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OESTERREICHISCHE NATIONALBANK

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<i>General government debt has risen sharply throughout the EU, with the exception of Luxembourg, since the early 1970s. Some experts argue that this rise is closely linked to disinflation policies. Others see no such link. This study investigates the connection between disinflation and the evolution of fiscal imbalances in the EU Member States in the period between 1970 and 1996. The focus is on the medium term effects of disinflation on real interest rates, primary budget balances, economic growth and seigniorage. The findings of this study indicate that disinflation influenced public debt via four channels; the intensity of the influence, however, varied considerably. A major factor for the expansion of public debt in Europe from 1970 to the mid-1990s appears to have been discretionary fiscal policy.</i>	
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**Legend**

- = The numerical value is zero
- . . = Data not available at the reporting date
- × = For technical reasons no data can be indicated
- 0 = A quantity which is smaller than half of the unit indicated
- = New series

Note: Apparent arithmetical discrepancies in the tables are due to rounding.

OESTERREICHISCHE NATIONALBANK

AND

AUSTRIAN ECONOMY

# *Economic and Monetary Union – Decisions on the Changeover to the Euro*

At their meeting in Brussels from May 1 to 3, the EU Finance Ministers and Heads of State or Government reached the fundamental decisions for the beginning of Stage Three of Economic and Monetary Union (EMU) on the basis of the Commission's and the EMI's Convergence Reports and the Commission's recommendation. In due course, the ECOFIN Council unanimously passed the recommendation to the Heads of State or Government to commence Stage Three of EMU with 11 Member States participating as of January 1, 1999.

After the European Parliament's approval of the recommendation, the Council in the composition of the Heads of State or Government adopted the decision to begin monetary union with Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland. In addition, the ECOFIN Council in the presence of the central bank governors publicly preannounced the bilateral rates between the currencies of the participating Member States.

These decisions have irrefutably laid down the establishment of the single European currency area with a large number of participating countries. The bilateral rates between these countries' currencies and the respective conversion rates to the euro will be irrevocably fixed as of January 1, 1999. Simultaneously, the national central banks will transfer monetary sovereignty to the European System of Central Banks (ESCB). The ERM II, which is also to be established on the same date, is designed to link the currencies of as many of the not yet participating Member States as possible to the euro area.

## **Large Number of Participants in Euro Area Made Possible by High Levels of Convergence**

As monetary union entails farreaching consequences, the decision on which Member States should participate was preceded by in-depth examinations and intensive deliberations on the development of each country's level of convergence. In order to safeguard a smooth transition to Stage Three of EMU, a high level of long-term convergence, with a particular stress on the sustainability of progress achieved, is indispensable.

In recent years EU Member States have made considerable progress towards convergence. The high level of economic convergence can be gauged, among others, on the successes achieved in the period surveyed to determine which Member States qualify for participation in EMU. The economic indicators used to assess the level of candidates' convergence are developing in the right direction throughout the EU. This is the result of a sound sense of stability which has become the basis of economic policy decisions in the European Union. Thus the groundwork has been laid for broad participation in Stage Three of EMU and for balanced and sustainable economic growth in the EU.

In the course of the changeover, monetary policy will have to concentrate particularly on the convergence of prices and interest rates and on exchange rate stability. In addition, governments will need to adhere to strict budgetary discipline in the long term to allow monetary union to operate soundly. The Member States in fact succeeded in cutting inflation

rates so that they now converge at historic lows; none of the EU countries (except Greece) surpassed the reference mark of 2.7%, and Austria boasted the highest level of price stability in the Union. Currently, there are no impending threats to the attained level of price stability. EU Member States' sound sense of stability expressed herein plays an important role in safeguarding the high level of price stability necessary for a successful monetary policy. Financial markets' positive reaction to the progress towards convergence becomes apparent in the development of long-term interest rates in the EU. Both the general level of interest rates and the interest rate differentials between individual Member States declined notably. Concurrently, governments' consolidation efforts significantly improved budget results in the Member States. In the reference year 1997 none of the Member States (except Greece) exceeded the reference value for the budget deficit of 3% of GDP. Whereas in 1997 the debt ratio surpassed the reference mark of 60% of GDP in eleven countries, it was falling in each of these countries, with the exception of Germany.

Notwithstanding the progress most Member States have made, additional consolidation efforts are necessary, both to comply with the medium-term obligations laid down in the Pact on Stability and Growth and to reduce the debt ratio. Especially the countries with high debt ratios, such as Belgium, Greece and Italy, are expected to make extra efforts to curtail public debt.

### **Consolidating the Monetary Framework in Europe**

The introduction of a single European currency is a historic project with far-reaching effects. It is not primarily short-term economic and political considerations that make this step so important, but above all the longer-term perspective of European integration. Most observers tend to forget that the path to monetary union began a long time before Maastricht. With the experiences of turbulent currency crises, devaluation and hyperinflation in mind, the common goal of stable currencies was inherent in the European process of unification from the very outset. The steps along the way include the founding of the European Payments Union, the Werner Plan and the European Monetary System.

