formation

% of GDP

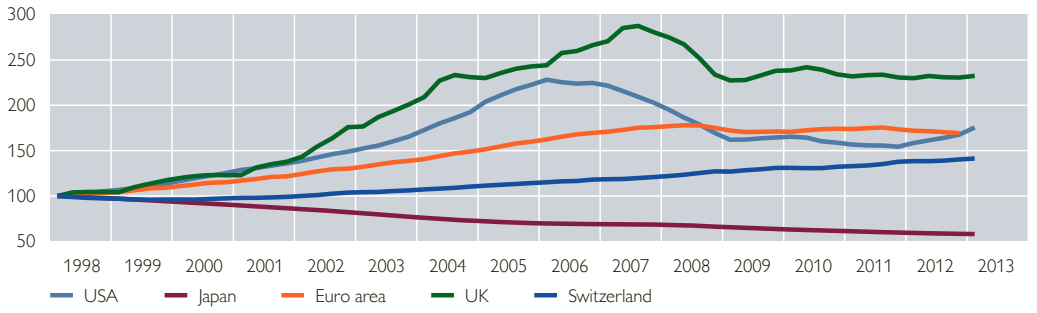


Source: International Financial Statistics.

Chart 3

Residential Property Prices

Index, 1998 = 100



Source: BIS.

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The Short and Long Term Effects of Ultra Easy Monetary Policy[2]

In this paper, an attempt is made to evaluate the desirability of "ultra easy" monetary policies; namely, keeping policy rates near zero and engaging in other non-traditional policies. Since the onset of the crisis in 2007, a number of major central banks from the advanced market economies have been experimenting in this regard. Such an evaluation requires weighing up the balance of the desirable short run effects and the undesirable longer run effects of these policies – the latter sometimes referred to as the unintended consequences. The conclusion of this evaluation is that there are serious limits to the effectiveness of such policies.

One reason is that monetary stimulus, operating through traditional ("flow") channels, might now be less effective in stimulating aggregate demand than previously. The evident weakness of financial systems, post crisis, has clearly contributed to this outcome. Further, cumulative ("stock") effects also provide negative feedback mechanisms that weaken both supply and demand. In effect, "ultra easy" monetary policies aggravate economic imbalances built up over previous decades by the "unnaturally easy" monetary policies followed at a global level; namely, policies which kept the financial rate of interest well below the natural rate of interest for many years. This analytical framework was first suggested by Wicksel and then later extended by others.

It is also the case that "ultra easy" monetary policies now threaten the health of financial institutions and the functioning of financial markets, threaten the "independence" of central banks, encourage imprudent behavior on the part of governments, and worsen income distribution as well. None of these longer term effects could be remotely described as desirable.

While monetary policy is not "a free lunch", it does buy time. Governments must use this time to set the policy levers they control to support strong, sustainable and balanced growth at the global level. We need more international cooperation to encourage creditor countries to expand demand, and more public and private investment. This would please Keynes. We also need more explicit debt forgiveness, the associated recapitalization of financial institutions, and more structural reforms to increase growth potential. This would please Hayek. We need not live in an "either-or" world.

JEL code: E52, E58

> *"This long run is a misleading guide to current affairs. In the long run we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the sea is flat again."*
>
> *(John Maynard Keynes)*

> *"No very deep knowledge of economics is usually needed for grasping the immediate effects of a measure; but the task of economics is to foretell the remoter effects, and so to allow us to avoid such acts as attempt to remedy a present ill by sowing the seeds of a much greater ill for the future."*
>
> *(Ludwig von Mises)*

[2] *An earlier version of this paper was first presented as Working Paper 126 of the Globalization and Monetary Policy Institute of the Federal Reserve Bank of Dallas. The views in this paper are those of the author and do not necessarily reflect the views of organizations with which the author has been or is still associated.*

1 Introduction

The central banks of the advanced market economies (AMEs)[3] have embarked upon one of the greatest economic experiments of all time – ultra easy monetary policy. In the aftermath of the economic and financial crisis which began in the summer of 2007, they lowered policy rates effectively to the zero lower bound (ZLB). In addition, they took various actions which not only

caused their balance sheets to swell enormously, but also increased the riskiness of the assets they chose to purchase. Their actions also had the effect of putting downward pressure on their exchange rates against the currencies of Emerging Market Economies (EMEs). Since virtually all EMEs tended to resist this pressure,[4] their foreign exchange reserves rose to record levels, helping to lower long term rates in AMEs as well. Moreover, domestic monetary conditions in the EMEs were eased as well. The size and global scope of these discretionary policies makes them historically unprecedented; thus "ultra easy". Even during the Great Depression of the 1930s, policy rates and longer term rates in the most affected countries (like the USA) were never reduced to such low levels.[5]

In the immediate aftermath of the bankruptcy of Lehman Brothers in September 2008, the exceptional measures introduced by the central banks of major AMEs were rightly and successfully directed to restoring financial stability. Interbank markets in particular had dried up, and there were serious concerns about a financial implosion that could have had important implications for the real economy. Subsequently, however, as the financial system seemed to stabilize, the justification for central bank easing became more firmly rooted in the belief that such policies were required to restore aggregate demand[6] after the sharp economic downturn of 2009. In part, this was a response to the prevailing orthodoxy that monetary policy in the 1930s had not been easy enough and that this error had contributed materially to the severity of the Great Depression in the United States.[7] However, it was also due to the growing reluctance to use more fiscal stimulus to support demand, given growing market concerns about the extent to which sovereign debt had built up during the economic downturn. The fact

[3] *It is important to note that, in spite of many similarities in the policies of various AMEs central banks, there have also been important differences (White, 2011).*

[4] *This phenomenon was not in fact confined to EMEs. A number of smaller AMEs, like Switzerland, have also resisted upward pressure on their exchange rates.*

[5] *See Bank for International Settlements (2012) Graph 1V.8.*

[6] *See in particular Bernanke (2010). The reasons for conducting QE2 seem to differ substantially from the reasons for conducting QE1.*

[7] *Bernanke (2002).*

that monetary policy was increasingly seen as the "only game in town" implied that central banks in some AMEs intensified their easing even as the economic recovery seemed to strengthen through 2010 and early 2011. Subsequent fears about a further economic downturn, reopening the issue of potential financial instability,[8] gave further impetus to ultra easy monetary policy.

From a Keynesian perspective, based essentially on a one period model of the determinants of aggregate demand, it seemed clearly appropriate to try to support the level of spending. After the recession of 2009, the economies of the AMEs seemed to be operating well below potential, and inflationary pressures remained subdued. Indeed, various authors used plausible versions of the Taylor rule to assert that the real policy rate required to reestablish a full employment equilibrium (and prevent deflation) was significantly negative. Such findings were used to justify the use of non standard monetary measures when nominal policy rates hit the ZLB.

There is, however, an alternative perspective that focuses on how such policies can, over longer time periods, also have less desirable effects. This strand of thought also goes back to the pre-war period, when many business cycle theorists[9] focused on the cumulative effects of bank-created-credit on the supply side of the economy. In particular, the Austrian school of thought, spearheaded by von Mises and Hayek, warned that credit driven expansions would eventually lead to a costly misallocation of real resources ("malinvestments") that would end in crisis. Based on his experience during the Japanese crisis of the 1990s, Koo (2003) pointed out that an overhang of corporate investment and corporate debt could also lead to the same result (a "balance sheet recession").

Researchers at the Bank for International Settlements (BIS) have suggested that a much broader spectrum of credit driven "imbalances"[10], financial as well as real, could potentially lead to boom-bust processes that might threaten both price stability and financial stability.[11] This BIS way of thinking about economic and financial crises, treating them as systemic breakdowns that could be triggered anywhere in a system overstretched by credit, also has much in common with insights provided by interdisciplinary work on complex adaptive systems. This work indicates that such systems, built up as a result of cumulative processes, can have highly unpredictable dynamics and can demonstrate signifi-

[8] *The catalyst for these fears was a sharp slowdown in Europe. This was driven by concerns about sovereign debt in a number of countries in the euro area, and associated concerns about the solvency of banks that had become over exposed to both private and sovereign borrowers. Also of importance were fears of the "fiscal cliff" in the USA. This involved existing legislation which, unless revised, would cut the US deficit by about 4% of GDP beginning in January 2013. As discussed below, this prospect had a chilling effect on corporate investment and hiring well before that date.*

[9] *For an overview, see Haberler (1939). Laidler (1999) has a particularly enlightening chapter on Austrian theory, and the main differences between the Austrians and Keynesians. He notes in concluding (p. 49): "It would be difficult, in the whole history of economic thought, to find coexisting two bodies of doctrine which so grossly contradict one another."*

[10] *An "imbalance" is defined roughly as a "sustained and substantial deviation from historical norms", for which there is no compelling analytical explanation.*

[11] *See in particular the many works authored or co-authored by Claudio Borio, including Borio and White (2003). See also White (2006a). The origins of this way of thinking go back to the work of Alexander Lamfalussy and possibly even before. See Clement (2010) on the origins of the word "macroprudential", whose first recorded use at the BIS was in 1979.*

cant non linearities.[12] The insights of George Soros, reflecting decades of active market participation, are of a similar nature.[13]

As a testimony to this complexity, it has been suggested that the threat to price stability could also manifest itself in various ways. Leijonhufvud (2012) contends that the end results of such credit driven processes could be either hyperinflation or deflation,[14] with the outcome being essentially indeterminate prior to its realization. Indeed, Reinhart and Rogoff (2009) and Bernholz (2006) indicate that there are ample historical precedents for both possible outcomes.[15] As to the likelihood that credit driven processes will eventually lead to financial instability, Reinhart and Rogoff (2009) note that this is a common outcome, though they also note that the process more commonly begins with a recession feeding back on the financial system than the other way around.[16] Reinhart and Reinhart (2010) document the severity and durability of downturns characterized by financial crisis, implying that this complication would seem more likely to shift the balance of macroeconomic outcomes towards deflation rather than inflation.

In this paper, an attempt is made to evaluate the desirability of ultra easy monetary policy by weighing up the balance of the desirable short run effects and the undesirable longer run effects. In chapter 2, it is suggested that there are grounds to believe that ultra easy monetary policy operating through traditional (flow) channels might now be less effective in stimulating aggregate demand than is commonly asserted. In chapter 3, it is further contended that cumulative (stock) effects provide negative feedback mechanisms that also weaken growth over time. In effect, ultra easy monetary policy aggravates the "imbalances" built up over previous decades by "unnaturally easy" monetary policies. By "unnatural" is meant global policies which kept the financial rate of interest well below the natural rate of interest. This analytical framework was first suggested by Wicksel, and then extended in different ways by a variety of economic theorists. In the face of accumulating stock effects, not least the build-up of household debt, stimulative policies that have worked in the past eventually lose their effectiveness.

It is argued in chapter 3 that ultra easy monetary policies also threaten

[12] *There is a long history (although never mainstream) of treating the economy as a complex, adaptive system. It goes back to Veblen and even before. However, this approach received significant impetus with the founding of the Santa Fe Institute in the early 1990s. See Waldrop (1992). For some recent applications of this type of thinking see Beinhocker (2006) and Haldane (2012). From this perspective, an economy shares certain dynamic characteristics with other complex systems. Buchanan (2002) suggests the following. First, crises occur on a regular basis in complex systems. They also conform to a Power Law linking the frequency of crises to the inverse of their magnitude. Second, predicting the timing of individual crises is impossible. Third, there is no relationship between the size of the triggering event and the magnitude of the subsequent crisis. This way of thinking helps explain why "the Great Moderation" could have been followed by such great turbulence, and why major economic crises have generally emerged suddenly and with no clear warning.*

[13] *Soros has written prolifically on these themes over many years. For a recent summary of his views, see Soros (2010).*

[14] *In earlier publications, Leijonhufvud referred to the "corridor of stability" in macroeconomies. Outside this corridor, he suggests that forces prevail which encourage an ever widening divergence from equilibrium. See also White (2008).*

[15] *This helps explain the coexistence today of two schools of thought among investors about future price developments.*

[16] *See Reinhart and Rogoff (2009 p. 145). "Severe financial crises rarely occur in isolation. Rather than being the trigger of recession, they are more often an amplification mechanism."*

the health of financial institutions and the functioning of financial markets, which are increasingly intertwined. This provides another negative feedback loop to threaten growth. Further, such policies threaten the "independence" of central banks, and can encourage imprudent behavior on the part of governments. In effect, ultra easy monetary policies (and indeed unnaturally easy policies) lead to moral hazard on a grand scale.[17] Further, "exit" from ultra easy policies will become extremely difficult. Finally, ultra easy monetary policy also has distributional effects, favoring debtors over creditors and the senior management of banks in particular. None of these longer term effects could be remotely described as desirable.

The force of these arguments might seem to lead to the conclusion that continuing with ultra easy monetary policy is a thoroughly bad idea. However, an effective counter argument is that such policies have averted near term economic disaster. They have "bought time" to pursue other policies that could have more desirable outcomes. Among these policies might be suggested[18] more international policy coordination and higher fixed investment (both public and private) in AMEs. These policies would contribute to stronger aggregate demand at the global level. This would please Keynes. As well, explicit debt reduction, accompanied by structural reforms to redress other "imbalances" and increase potential growth, would make remaining debts more easily serviceable. This would please Hayek. Indeed, it could be suggested that a combination of all these policies must be vigorously pursued if we are to have any hope of achieving the "strong, sustained and balanced growth" desired by the G-20. We do not live in an "either-or" world.

The danger remains, of course, that ultra easy monetary policy will be wrongly judged as being sufficient to achieve these ends. In that case, the "bought time" would in fact have been wasted.[19] In this case, the arguments presented in this paper imply that monetary policy must eventually be tightened, regardless of the current state of the economy. The logic is that the near term expected benefits of ultra easy monetary policies will eventually become outweighed by the longer term

expected costs. Undoubtedly tightening in such circumstances would be very painful. However, and axiomatically, the pain would be less than the alternative of not tightening. John Kenneth Galbraith touched upon a similar practical conundrum some years ago

[17] *This is discussed further in White (2004).*

[18] *White (2012b).*

[19] *Shirakawa, previously Governor of the Bank of Japan, has made this argument particularly forcefully. See Shirakawa (2012a and 2012b). It also resonates strongly in both Europe and the United States. Their respective central bank heads have repeatedly called on governments to take the necessary measures to deal with fiscal and other problems that are ultimately government responsibilities. See also Issing (2012, p. 3) and Fisher (2012). Both have stressed repeatedly that that there are clear limits to what central banks can do.*

when he said:[20] "Politics is not the art of the possible. It is choosing between the unpalatable and the disastrous". This might well be where the central banks of the AMEs are now headed, absent the vigorous pursuit by governments of the alternative policies suggested above.

2 The Shorter Run Effects of Ultra Easy Monetary Policy

Will ultra easy monetary policies stimulate aggregate demand? While stimulative monetary policies are commonly referred to as "Keynesian", it is important to note that Keynes himself was not convinced of the effectiveness of easy money in restoring real growth in the face of a Deep Slump. This is one of the principal insights of the General Theory and marks a significant change from the views Keynes expressed in the Treatise on Money.[21] In the Treatise, Keynes had called for monetary authorities to take "extraordinary" and "unorthodox" monetary policies to deal with the slump in the UK economy. In the General Theory, however, Keynes suggested relying much more on fiscal policy.

In current circumstances, two questions must be addressed. First, will ultra easy monetary conditions be effectively transmitted to the real economy? Second, assuming the answer to the first question is yes, will private sector spending respond in such a way as to stimulate the real economy and reduce unemployment? It is suggested in this paper that the answer to both questions is no.

2.1 Ultra Easy Monetary Policy and the Transmission Mechanism

When the crisis first started in the summer of 2007 the response of AMEs' central banks was quite diverse. Some, like the ECB, remained focused on resisting inflation which was rising under the influence of higher prices for food and energy. Others, like the Federal Reserve, lowered policy rates swiftly and by unprecedented amounts. However, by the end of 2008, against the backdrop of the failure of Lehman Brothers and declining inflation, virtually all AMEs' central banks were in easing mode and policy rates were reduced virtually to zero. This response showed clearly the capacity of central banks to act. At the same time, having lowered policy rates to or near the ZLB, these actions also implied a serious limitation on the further use of traditional monetary policy instruments. Further, as time wore on, doubts began to emerge about the effectiveness of some of the traditional channels of transmission of monetary policy.

An important source of concern was whether lower policy rates would be effectively transmitted along the yield curve to longer maturities. Due to the potentially interacting effects of

[20] *Galbraith (1993).*

[21] *Kregel (2011, p. 1), contends that "The unorthodox policies that Keynes recommended are a nearly perfect description" of the ultra easy monetary policies followed in Japan, and more recently in other countries.*

rising term and credit spreads, long rates might fall less than normally (or indeed might even rise) in response to lower policy rates. This phenomenon has already been witnessed in a number of peripheral countries in the euro area. After years of declining long rates driven by "convergence trades", prospects of continuing slow growth (or even recession) in these countries raised concerns about the continued capacity of their governments to service rising debt levels. The European Central Bank took various steps to support the prices of sovereign bonds in the various countries affected, but these measures have not thus far proved wholly successful.[22]

In contrast, for sovereigns deemed not to have counterparty risk, there has been no evidence of such problems. Indeed, long term sovereign rates in the USA, Germany, Japan and the UK followed policy rates down, and by mid-2013 were at unprecedented low levels. However, there can be no guarantee that this state of affairs will continue. One disquieting fact is that these sovereign long rates have been trending down, in both nominal and real terms, for almost a decade and there is no agreement as to why this has occurred.[23] Many commentators have thus raised the possibility of a bond market bubble that will inevitably burst.[24] Further, long term sovereign rates in favored countries could yet rise due to growing counterparty fears. In all the large countries noted above, the required swing in the primary balance needed just to stabilize debt to GNE ratios (at high levels), is very large.[25] Such massive reductions in government deficits could be hard to achieve in practice. In the USA and Japan, in particular, the absence of political will to confront evident problems has already led to downgrades by rating agencies.[26]

As for private sector counterparty spreads, mortgage rates in a number of countries have not followed policy rates down to the normal extent. In the United States in particular, as the Fed Funds rate fell sharply from 2008 onwards, the 30 year FNMA rate declined much less markedly.[27] In part, widening mortgage spreads reflect increased concentration in the mortgage granting business since the crisis began, and also increased costs due to regulation. However, it also reflects the global loss of trust in financial institutions, which has led to higher wholesale funding costs. In addition, costs of funds have risen in many countries due to the failure of deposit rates to fully reflect declines in

[22] *The ECB directly purchased such bonds in 2010 and 2011 under its SMP program. Subsequently, it extended LTRO facilities, with some of the funds provided being used by banks to purchase bonds issued by their national sovereigns. In mid 2012 President Draghi of the ECB promised to "do whatever it takes" to ensure peripheral sovereigns would be able to service their debts and to eliminate fears of a breakup of the euro area. This had a significant calming effect on markets although there are reasons to believe earlier concerns could still reemerge.*

[23] *For a fuller analysis of the potential contributing factors, see Turner (2011).*

[24] *Perhaps the best known market participant to express this view was Bill Gross of Pimco, though he has subsequently changed his mind.*

[25] *For calculations indicating how large the needed swing might be, see Cecchetti et al. (2010). Their calculations indicate the primary surplus must swing by more than 10 percentage points of GDP in the United Kingdom, Japan, and the United States. Generally speaking, the adjustments required in large continental European economies are smaller.*

[26] *The ratings downgrade of the USA was not due to any change in the objective economic circumstances. Rather, it reflected a political assessment that a dysfunctional Congress was increasingly unlikely to make the compromises necessary to achieve a meaningful reduction of the US deficit.*

[27] *Moreover, the average effective rate on outstanding US mortgages fell even less; homeowners with negative effective equity were unable to refinance their mortgages at lower rates, as in earlier cycles.*

policy rates.[28] A fuller discussion of the effects of low interest rates on the financial industry is reserved for later.

Spreads for corporate issues have also fallen less than might normally have been expected, even if the absolute decline has been very substantial. Nevertheless, these spreads could rise again if the economy were to weaken or even if economic uncertainties were to continue. Paradoxically, a rise in corporate spreads might even be more likely should governments pursue credible plans for fiscal tightening.[29] These plans might well involve tax increases and spending cuts that could have material implications for both forward earnings and companies net worth. This could conceivably increase risk premia on corporate bonds.

A further concern is that the reductions in real rates seen to date, associated with lower nominal borrowing rates and seemingly stable inflationary expectations, might at some point be offset by falling inflationary expectations. In the limit, expectations of deflation could not be ruled out. This in fact was an important part of the debt/deflation process first described by Irving Fisher in 1936. The conventional counterargument is that such tendencies can be offset by articulation of explicit inflation targets to stabilize inflationary expectations. Even more powerful, a central bank could commit to a price level target, implying that any price declines would have subsequently to be offset by price increases.[30]

However, there are at least two difficulties with such targeting proposals. The first has to do with making the target credible when the monetary authorities' room for maneuver has already been constrained[31] by the ZLB problem. The second objection is even more fundamental; namely, the possibility that inflationary expectations are not based primarily on central banker's statements of good intent. Historical performance concerning inflation, changing perceptions about the central banks capacity and willingness to act, and other considerations could all play a role. The empirical evidence on this issue is not compelling in either direction.[32]

Lower interest rates are not the only channel through which monetary conditions in AMEs might be eased further. Whether via lower interest rates or some other central bank actions, reflationary forces could be imparted to the real economy through nominal exchange rate depreciation[33] and the resulting increase in competitiveness.[34] However, an important problem with this proposed solution is

[28] *On this general question of the increased cost of financial intermediation, see Lowe (2012).*

[29] *See Dugger (2011). Dugger introduces the concept of Fiscal Adjustment Cost (FAC) discounting. He contends that companies are already assessing the effects of fiscal constraint on their own balance sheets and earnings. In effect "they begin to treat long term fiscal shortfalls as present value of off balance sheet (corporate) liabilities". This is a variant of the argument for Ricardian Equivalence.*

[30] *This is very similar to the process that worked under the gold standard. Falling prices were expected to reverse, thus lowering the ex ante real interest rate and encouraging prices to rise.*

[31] *For an elegant description of this problem see Yamaguchi (1999). Prior to the departure of Governor Shirakawa, the Bank of Japan refused to set a "target" for inflation, but rather espoused a less ambitious "goal"*

[32] *See Galati and Melick (2004). Also Galati, Heemeijer and Moessner (2011) which provides a survey of recent theory and the available empirical evidence.*

[33] *Svenson (2003).*

[34] *How long nominal depreciation results in a real depreciation is another highly debated issue. Inflation would presumably be less of a problem in countries with high levels of excess capacity. Experience of depreciation in Latin American countries over decades indicates this need not always be the case.*

that it works best for a single country. In contrast, virtually all the AMEs are near the ZLB and desirous of finding other channels to stimulate the real economy. Evidently, this still leaves the possibility of a broader nominal depreciation of the currencies of AMEs vis a vis the currencies of EMEs. Indeed, given the trade surpluses of many EMEs (not least oil producers), and also the influence of the Balassa-Samuelson effect, a real appreciation of their currencies might be thought inevitable.

The problem rests with the unwillingness of many EMEs to accept nominal exchange rate appreciation; the so called "fear of floating". To this end, they engaged over many years in large scale foreign exchange intervention and easier domestic monetary policies than would otherwise have been the case. In this sense, they contributed materially to the "unnaturally easy" monetary policies observed at the global level. After the crisis, and the adoption of ultra easy monetary policies in the AMEs, the rhetoric concerning "currency wars" sharpened considerably, and a number of countries turned for a time to capital controls.[35] The principal concern about these trends in EMEs is that they might lead to a more inflationary domestic outcome[36] and/or the same kinds of "imbalances" seen in the AMEs. There are already clear signs of such contagion,[37] with unwelcome developments in both the real and financial sectors. China is a focus of particular concern,[38] even though they have recently shown a greater willingness to allow the renmimbi to rise on an effective basis.

Another channel through which ultra easy monetary policy is said to work is through higher prices for assets, in particular houses and equities. In effect, higher prices are said to add to wealth and this in turn spurs consumption. Before turning (below) to the latter link in this chain of causation, consider the former one. In those countries in which the crisis raised concern about the health of the banking system (e.g. USA, UK, Ireland, Greece, Spain) house prices began to decline sharply early in the crisis. Lower policy rates were not sufficient to reverse this trend. As for equity prices, stock indices in the AMEs did recovery substantially after policy easing began. However, it is also notable that these increases began to moderate in the summer of 2010 and again in the middle

of 2011. In each case, the announcement of some "non standard" policy measure then caused stock prices to rise once again. More broadly, however, the very fact that a number of central banks felt the need to have recourse to such non standard measures indi-

[35] *Interestingly, the IMF now seems more willing than hitherto to accept both large scale intervention in foreign exchange markets and capital controls. See Ostry et al. (2010).*

[36] *Recent efforts in China to raise domestic wages in order to spur domestic consumption work in the same direction.*

[37] *See Hoffman (2012) and Brereton-Fukui (2012).*

[38] *Chancellor and Monnelly (2013).*

cates that standard measures had failed to produce the stimulative effect desired. The durability of "real" gains supported by the expansion of "nominal" instruments also seems highly questionable.

An evaluation is also needed of the effectiveness of the many "non standard" monetary policy measures that

have been taken by central banks in large AMEs, pursuant to reaching the ZLB.[39] The highly experimental nature of these measures is attested to by various differences observed in what different central banks have actually done. As described by Fahr et al. (2011) there are important differences between the practices of the Fed and the ECB.

Perhaps most important, the Fed seems to have treated its "non standard" measures as a substitute for standard monetary policy at the ZLB. In contrast, the ECB treats them as measures to restore market functioning so that the normal channels of the transmission mechanism policy can work properly. Second, while the Fed made increasingly firm pre commitments (though still conditional) to keep the policy rate low for an extended period, the ECB consciously made no such pre commitment, until abruptly (and experimentally) changing its policy in mid 2013. Third, whereas the Fed has purchased the liabilities of non financial corporations as well as those of Treasury and Federal agencies, the ECB has lent exclusively to banks and sovereigns. Fourth, while the ECB conducted only repos, in order to facilitate "exit" from non standard measures, the Fed made outright purchases.

Many of the non standard measures taken to date are broadly similar to those undertaken earlier by the Bank of Japan. It is instructive therefore that, prior to the introduction of "Abenomics" in late 2012, the Japanese authorities remained highly skeptical of their effectiveness[40] in stimulating demand. Perhaps the most important reason for this was that the demand for bank reserves tended to rise to match the increase in supply; in short, loan growth was not much affected. A similar phenomenon has been seen in many other countries, not least in Europe. A further source of concern would be the tendency of central banks to absorb collateral in implementing non traditional policies, which might lead to liquidity problems in private markets, Finally, more technical considerations could also impede the effectiveness of non standard monetary instruments.[41]

It is of course true that still more aggressive unconventional measures could be introduced that might have the ef-

[39] *For an early analysis see Borio and Disyatat (2009).*

[40] *Shirakawa (2012a, 2012b).*

[41] *For example, QE3 in the USA promised more Fed purchases of mortgage backed securities to bring down mortgage rates. However, mortgage originators had such a backlog of originations, and relatively few staff to process them, that they subsequently reduced mortgage rates only marginally and increased their profits accordingly.*

fect desired. Indeed, in chastising the Bank of Japan for its timidity, Bernanke (2000) and (2003) explicitly suggested targets for long term interest rates, depreciation of the currency, a higher inflation target (say 3% to 4%) and fiscal expansion entirely financed by the central bank.[42] Unfortunately, for each of these policy suggestions there is a convincing counterargument.

Explicit targets for long rates hardly seem required with long rates already at record lows. As for the difficulties of achieving a currency depreciation, these have been discussed above. Recent suggestions for a higher inflation target[43] have also generated wide spread criticism, particularly since inflation in AMEs has stayed stubbornly and unexpectedly high to date. Finally, fiscal expansion entirely funded by monetary creation could, given AME sovereign debt levels generally thought of as "unsustainable", easily raise fears of fiscal dominance and much higher inflation. Perhaps the clearest indication of the force of these counter arguments is that Chairman Bernanke, having proposed these policies almost a decade ago, has not found it appropriate to reassert them more recently, in spite of the ongoing and (again) unexpected weakness of the US recovery.[44]

2.2 Ultra Easy Monetary Policy and the Private Sector Response

Conventional thinking is that lower interest rates will encourage households to save less (and consume more) and will encourage companies to invest more. In both cases, spending is brought forward from the future, because the discount rate has been reduced. Even abstracting from the influence of cumulative stock considerations (both real and financial) on spending,[45] this conventional thinking can be challenged in a number of ways.

A consideration that applies to both household and company spending is the message given by ultra easy monetary policy. To the extent that such measures are unprecedented, indeed smacking of desperation, they could actually depress confidence and the will to spend. Keynes references to "animal spirits" in the General Theory would seem appropriate here. Indeed, the greater the respect held by the public for the central bank in question, the more likely this outcome might be. Higher respect would increase the likelihood that the public would believe that the central bank had identified problems that they themselves had not foreseen.

A number of other considerations might affect household spending in particular. Perhaps the most important has to do with the assumed positive relationship between the interest rate and the desired rate of saving. While it is conventional wisdom that lower interest rates will stimulate consumption, Bailey (1992) and others have long argued that even the sign of this relationship is ambiguous. Suppose that savers have a predetermined goal for the minimum amount of savings they wish to accumulate over time. This would cor-

[42] *Lord Turner (2013) has more recently made a similar suggestion. For counter arguments see White (2013).*

[43] *See Blanchard et al. (2010).*

[44] *Ball (2012) rather attributes to a different cause the unwillingness of Bernanke to pursue his earlier policy prescriptions. Ball suggests that "group think" and a "shy" personality prevented Bernanke from speaking out forcefully at an FOMC briefing in 2003. At this meeting, his earlier suggestions were essentially ruled out by the Fed staff. I think it highly implausible that these character traits would have seriously conditioned Bernanke's behavior over the next nine years, particularly after he became the Chairman of the FOMC.*

[45] *To be dealt with in the next section of the paper.*

respond to someone wishing to purchase an annuity of a certain size upon retirement, at a desired age. Evidently, a lower interest rate always implies a slower rate of accumulation. But, if in fact the accumulation rate becomes so low that it threatens the minimum accumulation goal, the only recourse (other than postponing retirement) will be to save more in the first place. As will be discussed below, a similar logic affects the behavior of those financial institutions (like insurance companies) who have committed to providing annuities or who offer defined benefit pensions.

The distributional (income) implications of interest rate changes for aggregate household spending also receive too little attention. Very low rates imply less household disposable income for creditors and more disposable income for debtors. Should the marginal propensity to consume of creditors (say older, credit constrained people living off accumulated assets) exceed that of debtors, the net effect of redistribution could be to lower household spending rather than raise it.[46] This argument has in the past been invoked occasionally by central bankers in EMEs. More recently, Lardy (2012) and Rogoff (2011) have both recommended ending financial repression in China as a way to raise household consumption. The core of their argument is that higher interest rates would raise disposable income and consumption in turn.

There is a further reason to suggest that lower policy rates might actually reduce consumption rather than raise it. In recent years, commodities have taken on some of the characteristics of a financial asset class, moreover one that seemed to have relatively low correlation with other asset classes. If lower policy rates were responsible to some degree for increases in food and energy prices, this would reduce real incomes and consumption in turn. This effect would also be most marked for poor people who generally have little room for consumption smoothing.

Finally, the argument that higher "wealth" (generated by lower rates causing rising asset prices) will lead to more consumer spending also needs serious reevaluation. While not denying the empirical robustness of this relationship in the past, the argument suffers from a serious analytical flaw. Lower interest rates cannot generate "wealth", if an increase in wealth is appropriately defined as the capacity to have a higher future standard of living.[47] From this perspective, higher equity prices constitute wealth only if based on higher expected productivity and higher future earnings. This could be a byproduct of lower interest rates stimulating spending, but this is simply to assume the hypothesis meant to be under test.

As for higher house prices raising future living standards, the argument ignores the higher future cost of living in a house. Rather, what higher house prices do produce is more collateral against which loans can be taken out to sustain spending. In this case, however, the loan must be repaid at the cost of future consumption.[48] No "wealth" has in fact been created. In any event, as noted above, house prices in many countries have continued to fall despite lower policy rates.[49] This implies that

[46] *As Walter Bagehot put it over a century ago "John Bull can stand many things, but he cannot stand two per cent".*

[47] *See Bailey (1992) and Merton (2006).*

[48] *See Muellbauer (2007) and White (2006b).*

[49] *Some estimates indicate that US householders' equity in their houses fell from a peak of about USD 10 trillion to USD 6 trillion at the end of 2011.*

the need for "payback" can no longer be avoided by still further borrowing.

A number of counter arguments can also be made to the hypothesis that ultra easy monetary policy will raise corporate investment. First, note the fact that investment, as a proportion of GDP, has been trending down in most AMEs in recent years. This has occurred in spite of generally solid corporate profits, healthy balance sheets, large cash reserves and relatively low interest rates over a number of years. A number of plausible reasons have been suggested to explain the lack of investment response to these propitious financial conditions. If anything, the onset of the crisis has reinforced these arguments.

The first factor restraining investment has been an environment of ever growing uncertainty about a number of important issues; future domestic demand in light of uncertainty about job prospects, future foreign demand given uncertainty about exchange rates and protectionism, and uncertainty as to how the burden of fiscal restraint and possible sovereign debt reduction might affect the corporate sector. A second set of concerns is closely related. In many AMEs anti business rhetoric is becoming more common and the political momentum seems to be shifting towards extremism. Moreover, growing concerns about rising income inequality (returned to below) and concerns about the ethical standards of the banking community could all too easily be converted into a broader anti business agenda.[50]

A third reason for continuing low investment seems to have been a secular trend on the part of corporate managements in AMEs to maximize cash flow. The incentive for this "short-termism" could be that it allows for larger payouts for both salaries and dividends, also raising equity prices and the value of management options in the bargain. Evidently, however, such behavior comes at the expense of both fixed capital investment and the future health of the firm itself. If low interest rates encourage firms to borrow more money, which they can use for the same short term purposes, then presumably the longer term damage will be even worse. There has been clear evidence of this in the last few years.[51]

It has even been suggested that low interest rates have themselves contributed to lower fixed investment in AMEs. One channel would be via higher commodity prices (as a result of the public sector investment boom in China), which raises costs in AMEs and reduces profits. Perhaps more importantly, many corporations still have significant obligations in the form of defined benefit pension plans. Ramaswamy (2012) presents a chilling quantitative

[50] *For an analysis of anti business attitudes in the 1930s, under the Roosevelt administration, see Powell (2003) and Smiley (2000).*

[51] *Macintosh (2012) reports that "the proportion of cash flow returned as dividends and buybacks to shareholders in US non financial companies is close to record highs, while the proportion spent on equipment is at 55 year lows. This is not what central banks set out to achieve."*

analysis of the effects of interest rate changes on public pension funds and defined benefit funds. The essence of the argument is that lower interest rates reduce the asset revenues of pension funds and raise the present value of future liabilities. Funding shortfalls eventually have to be made up by the sponsoring company, reducing profits and funds available for investment.

A recent report by the consulting firm Mercer indicates that the 1,500 leading companies in the USA had a pension deficit of USD 689 billion as of July 2012; i.e., they are only 70% funded. In the UK, the Pension Protection Fund recently estimated that almost 85% of defined benefit plans were underfunded, with a cumulative shortfall of over USD 400 billion.[52] Moreover, proposed changes to pension rules, in countries using IFRS accounting standards, seem likely to make the impact of low rates on companies with such pension funds significantly worse.[53]

To summarize, there are significant grounds for believing that the various channels through which ultra easy monetary policy might operate are at least partially blocked. Moreover, there are also grounds for belief that neither household nor corporate spending would react as vigorously as in the past, even if the traditional transmission channels were functioning properly. Note too that the issue of "debt stocks", other "imbalances", and the possibility of a "credit crunch" affecting the real economy, have not yet even been mentioned. These influences will also weigh on both the capacity to spend and the will to spend, further offsetting the influence of ultra easy monetary policies.[54] As well, such polices can have other unintended consequences which might also tend to grow over time.

3 The Longer Run Effects of Ultra Easy Monetary Policy

The unexpected beginning of the financial and economic crisis,[55] and its unexpected resistance to policy measures taken to date, leads to a simple conclusion. The variety of economic models used by modern academics and by policymakers give few insights as to how the economy really works.[56] If we

[52] *Even as of mid 2010, when bond yields were significantly higher than in early 2012, there were estimates that sustained low rates implied that "half of UK companies are bust". See Johnson (2010).*

[53] *Under proposals outstanding as of June 2012, companies will no longer be able to defer recognition of actuarial gains and losses. Currently, they can do so using the so called "corridor method". In addition, companies will no longer be able to assume a lower rate for discounting liabilities than the assumed rate (often unreasonably high) at which assets accumulate.*

[54] *For empirical work on the effects of monetary policy, in previous downturns that were accompanied by financial crisis, see Bech et al. (2012). They conclude that the benefits of easier money in such circumstances have been "more elusive".*

[55] *The WEO, published by the IMF in the spring of 2008, predicted real growth in the advanced economies in 2009 of 3.8% of GDP. The actual outcome was –3.7%, a forecast error of 7.5 percentage points of GDP. The IMF was by no means alone in missing this dramatic turnaround.*

[56] *For more on this, see White (2010).*

accept this ignorance as an undesirable reality, then it would seem logically difficult to deny the possibility that the policy actions taken in recent years might also have longer run and unintended consequences. Indeed, it must be noted that many pre war business cycle theorists focused their attention on precisely this possibility.

Perhaps a good jumping off point for such analyses might be the work of Knut Wicksell. He made the distinction between the "natural" rate of interest, which equalized saving and investment plans, and the "financial" rate of interest, set by the banking sector. Were the natural rate to diverge from the financial (or market) rate set by the banking sector, prices would respond and a new equilibrium would eventually be reestablished at a different price level. Later thinkers in the Wicksellian tradition (the Austrians in particular) rather laid emphasis on the "possibility that a divergence of the market rate from the natural rate might have consequences beyond changing the price level".[57] Referred to as "imbalances" in this paper, these consequences would over the longer run inevitably lead to a crisis of some sort if inflationary forces did not emerge first. Moreover, it has also been suggested the magnitude of any crisis would depend on the size of the accumulated imbalances, which would themselves depend on the size and duration of the differences between the two rates.

Were we to adopt this analytical framework, policymakers today would seem to have serious cause for concern. In effect, global monetary policies had been "unnaturally easy" for a very long time before the crisis began. For simplicity, suppose that the natural rate of interest (real) for the global economy as a whole can be proxied by an ex post measure; the potential rate of growth of the global economy, as estimated by the IMF. Reflecting globalization and technology transfer, this measure has been *rising* steadily for the last twenty years. In contrast, if one proxies the financial rate of interest (real) by an average of available breakeven rates (say for ten year TIPS), this measure has been *falling* for the last twenty years. Moreover, at the global level, the natural rate of interest rose above the financial rate in 1997, and the gap kept widening until the onset of the crisis in 2007.[58] From this perspective, underlying inflationary pressures and/or imbalances had been cumulating for many years before the crisis began.

Indeed, the magnitude of the crisis which began in 2007, and the lack of response in many AMEs to macroeconomic measures to date, can actually be viewed as evidence in support of using this kind of framework. In contrast to the *ex post* measure of the natural rate, assumed for simplicity above, most of those in the Wicksellian tradition assumed the natural rate was an *ex ante* concept, related to expectations about the future rate of return on capital. Evidently, as noted also by Keynes and his discussion of "animal spirits", these expectations could change quite dramatically over time. It could then be suggested that the (ex ante) natural rate collapsed in 2007, to a level well below the financial rate, as a direct result of the imbalances that had built up earlier.

[57] *See Laidler (1999), p. 35.*

[58] *See BIS (2007) and Hanoun (2012) Graph 4. Hanoun also provides evidence (Graph 5) that, for the last decade at least, the global policy rate has generally been well below the rate suggested by a global Taylor rule. For a description of the changes in central bank balance sheets, see Bank for International Settlements (2012), p. 40.*

Moreover, given this particular way of thinking, and noting that the financial rate is now constrained by the ZLB, a further policy conclusion is that this gap can only be redressed by raising the natural rate to encourage investment. As discussed in section 2.2 above, this has thus far proved to be a difficult task. An important corollary of this would be that invested capital which was no longer profitable should be removed from production and the losses written off by borrowers and lenders respectively. Evidently, this would have effects on bank capital in particular, perhaps demanding closures in some cases and recapitalization in others. The failure to confront such issues directly has, in a number of countries, been a notable feature of the post crisis years and helps explain its durability.

The approach taken below is to review the undesirable longer run effects of easy monetary and credit conditions, suggested by theory, and then to assess whether these concerns would seem of practical importance today. Consistent with the discussion above, the concerns raised about ultra easy monetary policies would include rising inflation and imbalances of various sorts. To be more specific, the latter would include further misallocations of real resources, undesired effects on the financial sector and still greater income inequality. Note that such concerns about post crisis policy responses (ultra easy monetary policies) must be amplified by the recognition that they were preceded by decades of unnaturally easy monetary policies at the global level. In effect, post crisis polices have been "more of the same" policies that contributed to the crisis in the first place.

3.1 The Likelihood of Rising Inflation?

Perhaps the first question to be addressed is how inflation was avoided in the AMEs during the many years of unnaturally easy monetary policies at the global level?[59] One possible answer is that a growing commitment by central banks to the maintenance of low inflation succeeded in anchoring inflationary expectations. This explanation, however, is hard to reconcile with the objective fact of rapid monetary and credit expansion engineered by central banks of the AMEs over that period.

A more plausible (or at least complementary) explanation would be the major increase in the rate of growth of potential in the EMEs, accompanied by a series of investment "busts" in a number of countries; Germany after reunification, Japan after the "bubble", South East Asia after the Asian crisis, and the USA after the TMT equity crash of the early 2000s. In effect, a secular increase in global supply was met by a decrease in global demand with the predictable result of reducing inflation.[60] This provided the context in which easy monetary policies could be more easily pursued.

Looking forward, the likelihood of rising inflation in the AMEs would seem to be limited, even given the added spur of ultra easy policies after the crisis. In most countries there appears to be a significant degree of excess capacity, and section 2 above implies that ultra easy monetary policy is unlikely to remedy this problem quickly. Nevertheless, some sources of concern remain. In some countries, like the UK, exchange rate depreciation could already be having an impact on inflation. Crisis related reductions in the level of potential could also prove

[59] *Alternative explanations for the "Great Moderation" are discussed at length in Borio and White (2003).*

[60] *A more detailed analysis is available in White (2008). See also Issing (2012) p. 10.*

greater than is currently expected,[61] leaving room for policy mistakes. Finally, a sudden shift in inflationary expectations, perhaps linked to still further measures to extend ultra easy monetary policies, cannot be completely ruled out. While inflation expectations show no trends (away from desired levels) in recent years, they do seem to have become more volatile.

A perhaps more pressing problem is the possibility of sharply higher inflation in EMEs. In part due to their "fear of floating", many EMEs seem to be operating near full capacity, and monetary conditions are generally very loose. As well, the rate of growth of potential now seems to be slowing after previous sharp increases.[62] This could in turn, via the higher price of imports, lead to inflation accelerating unexpectedly in the AMEs as well. In effect, this would be a reversal of the secular disinflationary impulses sent by EMEs to the AMEs in previous years.[63] A countervailing influence, however, might be a sharp slowdown in EMEs as well, due to the accumulation of various domestic imbalances. China seems particularly exposed in that regard.

3.2 Misallocations of Real Resources?

New books, articles in the popular press and even rap videos indicate that the Keynes-Hayek debate of the early 1930s is on again.[64] It remains highly relevant to evaluating the longer run effects of both unnaturally easy and ultra easy monetary policies. Keynes was fundamentally interested in demand side policies that would revive economies in a "Deep Slump". In contrast, Hayek and other members of the Austrian school were fundamentally interested in supply side issues. They rather focused on how the economy got into a "Deep Slump" in the first place, conscious of the possibility that remedies (more of the same) might actually make things worse over time.

The Austrian conclusion was that credit created by a fiat-based banking system, rather than the lending of genuine savings, would indeed spur spending but would also create misallocations of real resources ("malinvestments"). These supply side misallocations would eventually culminate in an economic crisis. Moreover, they concluded that the magnitude of the crisis would be closely related to the amount of excess credit created in the previous upswing. Jorda, Schularick and Taylor

[61] *The OECD estimates that the level of potential in the OECD countries fell after the onslaught of the crisis by about 3% on average. They stress, however, that these estimates are highly imprecise.*

[62] *As EMEs begin to industrialize, they initially have the benefit of rapid urbanization (as agricultural productivity rises) and the international transfer of technology. Over time both of these "catch up" factors supporting growth become less important.*

[63] *Since AMEs' central banks underestimated the importance of the positive supply shocks in earlier years, it is not unlikely that they would also fail to recognize the implications of its reversal.*

[64] *It is important to note that the debate was with the Keynes of the "Treatise" and not yet the Keynes of the "General Theory". Recall, as noted above, that Keynes' enthusiasm for "unorthodox" monetary measures had faded by the time of the General Theory.*

(2012), using data from 14 AMEs dating back to the 1870s, provide convincing empirical evidence that this intuition was essentially correct.[65] A similar conclusion arises from the historical data used by Reinhart and Reinhart (2010), and from recent US data based on differences in local market economic conditions.[66]

In practice, Keynesian thinking has almost completely dominated the policy agenda for most of the post War period. Thus, the predominant consideration for policymakers[67] has been the near term effects of monetary easing on aggregate demand, and the associated impact on inflation. Over the last two decades or so, with inflation near target levels or even threatening to fall below target, policymakers saw little need to raise interest rates in cyclical upturns. Similarly, there seemed no impediment to vigorous monetary easing in downturns.

Even within the Keynesian framework, however, these policies might now be thought questionable. As noted just above, the disinflationary trends observed in the global economy were in large part the result of positive supply shocks, rather than solely due to deficient demand. They should in principle have elicited a different and tighter response.[68] Viewed from an Austrian perspective, the policy error was even graver. Below the surface of the Great Moderation, such policies encouraged financial exuberance[69] which allowed significant "malinvestments" to build up in both phases of successive credit cycles[70] prior to the outbreak of the crisis. These developments are documented below.

[65] *See also Reinhart and Reinhart (2011).*

[66] *Mian and Sufi (2011) relate the magnitude of local downturns in the USA (primarily in the non traded sector) to the degree of household borrowing that built up in the same locality during the boom.*

[67] *Virtually all AMEs' central banks give pride of place to a "first pillar"; namely their estimate of the output gap and its effect on inflation via an augmented Phillips curve. The Bundesbank, but now also the ECB, have a "second monetary" pillar which relates low frequency movements in monetary aggregates to longer term inflationary trends. This is still very different from looking at credit developments for their possible "unintended consequences", particularly on the supply side of the economy.*

[68] *There is a curious asymmetry here. It has been well accepted for decades that negative supply shocks, for example increases in energy prices pushing up inflation, need not cause policy rates to rise. The logic was that first round shifts in the price " level" could be tolerated if they had no second round effects on wages and "inflation". In contrast, positive supply shocks did in practice seem to lead to lower rates than otherwise. On this issue, see Beckworth (2008). Perhaps the clue to the asymmetry is that, in both cases, policy rates wind up lower than otherwise which tends to be both easy and popular.*

[69] *Issing (2012, p. 3) notes that a combination of inflation targeting and supply side shocks can "turn policy into an independent source of instability. (It) fuels financial exuberance and financial exuberance in turn creates financial imbalances".*

[70] *On returning from a visit to the USA in the late 1920s, Hayek foretold a deep slump. On being told this was impossible, because US prices were essential stable, Hayek apparently responded that this was precisely the evidence of an underlying problem. Increases in productivity should have been pushing prices down, but credit expansion was holding them back up.*

3.2.1 Misallocations in the Credit Upswing

In a comprehensive review of pre war theories of business cycles, Haberler (1939) distinguished between two forms of "malinvestment" that arise in the upswing of the credit cycle: vertical and horizontal. Vertical malinvestments imply an intertemporal misallocation. It occurs when easy and cheap access to credit causes an inordinate shift towards capital investments, and particularly to longer lived capital investments. For the same reason, saving rates would be reduced and debts allowed to accumulate. These would eventually constrain future spending[71] just at the time the increased supply potential was coming on line. Horizontal malinvestments are investments in particular sectors that eventually lead to excess capacity.

In both kinds of malinvestment, the eventual outturn is a collapse in profits. This results in the forced termination of further investment in projects already well advanced, less new investment in general, and an investment collapse in those particular sectors that had expanded the most during the credit upswing. Looking at developments in the period leading up to the crisis, and subsequently, it is very easy to find evidence of such processes at work.

First, consider *vertical* malinvestments. In the years of easy credit conditions preceding the onset of the crisis, investment in the housing stock in virtually every AME rose sharply.[72] House prices rose markedly, as did housing starts in most cases. The fact that these developments were unsustainable is now all too evident. In countries like the USA, the UK, Spain and Ireland, the housing downturn is already well advanced, house prices continue to fall, and construction activity has slowed markedly.

In some other countries (Canada, Sweden, Denmark, Norway etc.) house prices have continued to rise since the crisis broke, encouraged by ultra easy monetary policies, and construction activity remains elevated. Nevertheless, concerns about overbuilding in these countries are being expressed ever more forcefully.[73] House prices have also been rising sharply in many parts of Germany and Switzerland, eliciting similar official statements of concern. Similarly, in many EMEs relatively easy credit conditions have also led to sharp increases in construction activity and in house prices. In many cases, not least China and Brazil, activity has focused on the production of "high end" properties which remain vacant after their purchase. Given this overhang of inventory, it is not hard to believe that a downturn will prove inevitable. Since housing is long lived, cannot be readily used for other purposes, and is generally not internationally tradable, the effects of this particular kind of malinvestment could be felt for a long time.

Another example of vertical malinvestments would be the massive increases in infrastructure investment, largely privately financed, which occurred globally prior to the onset of the crisis. Indeed, in mid 2008, the Econo-

[71] *In effect, savings would prove inadequate to purchase all of the goods and services provided by the increased investment generated artificially by credit received from the banking system.*

[72] *Among the AMEs, only Germany, Switzerland and Japan failed to reflect these developments. In part, this was because all three countries were still recovering from their own, earlier, house price bubbles.*

[73] *Such concerns have been expressed in the various country reviews organized by the Economic and Development Review Committee of the OECD. Australia, New Zealand, Canada, the Scandinavian countries and a number of others all seem to be exposed in this regard.*

mist magazine called this infrastructure investment "the biggest boom in history".[74] While this private sector boom came to a halt with the onset of the crisis, it was replaced in part by public sector spending on infrastructure. This has been most marked in China, where overall spending on investment since 2008 has hovered near 50% of GDP. Neither the private sector nor public sector phases of this investment boom would have been possible without ready access to relatively cheap credit. Indeed, in the Chinese case, the central authorities largely avoided fiscal expansion by explicitly ordering Chinese banks to provide the loans required by lower levels of government to meet their spending goals.

Large scale spending on infrastructure is not in itself a bad thing. In many circumstances, particularly in EMEs, the social rate of return might be expected to well exceed the cost of financing. However, there is accumulating empirical evidence that many large infrastructure projects cost far more to build than originally estimated and produce far fewer benefits. Flyvbjerg (2009) gives many examples of large projects in AMEs that would never have been built if ex post estimates of benefits and costs had been available. He cites the Channel Tunnel, the Danish Great Belt Tunnel, the "Big Dig" in Boston and the Millennium Dome among a host of others.

Flyvbjerg notes as well three global trends that increase the likelihood of infrastructure investments becoming "malinvestments". The first is the trend towards more rapid spending, driven by the exigencies of spending quickly during a downturn. This raises the risk of both waste and corruption. The second is the rising proportion of global infrastructure spending in EMEs, given the presumption that governance of such projects might be even worse than in AMEs.[75] In China, for example, the dominant influence of the Communist Party on both borrowers and lenders is hard to reconcile with objective assessment of the net benefits of suggested projects.[76] Third, infrastructure projects everywhere are increasingly dependent on IT and communications systems, where large projects have an even more dismal record of accomplishment than projects in other sectors.

A third example of vertical maladjustment, prompted by easy credit conditions, has been the massive build up of export capacity in many countries in South East Asia. Low interest rates in the importing AMEs ensured high levels of consumption and ready markets. Conversely, in the exporting countries, low interest rates encouraged investment to satisfy those demands. Government commitment to "export led growth" strategies also implied resisting upward exchange rate pressures, and encouraged easier monetary policy in turn. Today, many of these exporting countries remain heavily reliant on sales to AMEs[77] whose debts are such

[74] *The Economist (2008).*

[75] *Flyvbjerg ultimately blames "bad governance" for these bad outcomes. In effect, those putting together projects consciously underestimate costs and overestimate benefits. They do this to make their projects more "competitive" with others in the search for funding, especially from governments.*

[76] *See McGregor (2010) for a broader discussion. For a more specific example, China is intent on building over 20,000 kilometers of high speed rail tack to link up its major cities. At the same time, there is to be a massive expansion of airport service to the same destinations. Note as well, that many prestige projects favored by local governments are designed to "outdo" the projects of other local governments. This is a recipe for overcapacity.*

[77] *This is not to deny successful efforts by a number of countries, including China, to expand markets in other EMEs. Of course this still leaves the broader question of the robustness of the totality of those markets in the event of another serious downturn in the AMEs.*

that they can no longer afford to borrow to finance such purchases.

A fourth and final example of vertical maladjustment is provided by the sharp drop in household saving rates over many years in a number of AMEs, most notably in the English speaking countries. In many of these countries, house prices were rising rapidly during the period of rapidly expanding credit. Some households likely believed (wrongly) that they were in fact "wealthier" as a result, and spent more accordingly. In some countries, most notably the United States, higher house prices also provided more collateral to support further borrowing. Since in the early years of this century there were significant fears of inadequate demand and potentially even deflation, this borrowing was welcomed by policymakers as "intertemporal optimization". However, at the time, little or no attention was paid to the fact that such optimization would by definition require "payback" and could act as a serious constraint on growth in the future.[78]

The need for "payback" is most clearly evident in sharp increases in household debt ratios in many countries,[79] prior to the crisis, and a failure of these ratios to fall subsequently. These include the English speaking countries noted above, but also a number of "peripheral" countries in Europe as well. Further, perhaps linked to the "fear of floating" phenomena discussed above, many EMEs recorded growing levels of household debt both before and after the crisis. Such countries include some of the largest and fastest growing of the EMEs; China, India, Brazil and Turkey in particular. While it is true that these debt increases in EMEs have come off very low levels, the speed of the increase has been notable, and might well have outpaced the capacity of the local financial systems to accurately estimate the capacity of borrowers to repay. Indeed by mid 2012, the percentage of non performing car loans in Brazil had already jumped sharply. Whether in AMEs or EMEs, the need for deleveraging by

households adds a further reason to doubt that ultra easy monetary policy can sustainably stimulate the real economy.

Nor is it difficult to find evidence for the buildup of *horizontal* (sectorial malinvestments) in the years leading up to the crisis. The most obvious example is seen in the construction industry in

[78] *This problem is analogous to that faced by Japanese corporations in the 1990s, after many years of debt financed investment which proved unprofitable. Koo (2003) strongly contends that the weakness of investment spending in Japan in the 1990s was due to this "balance sheet effect", and was not due to a shortage of loans caused by a weakened banking system.*

[79] *See BIS (2012, p. 29) for a fuller documentation. Also see McKinsey (2010) who identify the household sector in five of the fourteen countries they consider as having a high probability of future deleveraging. They identify Spain, the USA, the UK, Canada and Korea. While the household sectors in Brazil, Russia, China and India were not judged to be overleveraged, note that the data considered extended only to 2009. Thus the report missed the recent sharp increases in household debt levels in those countries.*

many countries, mostly but not exclusively in the AMEs. Evidently, this was closely related to the increased spending on housing and infrastructure referred to above.[80] Closely related, the financial sector also expanded very rapidly prior to the start of the crisis in 2007, before imploding immediately afterwards. The global automotive industry witnessed a massive increase in production capacity, not only

prior to 2007, but also afterwards as automakers extrapolated past increases in sales in EMEs far into the future. China in particular was estimated to have six million units of unutilized capacity in 2011 (twice the size of the German car market),[81] with dealers also struggling with a huge increase in inventory. Finally, there was also a substantial increase in capacity in the renewable energy industry. As a result, the price of solar panels and wind powered turbines collapsed after the crisis began and many producers faced bankruptcy.

Beyond these increases in the global capacity to produce final goods and services, there were marked expansions in the capacity to produce intermediate and primary goods as well. Much of this was driven by developments in China where productive capacity was still expanding rapidly as of mid-2012. The steel and aluminium industries head a long list of sectors where overcapacity has been evident for a long time.[82] As for primary products, heavy investments have been made in Latin America, in Australia, and a number of other countries to produce and export basic commodities to support the development efforts in South East Asia. Should any link in this demand chain prove faulty, these investments in primary products could also prove much less profitable than had been previously anticipated.[83] Finally, there has been a commensurate increase in excess capacity in the global distribution industry, not least container ships and bulk shipping. With profits falling sharply, cutbacks are already underway.

3.2.2 Misallocations in the Credit Downswing

Economic downturns, whatever their cause, are always painful. Output that might have been produced is lost, and unemployment rises. Moreover, those less well off, often marginally attached

[80] *Increased spending generally results in more production, but not necessarily. Supply responsiveness in the construction industry in fact varies widely across countries. For example, the response in terms of new housing starts was much greater in the USA than the UK, due to the very strict planning and zoning restrictions in the latter.*

[81] *See KPMG Global (2012).*

[82] *See European Chamber of Commerce in China (2009). In presenting the report, the President of the Chamber said: "Our study shows the impact of overcapacity is subtle but far reaching, affecting dozens of industries and damaging economic growth, not only in China but worldwide." Note that this was written before the further spurt in investment spending in 2010.*

[83] *By mid 2013, many such investment projects (some well advanced) were being abandoned.*

to the work force, seem to suffer the most. This is the familiar Keynesian argument for using macroeconomic stimulus in such circumstances to raise aggregate demand.[84] However, as alluded to above, pre-war economic theorists thought downturns also had some positive qualities. For those concerned about rapid credit expansion and "malinvestments", the downturn simply reveals the unsustainability of the previous expansion and its inevitable end. The downturn was then a time of necessary rebalancing with resources shifting from less productive to more productive uses. Schumpeter in particular stressed the opportunities which excess resources provided to entrepreneurs having new ideas and new products – the concept of "creative destruction". From this perspective, monetary policy choices in a downturn should again balance off short term benefits against longer term costs.

Consistent with the dominance of the Keynesian paradigm, monetary policy had been used with increasing vigor in the pre crisis period to address prospective or actual downturns in the economy. For example, US monetary policy was eased significantly in 1987 after the stock market crash of October. It was further eased sharply in the early 1990s, after the property boom and the collapse of the Savings and Loan Associations. In spite of unemployment falling well below prevailing estimates of the US NAIRU, the USA failed to raise rates in 1997 reflecting concerns about the possible global effects of the crisis in South East Asia. In 1998, the failure of LTCM led to explicit easing. This was followed in 2001 by an unprecedentedly vigorous monetary policy response to an impending slowdown, aggravated by the stock market crash and the events of September 11. Finally, ultra easy monetary policy monetary policy was introduced in 2008, as described at the beginning of this paper.

The following paragraphs will focus on the longer term, cumulative, effects of such policies. First, there is evidence that allowing malinvestments to persist can reduce potential growth rates. Second, it can be contended that the aggressive easing of policy in successive cycles led to serial "bubbles" of various sorts. In effect, these serial bubbles constrained the normal process through which malinvestments would have been purged in the course of a typical cyclical downturn.

The contention that easy monetary conditions *lower the rate of growth of potential* is not without counterarguments. On the one hand, some would contend that easy monetary conditions in a downturn help the reallocation of real resources from less to more productive industries.[85] As well, if the economy recovers, then the accelerator mechanism can also lead to more capital investment.[86] These arguments, however, must also consider the various forces (considered above) that are currently acting to restrain investment. On the other hand, to the extent that low interest rates do discourage saving, capital accumulation will be discouraged over time. Very low "risk free" rates, dominated by the actions of central banks, can also mislead and contribute to costly misallocations. More-

[84] *Recall, however, that Keyne's General Theory (1936) was directed to the issue of "Deep Slumps". It is not then clear that Keynes would have recommended similar policies in the face of actual small downturns, much less preventive easing to preclude even prospective downturns.*

[85] *See for example, Posen (2011).*

[86] *Summers and Delong (2012).*

over, it is possible that easy monetary conditions actually impede, rather than encourage, the reallocation of capital from less to more productive uses.

This last argument rests on the contention that banks will offer advantageous borrowing conditions to traditional customers in a downturn, even when they suspect they are insolvent. Peek and Rosengreen (2003) have investigated this phenomenon in Japan, and evidence of similar behavior has emerged in both the UK and continental Europe in the post crisis period.[87] Such behavior on the part of banks is encouraged when they can borrow very cheaply, and also when they expect that easy money will lead to recovery and improved prospects for their clients. In effect, low interest rates encourage all the parties involved to "gamble for resurrection".

"Evergreening" of this sort helps maintain the weak, the so called "zombie companies", who then continue to compete and drag down the strong. The Peek and Rosengreen study also documented how productivity growth suffered particularly in those Japanese industrial sectors most characterized by this kind of bank behavior. Moreover, the perceived need to support the weak could also lead to higher interest charges for those strong enough to afford it. Finally, it likely also implies tighter credit conditions for potential clients with new ideas as to how to adapt domestic supply to changing patterns of demand and foreign competition.[88] Since innovation is now seen as a primary driver of productivity growth (and thus potential),[89] financial constraints of this sort would be particularly worrisome. And this would be even more the case in countries (as in Europe) where banks remain the dominant source of finance and where small and medium size enterprises remain the backbone of the economy.

The Governor of the Bank of Japan has repeatedly suggested that Japan's poor economic performance in recent decades has been largely due to a failure to adapt its production structure to the requirements of an aging population and the growing competitiveness of emerging Asian countries.[90] In contrast to his advice, and particularly since the onslaught of this current crisis, governments in many AMEs have actually taken explicit measure like "cars for clunkers" and "short time working" to support existing production structures. Since the countries that used these programs the most actively were also running large current account surpluses at the time (eg: Germany, Japan, the Netherlands and Korea) it might also be suggested that many of the jobs "saved" in the short run will eventually disappear as global trade imbalances decline.[91] These policies were not only mistaken, in that they impeded longer run adjustment, but they were also fiscally costly. This raises the question of whether they might not have been un-

[87] *See BIS (2012, p. 42 and p. 74), for a list of supporting references.*

[88] *With the rise of the EMEs and their dominance of traditional manufacturing, some commentators even contend that AMEs need to develop a whole new, post industrial information economy. Evidently, if true, this would require a lot of financing.*

[89] *Assuming a Cobb Douglas production framework, "unexplained" movements in total factor productivity have for decades been the biggest driver of growth in most AMEs. In recent years, the OECD has increasingly emphasized the importance of innovation in "explaining" movements in total factor productivity.*

[90] *Shirakawa (2012a, 2012b).*

[91] *In Europe the car industry was a particular beneficiary of such programs. It is already being recognized in France, Italy and Belgium that some auto plant closures are inevitable. The subsidiaries of foreign car firms operating in Germany might also be affected.*

dertaken had the government's financing costs been higher at the time.

Finally, there is the issue of *serial bubbles*. Mention was made above of the increasingly aggressive use of monetary easing by central banks, since the middle 1980s, either to preempt downturns (e.g. after the stock market crash of 1987) or to respond to downturns (e.g. 1991, 2001 and 2008). What cannot be ignored is the possibility that each of those actions simply set the stage for the next "boom and bust" cycle, fuelled by ever declining credit standards and ever expanding debt accumulation.[92]

From the perspective of this hypothesis, monetary easing after the 1987 stock market crash contributed to the world wide property boom of the late 1980s. After it crashed in turn, the subsequent easing of policy in the AMEs led to massive capital inflows into Southeast Asia contributing to the subsequent Asian crisis in 1997. This crisis was used as justification for not raising policy rates, in the United States at least, which set the scene for the excessive leverage employed by LTCM and its subsequent demise in 1998. The lowering of policy rates in response, even though the unemployment rate in the AMEs seemed unusually low, led to the stock market bubble that burst in 2000. Again, vigorous monetary easing resulted, as described above, which led to a worldwide housing boom. This boom peaked in 2007 in a number of AMEs, seriously damaging their banking systems as well. As noted above, the ultra easy monetary policies followed subsequently led to further house price increases in many AMEs and a variety of "bubble" like symptoms in many EMEs[93] as well.

By mitigating the purging of malinvestments in successive cycles, unnaturally easy monetary policy thus raised the likelihood of an eventual downturn that would be much more severe than a normal one – the current crisis. Similarly, it generated a state of affairs in which aggressive monetary easing would not only be more needed but also less effective. The response to the former has been ultra easy monetary policy which, as documented above, has not thus far produced the results intended.

3.3 Effects on the Financial Sector

Similar to the way that easy money in successive cycles encouraged imprudent borrowing, it also encouraged imprudent lending.[94] There are a number

of dangers associated with this. The first of these would be that lenders eventually suffer losses severe enough to cause a marked tightening of credit conditions. This could occur spontaneously, helping precipitate an economic slowdown. In fact, this did seem to be

[92] *Soros (2010) has referred to this serial process as the "debt super cycle".*

[93] *For some supporting observations on recent developments in EMEs, see Hoffman (2012).*

[94] *For a fuller analysis of how expanding "safety nets", not least monetary easing in downturns, have contributed to moral hazard on the part of both lenders and borrowers, see White (2004).*

the trigger for the current crisis. Alternatively, and more commonly the case historically,[95] the tightening could follow upon an economic slowdown (led from the demand side) that significantly raised loan losses. Whatever the cause, tighter credit conditions would feed back on the real economy, aggravating the downturn. There seems clear evidence of such phenomena in the current crisis, not least in Europe.

A second concern would be that unnaturally easy monetary conditions, in association with regulatory and technical developments, encouraged over time the development of the shadow banking sector. Shadow banking is based less on traditional banking rela-

tionships and more on collateralized lending. Again, there was clear evidence of such an expansion in the years prior to the crisis. Since this kind of lending seems to be even more procyclical than traditional bank lending, and subject to other risks as well,[96] this would have to be thought of as another still longer-term implication of easy monetary conditions.

A third concern, generated by ultra easy monetary policies more recently, is that insurance companies and other lenders might find it increasingly difficult to earn adequate returns on their assets. Looking forward, this could again imply longer term problems for an important part of the financial sector. Fourthly, ultra easy monetary policies have led to significant changes in market behavior (Risk-On-Risk-Off Investing) which raise a number of longer term concerns.

3.3.1 Banks and Shadow Banking in the Credit Upswing

The mainstay of traditional banking is to borrow short and lend long. With policy rates low relative to longer term rates, and relative to rates incorporating a counterparty risk premium, banks have an incentive to create credit as the demand for credit increases. The rate of growth of credit in the AMEs and the EMEs between 2003 and 2007 was well above the respective growth rates of nominal income.

Moreover, there is growing evidence that banks and financial markets more generally can become overly optimistic about the risks that they run in their lending practices. Recent BIS Working Papers by Borio and Zhu (2008), Gambacorta (2009), Disyatat (2010) and Altunbas et al. (2010) all provide evidence of the importance of what they call the "risk taking channel" of the transmission mechanism of monetary policy.[97] Adrian and Shin (2008a and 2008b) also provide compelling evidence that "Short term interest rates are determinants of the cost of leverage and are found to be important in influencing the size of financial intermediary balance sheets". In addition, Adrian and Shin establish an

[95] *Reinhart and Rogoff (2009, p. 145).*

[96] *For a fuller assessment, see Financial Stability Board (2012).*

[97] *Also see Maddaloni and Peydro (2010).*

empirical link between higher leverage, induced by lower interest rates, and subsequent growth rates of housing investment and durable goods consumption.

More anecdotal evidence also supports the hypothesis that low rates encourage more risk taking and softer lending standards. In the years leading up to the crisis which broke in 2007, lending standards dropped almost everywhere, with subprime mortgages to households and covenant light loans to corporations being the most egregious examples. Similarly, there were sharp declines in the sovereign spreads of EMEs and of lower rated corporate and financial paper. Beginning in the middle of 2003, when policy rates in the AMEs were at their lowest level, the prices of houses in many countries, as well as the prices of other illiquid assets (including commodities), began to rise sharply. Similarly, the cost of insurance against unexpected events (proxied by the Vix index) fell to record low levels. In sum, illiquidity was in high demand and liquidity was for sale cheaply. All of these trends were consistent with a credit driven expansion, fostered by low policy rates,[98] that was likely to end in crisis. While the beginning of the crisis led to a reversal of all the above trends, by the end of 2012 new records were again being set under the influence of successive rounds of ultra easy monetary policy in many countries.

Credit expansions, if not restrained by sufficiently high policy rates, will eventually run into two other constraints. The first of these is a shortage of capital, which results in leverage ratios rising to uncomfortable levels. The second is a shortage of longer term and reliable funding to support the credit expansion. Indeed, Kaminska (2012) contends that this latter problem is a "terminal disease" affecting banking, and was greatly aggravated by the secular fall in interest rates.[99] However, banks took aggressive steps to confront both problems, thus allowing them to continue to meet the demand for credit expansion promoted by low borrowing costs. As noted above, this implied a deeper eventual downturn than otherwise given both larger "malinvestments" and also a structurally weakened financial sector.

Banks first confronted the capital shortage problem by exploiting opportunities for regulatory arbitrage opened up by the introduction of "risk weighted assets" in the first Basel Accord of 1992. Slovik (2011) investigates the behavior of 15 of the largest systemically important banks in the AMEs. He documents how the ratio of risk weighted assets to total assets fell almost monotonically from 70% of GDP in 1992 to just 35% just prior to the onset of the crisis. The implication he draws is that large banks, stretching back over two decades, have been drawing back from their tradi-

[98] *A puzzle is why increases in policy rates, in the USA in particular between mid 2004 and 2007, failed to stop the excesses. Two reasons suggest themselves. First, the dynamic of the boom was so great that the "measured" increase in policy rates (essentially 25 basis points per meeting) was inadequate to offset the expected gains. Second, because the increases in policy rates were so well telegraphed, the risks involved in leveraged positions were declining even more than the spread was narrowing. With the Sharpe ratio rising, there was a positive invitation to take on even more leverage. Adrian and Shin (2008) seem to take this point seriously. They state (p. 28) "If central bank communication compresses the uncertainty around future short rates, the risk of taking on long-lived assets financed by short term debt is compressed. In this sense, there is the possibility that forward looking communication can be counterproductive." This point was also made repeatedly in BIS Annual Reports prior to the beginning of the crisis.*

[99] *Kaminska (2012, p. 3) "The consequences of falling yields were, after all, potentially deadly for banks if mismanaged. Not only did they threaten the margins banks collected via cheap liabilities, they increasingly compromised funding supply altogether."*

tional line of business; namely "to actively search for and evaluate lending opportunities and advance loans to credit worthy enterprises and households".[100] Instead, prior to the crisis, large banks increasingly pursued a different business model, based on "shadow banking", which promised to alleviate both the capital problem and the long term funding problem simultaneously.

The essence of shadow banking is to make loans, securitize them, sell the securities and insure them, and actively trade all the financial assets involved.[101] In effect, traditional relationship banking is replaced by a collateralized market system with the repo market at its heart. Banks thus get risky assets off the balance sheet, reducing the constraints just noted, while providing a rich source of fees and further profits from market making and proprietary trading. However, while seemingly convenient to the financial institutions involved, shadow banking activities have significant externalities (or systemic risks) for the financial system as a whole.

A report by the Financial Stability Board (2012) enumerated many of these risks. Not least is the complexity and inherent non transparency of "shadow banking" – thus its name. With long chains of interactions involving collateral, rehypothetication[102] and large offsetting positions in CDS and other derivatives, exposure to counterparty risk became almost impossible to estimate. In association with the belief (likely justified) that many of the firms at the heart of the system were "too big and/or complicated to fail", these attributes effectively precluded the exercise of market discipline to reign in excessive risk taking. As well, the opacity of the system proved a substantial impediment to supervisory oversight. Shortcomings in this regard, with macroeconomic implications, have been documented by Blustein (2012) as well as the Independent Evaluation Office of the IMF (2011). Shortcomings at the microeconomic level were attested to by a number of criminal investigations into unacceptable kinds of financial behavior in the run up to the crisis.[103]

Another danger is that is that a collateral based lending system tends to be highly procyclical in its operations. This point has been well made by the FSB as well as Adrian and Shin (2008a and 2008b) and Geanakoplos (2003 and 2010). Essentially, this danger arises because the value of available collateral reflects three components; the market value of the collateral, the haircut imposed on the borrower and the velocity of turnover (rehypothecation) of the available collateral. All three of these are likely to move highly procyclically, a tendency documented using recent data by Singh (2012). Further, later in the credit upswing, whole classes of collateral can be judged "acceptable" that would not previously have been so con-

[100] *Slovik (2011, p. 6) To put this otherwise, the ratio of total loans to total assets for Deutsche Bank fell from 85% in 1990 to 27% in 2010. For UBS the decline was from 78% to 22%, and for Bank of America from 58% to 42%. See Slovik table 1.*

[101] *The most comprehensive description can be found in Pozsar et al. (2010). Also Financial Stability Board (2012).*

[102] *This element of market practices in not well known. Assets received as collateral by a lender are frequently lent out or used as collateral by the lender to borrow more funds. Known as "rehypothecation", this practice makes the chain of related transactions still longer and more complicated. See Singh and Aitken (2009) for a seminal discussion.*

[103] *Consider recent cases of insider trading, money laundering and the setting of LIBOR. However, Kindelberger and Aliber (2005) remind us that fraud and criminality were late-credit-cycle phenomena long before the rise of shadow banking.*

sidered. Indeed, as Rajan (2005) has pointed out, substantial efforts were made to construct new instruments (like CDOs and their variants) that looked less risky in that the probability of default seemed to have fallen. The fact that the expected loss had not fallen commensurately, because the loss given default had risen, given the nature of the new instrument, was generally ignored.[104]

Finally, the way the shadow banking system evolved implied that the end of the "boom" phase might occur very precipitously. Longer term lending tended increasingly to depend on short term funding. Because such funds are not covered by deposit insurance schemes, "runs" can occur quickly when confidence erodes in the solvency of the counterparts. In effect, the famous "Minsky moment" is likely to be shorter, harder to predict, and even more self fulfilling than Minsky suggested. The failure of Bear Sterns and Lehman Brothers were the realization of these dangers. As well, the shadow banking system took on an increasingly international flavor. This not only reduced transparency and the quality of regulatory oversight, but also produced a degree of "balance sheet" exposure that threatened to precipitate or aggravate foreign exchange crises. Concerns of this nature were raised by Obstfeld (2010), Borio and Disyatat (2011) and Shin (2011).

To sum up, low policy rates encourage imprudent behaviour on the part of lenders during upswings in the credit cycle. Moreover, over recent decades, they also contributed to structural change within the financial sector that made it inherently more procyclical. All of these developments implied that, when the crisis hit, it would prove resistant even to ultra easy monetary policy.

3.3.2 Banks and Shadow Banking in the Credit Downswing

Whatever precipitates the end of a credit upswing, the downswing will be characterized by a reversal of all the forces that previously made credit so easily available. Losses will have to be absorbed, affecting profits and capital.[105] The appetite for risk will decline, as will the value of collateral as market prices fall, haircuts rise and rehypothecation slows. Worse, whole classes of collateral (like CDOs and the bonds of peripheral countries in Europe) will be judged unacceptable by lenders. Instead, they will accept as collateral only the bonds of the highest ranked sovereigns, and even then only for short term loans. Perhaps still worse, uncollaterized lending (say unsecured bond issues by banks) could become almost unavailable. All of these developments have been observed in the current crisis.

[104] *In effect, these new instruments were designed to exploit a human trait well known to psychologists as "disaster myopia"; a suppression of fears about truly disastrous outcomes. It is possible that this trait could be the result of successful survival strategies becoming hard wired over millions of years of evolution.*

[105] *Financial institutions can for a time (perhaps a long time) avoid this by making new loans to cover interest payments ("evergreening"). Low interest rates encourage such behavior. Since the crisis began, loan default rates in Europe have been unusually low. See Bank for International Settlements (2012) Graph VI.1.*

To say that financial institutions during the crisis now face capital losses and severe funding challenges is to say that the very problems they tried to avoid earlier, through the shadow banking mechanism, have now reappeared in a particularly virulent form. Moreover, they must be confronted, not at a time of vigorous economic expansion, but rather of contraction. This implies that both the cost of capital and the cost of funding (relative to policy rates) are

likely to be higher than during the earlier period of expansion. From a secular viewpoint, the implied need to deleverage might be thought a welcome reaction to excessive leverage earlier on.[106] However, from a cyclical perspective, it is legitimate to worry that a sharp tightening of credit conditions for ultimate borrowers will reduce their capacity to spend and thus deepen the downturn.

There seems little question that the financial systems of most AMEs face particular challenges at the present time. The situation is perhaps worst in Europe reflecting factors considered just below. While the problems of European banks are highlighted, the interdependencies implicit in shadow banking imply that financial systems in other continents might also be deeply affected by possible European developments. Unfortunately, this is in the realm of uncertainty rather than quantifiable risk.

To explain the particular challenges facing European banks, consider first the degree of imprudent lending of core euro area banks to the banks of peripheral countries. These loans reflected the fallacious belief that there could be no balance of payments problems within the euro area. Closely related, European banks prior to the crisis had raised large sums in short term dollar loans and used them to make longer term dollar loans through the shadow banking system. Finding dollars to fund those positions subsequently proved particularly difficult, as money market mutual funds in particular withdrew funding.[107] Second, regulatory efforts to tighten capital and liquidity standards during the credit downswing have materially complicated the situation. Recall that most of the measures being implemented now were suggested under Basel 3. However, they were originally scheduled to be brought in only much later, in order to cushion the effects on a still recovering economy. Third, the evolving euro area crisis, with its implications for indebted sovereigns and even the survival of the euro, have raised further questions about the future of European banks.

How have financial institutions in the AMEs responded to the joint shortages of capital, longer term funding and acceptable collateral? As for capital, many banks have cut costs and retained more of the resulting profits, while a

[106] *A body of literature is now emerging which suggests that, beyond certain levels of credit to GDP, financial deepening actually slows potential growth. See Cecchetti and Kharroubi (2012).*

[107] *McGuire and Goetz (2009).*

few have issued new equity. Less positively, some European banks seem to have engaged in forbearance on bad loans to avoid losses of capital. Moreover, there also seems to have been a significant effort to reduce capital requirements by manipulating risk weights using internal models. As for longer term funding and the particular problem of collateral, many banks have been highly innovative in "collateral mining" in an attempt to obtain or create new collateral that lenders will think of as being safer. Collateral swaps between banks and insurance companies, better constructed CDOs, greater issuance of ETFs, issuance of covered bonds, and reliance on funding from corporations in the repo market have all increased. Unfortunately, each of these alternative sources of funds also has significant risks associated with it,[108] not least that the collateral offered could be significantly less safe than it first appears to be.

The bottom line thus remains. The poor health of the financial system in AMEs, arising from the earlier period of low rates and rapid credit expansion, could add materially to the headwinds facing the global economy. As noted above, rising funding costs have implied that bank lending rates have fallen significantly less than policy rates. In many countries, especially peripheral countries in Europe, lending standards have also tightened significantly. Small and medium size enterprises everywhere have been the most affected, as have borrowers in areas dominated by community banks whose lending generally lacks diversification.

Short of a wholesale restructuring of the liabilities of financial institutions (linked to recognizing losses on the asset side of the balance sheet), it is not clear what central banks can to do to restore the financial system to health. If the problem is insolvency and fears of insolvency, the provision of still more liquidity only postpones the day of reckoning.[109] Indeed, if the central bank lending is done only against "good collateral", the collateral shortfall problem will be exacerbated especially since central banks do not in general rehypothecate.[110] Finally, cheap capital from central banks discourages banks from issuing longer term (and more costly) bonds and encourages them to redeem older ones.

Reducing policy rates to zero temporarily raised lending spreads and profitability. However, over time, spreads (both term and credit) have trended back towards normal levels as longer term assets have matured. Indeed, in the aftermath of the financial crisis, the search for safety along with tightened regulatory standards resulted (in some countries) in abnormally sharp declines in term spreads due to declines in longer term government bond rates.[111] Against this background, policies like the Fed's so called "Operation Twist",

[108] *The Bank of England is concerned about collateral swaps and ETFs. See Hughes (2011). On ETFs, also see Ramaswamy (2011). On the limitations of the issuance of covered bonds, see Alloway (2012a) and Alloway (2012b).While it seems there continues to be scope for more covered bond issues at present, the concern remains that there will eventually be a "tipping point". Because covered bonds subordinate other lenders, they might in the end cause uncovered lending to stop entirely.*

[109] *In the Introduction to this paper, explicit and timely debt restructuring was suggested as one of the policies that governments might follow that would actually encourage recovery. This would include measures to restore the health of the financial system, along the lines pursued by the Nordic countries in the early 1990s.*

[110] *Declining liquidity in the longer term US Treasury market has been ascribed to "Operation Twist". Similar comments have followed on large scale purchases of gilts by the Bank of England. Aggressive purchases of JGBs by the Bank of Japan in early 2013 was also linked to increased interest rate volatility*

[111] *The flattening of yield curves has already led to a narrowing of interest spreads. See Bank for International Settlements (2012). Table VI.1.*

which artificially reduced term spreads, also reduced the willingness to lend long even if the desire to borrow long had increased commensurately.[112] And, finally and likely most important, with interbank rates close to zero, banks with surpluses became increasingly unwilling to lend to other banks with a shortage of funds. In this way, the availability of credit became even more constrained.

3.3.3 Other Longer Term Effects on the Financial Sector

Given the unprecedented character of ultra easy monetary policies, and the almost complete absence of a financial sector in currently used macroeconomic models, there might well be other longer term implications that are not yet on the radar screen. By way of example only, futures brokers demand margin, and customers often provide excess margin. The broker can invest the excess, and often a substantial portion of their profits comes from this source.[113] Very low interest rates threaten this income source and perhaps even the whole business model. A similar concern might arise concerning the viability of money market mutual funds, supposing that asset returns were not sufficient to even cover operating expenses. A final example of potential problems has to do with the swaps markets, where unexpectedly low policy rates can punish severely those that bet the wrong way. This could lead to bankruptcies and other unintended consequences.[114]

A problem which has been well recognized is the implications of low interest rates for insurance companies.[115] This issue was flagged at least as far back as 2000,[116] but in recent years a wide range of studies into this problem have been carried out.[117] Ernst and Young estimate that the top 25 life companies would see net investment income decline by 51 basis points (from a 2010 level of 5.01%) if interest rates remained at the level of October 2011 for three years. Companies would be most affected when heavily invested in bonds, when the duration of the assets was short (relative to the duration of liabilities), and when companies had little room to maneuver on the liability side because of previous contractual agreements.

Such a decline in portfolio returns is significant and has already led to certain reactions on the part of the insurance companies most affected. Variously, dividends have been lowered, premia have been raised, payouts to the insured have been reduced (where possible), and companies have withdrawn from business lines that no longer seem profitable. In conducting an assessment of the problems faced, and the reactions to date, Standard and

[112] *See Gross (2012). This is particularly pernicious if it thwarts longer term lending to fund the longer term investment that many AMEs really need. A recent G-30 (2013) study has drawn attention to some of the difficulties faced in finding funding for long term investments.*

[113] *See Meyer (2012).*

[114] *See Haddock and Barnes (2012). They contend that, prior to 2007, many highly leveraged property deals in the UK used swaps to minimize the risks of rising financing rates. Indeed, many of these swaps had a maturity longer than the underlying loan itself. Now many of these deals need to be restructured, but low policy rates have raised the cost of breaking the swap to prohibitive levels. This is another example of how low policy rates can impede the purging of malinvestments in the downswing of the credit cycle.*

[115] *These are very similar to the implications for pension funds which were discussed above.*

[116] *Dickson (2001).*

[117] *Antolin et al. (2011), French et al. (2011), Standard and Poors (2011) and Ramaswamy (2012).*

Poors said that it saw no need to change ratings "in the near term". This is comforting.

However, left unassessed were three other risks that could prove important. First, what would be the effects of interest rates staying low for much longer than the next two to three years? Second, how might this interact with calls for more capital and expensive, new monitoring procedures in companies judged to be of systemic importance? Third, and closely related, what is the likelihood that some insurance companies might gamble for resurrection by substantially increasing their risk taking. Evidently this is a possible outcome not just confined to insurance companies, but to all financial institutions who suffer losses in a low interest rate environment.[118] Unfortunately, it is generally impossible to assess this possibility until such risks actually materialize. By then the damage, perhaps systemic, has already been done.

Finally, since the beginning of the crisis, another unwelcome phenomenon has been observed in financial markets; namely, Risk-On-Risk-Off (RoRo) trading. Within two sets of assets, those deemed risky and those deemed safe, correlations between asset class returns have risen sharply.[119] This reflects a new form of trading which seems to focus primarily on tail risks in a context of very ample liquidity which encourages leverage. When participants are feeling relatively sanguine, they rush into all the assets considered risky. When some event arouses fear in the future, there is a similar rush into all assets considered safe.

Clearly such behavior is unwelcome. First, the shift from "risk-on" to "risk-off" has become almost entirely unpredictable. For example, recent political triggers have been developments concerning the future of the euro area and the US fiscal "cliff". As discussed below, changes in perceptions about the future withdrawal (or not) of ultra easy monetary policies in the USA have also risen in importance as triggering events. Such sudden shifts in sentiment have raised the probability that someone with a highly leveraged position (perhaps even a firm deemed "too big to fail") will eventually be caught out. Second, in a RoRo environment, "fundamentals" play virtually no role in portfolio decisions, which must have undesirable consequences over the longer term. Third, with high correlations, portfolio diversification provides few benefits in reducing risks. A world in which the first two moment of the

probability distribution of a portfolio no longer play a role in investment decisions would seem a very long way away from a classical world of "efficient" financial markets.

[118] *For a discussion of the trading losses recently suffered by J. P. Morgan, see Tett (2012).*

[119] *See Williams et al. (2012).*

3.4 Effects on Central Banks and Governments

Ultra easy monetary policies, whether very low policy rates or policies affecting the size and composition of their balance sheets, can also have longer run and unwelcome implications for central banks themselves. Some of these effects

are more technical. First, with very low policy rates, the likelihood rises that normal intermediation spreads in private markets will fall so far that these markets will collapse. The central bank may then find itself as the "market maker of last resort". The current interbank market might fall into this category. Moreover, a similar experience in Japan in the 1990s indicates that restarting such private markets is not easy. Second, deeper questions can arise about central banks operating procedures in such an environment.[120] Third, with central banks so active in so many markets, the danger rises that the prices in those markets will increasingly be determined by the central bank's actions. While there are both positive and negative implications for the broader economy, as described in earlier sections, there is one clear negative for central banks. The information normally provided to central banks by market movements, information which ought to help in the conduct of monetary policy, will be increasingly absent. Finally, with policies being essentially unprecedented, wholly unexpected implications for central banks (as with others) cannot be ruled out over the longer term.[121]

Beyond these technical considerations, the actions undertaken by AMEs' central banks pose a clear threat to their "independence" in the pursuit of price stability. First, as central banks have purchased (or accepted as collateral) assets of lower quality, they have exposed themselves to losses. If it were felt necessary to recapitalize the central bank,[122] this would be both embarrassing and another potential source of influence of the government over the central bank's activities. Second, the actions of central banks have palpably been motivated by concerns about financial stability. Going forward, it will no longer be possible to suggest that monetary policy can be uniquely focused on near term price stability. Third, by purchasing government paper on a large scale, central banks open themselves to the criticism that they are cooperating in the process of fiscal dominance.[123]

[120] *See Bank for International Settlements (2012) Box IV b.*

[121] *In mid 2012, some commentators suggested the ECB should start paying negative interest rates on reserves held at the ECB. The initial ECB resistance to this suggestion was based in part on the concern that this was wholly unexplored territory. Another worry, arising from recent Danish experience, was that banks would then have to recoup losses by raising rates on loans. In this way, monetary easing might actually prove contractionary.*

[122] *Leijonhufvud (2009)makes the related point that, in choosing who to support and who not, central banks are making choices with distributional implications. Issues of distribution fall more normally in the realm of politics and will attract the attention of politicians.*

[123] *Hanoun (2012) expresses concern that the focus of central banks on price stability will be diluted by financial dominance, fiscal dominance and also exchange rate dominance. This last concern refers to the "fear of floating", referred to above, that has extended the credit driven problems in the AMEs to the EMEs as well.*

It is easier to identify these possible implications for central banks than to assess their desirability. On recapitalization, it is not at all clear that central banks need positive capital to carry out their responsibilities.[124] On central banks being overly concerned with financial stability, many economists would argue that this was part (indeed the core) of the traditional mandate of central banks. They would note that, since financial instability can lead to deflation (which is not price stability either), the concerns about price and financial instability are simply two sides of the same coin.[125] Adrian and Shin (2008b) even insist that the link is growing ever stronger, given how policy rates drive the leverage cycle in the modern world of shadow banking. Finally, suppose that central bank purchases of government paper are a response to a market driven "run" that could become self fulfilling.[126] Is this not exactly the kind of situation when central banks ought to intervene? Evidently, such considerations are receiving a great deal of attention in the context of the euro area crisis.[127]

What are the implications of ultra easy monetary policy for governments? One technical response is that it could influence the maturity structure of government debt. With a positively sloped yield curve, governments might be tempted to rely on ever shorter financing. This would leave them open to significant refinancing risks when interest rates eventually began to rise. Indeed, if the maturity structure became short enough, higher rates to fight inflationary pressure might cause a widening of the government deficit sufficient to raise fears of fiscal dominance. In the limit, monetary tightening might then raise inflationary expectations rather than lower them. While this dynamic was seen in the past in some Latin American countries, in this crisis the maturity structure of the debt in many AMEs has actually been lengthened not shortened.

A more fundamental effect on governments, however, is that it fosters false confidence in the sustainability of their fiscal position. In the last few years, in spite of rising debt levels, the proportion of government debt service to GDP in many AME's has actually fallen. Citing as well the example of Japan, many commentators thus contend that the need for fiscal consolidation can be resisted for a long time. Richard Koo, Martin Wolf and others are undoubtedly right in suggesting that a debt driven private sector collapse should normally be offset by public sector stimulus. What cannot be forgotten, however, is the suddenness with which market confidence can be lost, and the fact that the

[124] *The central banks of many countries have operated with negative capital for decades; e.g., Chile, Jamaica and others.*

[125] *This author, and Borio and others at the BIS, have been making this point for many years. The practical implication is that price stability targets should extend over a horizon long enough to allow imbalances to unwind. Thus, to lean against a credit bubble is to lean against some combination of possible near term inflationary pressures and/or the possibility of excessive disinflation (or even deflation) over the medium term. See White (2006a). Operationally, this implies that separating the price stability function from the financial stability function at central banks is logically wrong. See White (2012a). Issing (2012) reminds us, however, of some important political considerations that could qualify this conclusion.*

[126] *The problem is one of multiple equilibria. A sovereign may be solvent given reasonable interest rates, but not if a run pushes up rates beyond some limit.*

[127] *See in particular De Grauwe and Yuemei (2013) who argue that both the financial market and the official sector "panicked" (a bad equilibrium) and imposed fiscal austerity in Europe where it was not needed. Moreover, he argues that fiscal austerity has actually worsened prospects for government debt/ GDP ratios as the denominator has been significantly affected by Keynes' "paradox of thrift".*

Japanese situation was initially highly unusual in a number of ways.[128]

What is clearer is that exiting from a period of ultra easy monetary policy will not be easy. In this area, the Japanese experience over the last two decades is instructive. Central banks using traditional models will hesitate to raise rates because growth seems sub-normal. Governments will also firmly resist higher rates, because they might well reveal that the level of government debt had indeed risen to unsustainable levels. Further, on the basis of recent experience, the entire financial community (with its formidable capacity for public communication and private lobbying) will oppose any tightening of policy as too dangerous. Their motives in this regard are questioned below. Presumably a sharp enough increase in inflation would lead to a tightening of policy. However, by then a lot of further damage – not least to the credibility of central banks – might well have been done.

Finally, the recognition that higher short rates might cause longer rates to "spike", with uncertain effects on financial stability, will also induce caution.[129] In the first half of 2013, long bond rates around the world rose (and some equity markets fell) at the mere suggestion that the Federal Reserve might begin to "taper down" the pace at which it was adding to the size of its balance sheet.[130] An explanation could begin with the recognition that "tapering" would only begin when it was clear that the US economy was on a sustainable growth path. The transition back to "normal" bond rates, from the very low rates associated with ultra easy monetary policy, thus implied an eventual need for very large rate movements indeed. Against this background, a certain skittishness in bond markets would not be unexpected, particularly if low policy rates had induced greater leverage. Similarly, a rush out of the currencies and assets in EMEs, also artificially stimulated by ultra easy monetary policies, might also be expected. It is more doubtful, however, that the effects of their policies on foreigners would exert any influence on the Fed's policy decisions.

3.5 Effects on the Distribution of Income and Wealth

Income inequality has risen sharply in almost every country in the world in recent decades. This applies equally to AMEs and EMEs.[131] Moreover, after many years when distributional issues were largely ignored, these trends are now receiving increased attention. While arguments can easily be made for some degree of inequality to foster growth,[132] there is a sense almost ev-

[128] *The Japanese crisis of the 1990s began with a relatively low level of public debt, a very high household saving rate, the world's largest trade surplus, and a very strong home bias for portfolio investment. Contrast this, for example, with the almost opposite position of the US today. A marked shift in market confidence in US Treasury debt could then well lead to a dollar as well as a bond crisis. Note further that the gross level of public debt in Japan has since risen to well over 200% of GDP, that the Japanese household saving rate has fallen virtually to zero, and that Japan has recently been running a current account deficit. Should all of this cause Japanese "home bias" to come unstuck, a similar crisis might yet be possible in Japan.*

[129] *This might be particularly the case in the USA. Recall the turmoil in the bond markets when rates were raised in 1994. Recall as well the concern to avoid financial instability implicit in the "measured" increase in policy rates between 2004 and 2007. Further, because of the problem of convexity hedging, which is unique to the United States, there might well be concerns that raising policy rates could have undesired consequences.*

[130] *Since it is generally thought that the long rate is influenced by the relative stock of debt in public and private hands, it was disconcerting that a "possible", future, "change" in the "flow" could have such a substantial impact.*

[131] *OECD (2011).*

[132] *The classical argument is that richer people save more and this provides the basis for capital accumulation.*

erywhere that recent trends have gone too far. Picket and Wilkinson (2009) suggest that greater inequality has many undesirable social effects. It has also been suggested that greater inequality can lead to a concentration of political power in the hands of those who wish to use it for their own purposes. In the limit, such trends call into question the legitimacy of the whole democratic process. Further, by raising perceptions of unfairness, the trust that underpins all transactions in a market system can also be eroded. Evidently, these are crucially important social issues.

Given its global incidence and secular character, rising income inequality is most likely deeply rooted in technological change and globalization, both of which threaten the less well educated. Nevertheless, it is also worth asking whether, albeit to some lesser degree, this might be another longer term consequence of the stance of monetary policy. Not only has the share of wages (in total factor income) been declining in many countries, but the rising profit share has been increasingly driven by the financial sector. It seems to defy common sense that at one point 40% of all US corporate profits came from this single source.

To simplify a description of how such a process might work, distinguish between three classes of people. Class 1 (entrepreneurs and financiers) are those who are rich enough to save (equity) and they invest on a leveraged basis using funds borrowed from other savers. This second class of savers (Class 2) is also relatively well off, but more risk adverse than the first class. Class 3 consists of the less well off who essentially borrow from the others. It is of interest to see who fares relatively well (and relatively badly) in the "boom-bust" phases of the credit cycle, and also how shadow banking practices play into this. As argued above, both developments have been encouraged by unnaturally easy monetary policies.

In the boom phase of the cycle, with interest rate low relative to expected rewards, members of Class 1 speculate, using leverage, and generally make substantial profits as asset prices rise and the economy expands. The momentum of this process continues even after policy rates begin to rise. Speculation is also encouraged by the safety net features increasingly provided by governments.[133] Moreover, those in the financial sector systematically exploit knowledge asymmetries to increase both fees and gains from market movements. This process of extraction is facilitated by the inherent non transparency of the shadow banking system. Finally, members of Class 1 use their political influence to enhance these safety net fea-

[133] *These would include the "Greenspan put", and the assumption that some firms were too big/complex/interrelated to be allowed to fail. Another important advantage is that lenders in the USA and EU, with loans secured on financial collateral, have bankruptcy privileges. That is, in the case of bankruptcy, the holders of collateral can immediately seize it and sell it, thus jumping the normal queue of creditors. See Perotti (2012) and Johnson (2010). Fisher and Rosenblum (2012) and others feel that banks that cannot be allowed to fail in a disorderly fashion should be broken up. Needless to say, this suggestion has proven controversial.*

tures and to drum up support for the "safety and soundness" of the shadow banking system upon which they increasingly rely.[134]

Members of Class 2 also profit, especially as interest rates rise, since they are net savers (creditors) with predominantly short term assets. Class 3 members suffer from higher interest rates as

the recovery continues, but to the extent they have borrowed to buy real assets (especially houses) they also seem to gain as the prices of those assets rise. Rajan (2010) contends that governments actively encouraged this process[135] to allow lower income people to continue to consume, even as their incomes and job prospects were being further squeezed by technological developments and globalization.

In the bust phase of the cycle, asset prices collapse and Class 1 speculators can lose part (though rarely all) of the wealth accumulated earlier. Sharply easier monetary conditions ease their burden materially. Again, there is lobbying to ensure that the other forms of support promised earlier by governments actually materialize. Members of Class 2 bear the main burden of this transfer from creditors to debtors, either directly (as their financial assets earn very little) or indirectly due to lower pensions and higher insurance cost. As debtors, members of Class 3 also benefit from ultra easy monetary policy.[136] Overall, however, they suffer the most because their net wealth is very low, their access to further credit disappears, and they are the most liable to lose their jobs in the downturn. Ironically, if Rajan's thesis is correct, the policies originally designed to help the poor have hurt them the most.

This story is highly stylized and perhaps not true in certain respects. Nevertheless, it seems true enough to warrant further interdisciplinary research into the potential redistributive implications of our monetary policies.

4 Conclusions

The case for ultra easy monetary policies in response to the crisis has been well enough made to convince the central banks of most AMEs to follow such polices. They have succeeded thus far in avoiding a collapse of both the global economy and the financial system that supports it. Nevertheless, it is argued in this paper, that the capacity of such policies to stimulate "strong, sustainable and balanced growth" in the global economy has become very limited. Moreover, easy monetary policies can have a wide variety of undesirable longer term effects. They create malinvestments in the real economy, threaten the health of financial institutions and

[134] *For two powerful works speaking to these issues, see Johnson (2009) and Wedel (2009).*

[135] *In the USA, the massive expansion of the remit of Government Sponsored Enterprises (especially Fannie Mae and Freddie Mac) before the crisis provided strong support for Rajan's position.*

[136] *This would be limited, however, if the mortgage were fixed rate and long term. In the USA, refinancing opportunities would also be restricted if the value of the property fell below the value of the mortgage.*

the stable functioning of financial markets, constrain the "independent " pursuit of price stability by central banks, encourage governments to refrain from confronting sovereign debt problems in a timely way, and redistribute income and wealth in a highly regressive fashion. Clearly, each longer term effect on its own might be questioned. However, considered all together they support strongly the proposition that aggressive monetary easing in economic downturns is not "a free lunch".

Looking forward to when this crisis is over, the principal lesson for central banks would seem to be that they should lean more aggressively against credit driven upswings, and be more prepared to tolerate the subsequent downswings. This could help avoid future crises of the current sort. Of course, the current crisis is not yet over, and the principal lesson to be drawn from this paper concerns governments rather more than central banks. What central banks have done is to buy time to allow governments to follow the policies[137] that are more likely to lead to a resumption of "strong, sustainable and balanced" global growth. If governments do not use this time wisely, then the ongoing economic and financial crisis can only worsen as the longer term and unintended consequences of past monetary stimulus increasingly materialize.

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[137] *For a fuller description of these recommended policies, see White (2012b).*

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A CHANGING ROLE
FOR CENTRAL BANKS?

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Peter Mooslechner became a member of the Governing Board of the Oesterreichische Nationalbank on May 1, 2013. He studied economics at the Johannes Kepler University Linz (JKU), where he also received his doctoral degree in 1981. After having worked at the JKU's Institute of Public Finance, Peter Mooslechner held a research position at the Austrian Institute of Economic Research (WIFO) from 1981 to 1996, exploring currency-, balance of payments- and money and credit-related topics. In 1996, he joined the OeNB as Head of the OeNB's Economic Analysis Division. In 1999, he was promoted to Director of the Economic Analysis and Research Department. Peter Mooslechner represents the OeNB in numerous national and international bodies (e.g. on the Board of the Austrian Economic Association (NOeG) and in the International Relations Committee (IRC) of the ECB). Peter Mooslechner has taught economics at a number of Austrian universities (Linz, Innsbruck, Salzburg and Vienna University of Economics and Business) and has published extensively on a broad spectrum of economic policy issues. His recent research has dealt with microeconomic aspects of household wealth and debt, economic policy during the financial crisis and monetary and exchange rate policy in Eastern and Southeastern Europe.

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William R. White is a Canadian economist, born in Kenora, Ontario. He is currently Chairman of the Economic and Development Review Committee of the OECD, which provides policy recommendations to members as well as other important countries in the global economy. Until last year, he was a member of the Issing Committee, which advised Chancellor Merkel of Germany on matters pertaining to international financial stability. He has also been a featured speaker at numerous events organized by the G20 on related topics. Mr. White is on the Advisory Board of the Globalisation and Monetary Institute at the Federal Reserve Bank of Dallas, as well as that of the Institute for New Economic Thinking, recently established with the support of George Soros. Mr. White continues to do research on issues pertaining to monetary and financial stability. He has published both academic papers and shorter articles of interest to the serious press. As well, he regularly makes associated presentations, tailored to a wide variety of audiences, worldwide.

His website (*www.williamwhite.ca*) brings together his recent contributions. A career central banker, Mr. White held the position of Chief Economist at the Bank for International Settlements (BIS) in Basel for 14 years, heading one of the world's most highly regarded teams of macro economists. They were prescient in predicting the global financial and economic crisis and identifying the role played by easy monetary and credit conditions. Prior to joining the BIS, White spent 22 years with the Bank of Canada, serving latterly as Deputy Governor. Mr. White's early career was spent at the Bank of England, where he was an economist from 1969 to 1972. He received his Ph. D. from the University of Manchester in 1969, where he was supported by a Commonwealth Scholarship.

The Economics Conference hosted by the OeNB is an international platform for exchanging views on monetary and economic policy as well as financial market issues. It convenes central bank representatives, economic policy decision makers, financial market players, academics and researchers.

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