However, none of these initiatives produced fully satisfactory results. They were doomed to fail by a lack of economic convergence between participating countries and in the final consequence did not succeed in attaining their goal of establishing a stable monetary framework – able to withstand the pressure of financial markets.

Economic and Monetary Union has been designed to overcome the shortfalls of previous attempts at monetary integration. As a single currency will replace the national currencies of the participating Member States, monetary union will be irreversible. Revaluation and devaluation to serve national interests or as a reaction to speculation in currency markets will thus no longer be possible. Also, clearly defined criteria were drawn up to determine whether candidates qualified in terms of economic and monetary stability. The Pact on Stability and Growth guarantees that the high standards of stability are upheld once monetary union has been established.



As a consequence, monetary union has become the logical final step towards a common market and towards achieving long-term monetary stability throughout Europe.

**Monetary Union:  
The Cogent Next Step in Austria's Monetary Policy**

In the years to come, Austria will help build and develop a common European stability platform, which is also in line with the immediate interests of its small and highly export oriented economy. This next step is the logical continuation of Austria's monetary policy on a European level. Since the 1970s, Austrian monetary policy has been based on a miniature monetary union, in which the external value of the schilling was tied to the Deutsche mark, which has become the central currency of the European Monetary System (EMS).

The changeover into Stage Three of EMU is closely connected with a number of improvements in the economic policy environment:

- Above all, there will be no more exchange rate risk among participating countries. For a small country like Austria accessible markets and predictable conditions for trade with its primary foreign partners are especially important.
- Competitive devaluation within the currency area will be made impossible; individual countries can no longer rely on devaluation to gain an unfair competitive edge by skewing price relations.
- On account of the currency area's magnitude the euro will assume a far more important position on an international level than individual European currencies could so far.
- In the wake of the changeover Western European capital markets will gain depth and will thus provide businesses with more attractive financing.
- As the economic area expands into greater dimensions and exchange rate risks disappear, monetary policy will be geared to the demands of Europe as a whole; interest rates can be kept at lower levels in the long term than in today's segmented financial markets with their separate currencies.

A disadvantage of the single currency, on the other hand, may be seen in the fact that monetary policy and the exchange rate instrument are no longer at individual Member States' disposal. However, Austrian monetary policymakers, in particular, decided long ago to enter into an "informal" monetary union by pegging the schilling to the Deutsche mark; this move is today held to have been highly successful. A number of European countries followed Austria's example in the past two decades. It will be relatively easy for these countries to adapt to the new monetary framework, as their economic structures are already largely in line with stability-oriented policies.

**Improved Framework Conditions  
for the European Economy**

Economic and Monetary Union is also an important response to the increasing internationalization of the global economy; it is an important step towards giving Europe an equal footing in world markets. Statistically, the euro area draws equal with the U.S.A. in economic potential, and the euro-11 share of world-GDP is twice the Japanese share. The euro participants' share of worldwide foreign trade is larger than that of the U.S. and Japan.

Also, the evolution towards monetary union has established standards of stability in Europe more widely and more firmly than ever seemed possible. Similarly, the improvement of public budgets has surpassed all expectations; one should add that even without monetary union sustainable budgets are vital for every country's future.

It is of particular importance that Austria enters into monetary union in unison with its main European trading partners. Against the backdrop of an economic policy oriented towards stability and growth, the decision in favor of a large number of initial participants not only minimizes the risk a small country like Austria runs by participating, but also facilitates making the most of the advantages of monetary union.

The single currency affords Europe the opportunity to gear its economic policies more clearly to demands on a European level, as potential obstacles such as exchange rate fluctuations and turbulence on financial markets become less significant. There can be no doubt that this step cannot solve all of Europe's economic worries, first and foremost the high levels of unemployment. Yet monetary union contributes to a far better framework for economic policy. Economic and Monetary Union is an indispensable tool in deepening and strengthening the idea of a unified Europe which goes far beyond economic interests.

**Status on the Fulfillment of the Convergence Criteria 1997**

	Inflation <sup>1)</sup>	Long-term interest rate <sup>2)</sup>	General government surplus (+) or deficit (-)	General government gross debt	Participation in ERM <sup>3)</sup>
	Annual change in %	%	Annual average in %	% of GDP	yes/no
Belgium	+1.4	5.7	-2.1	122.2	yes
Denmark	+1.9	6.2	+0.7	66.1	yes
Germany	+1.4	5.6	-2.7	61.3	yes
Greece	+5.2	9.8	-4.0	108.7	no <sup>4)</sup>
Spain	+1.8	6.3	-2.6	68.8	yes
France	+1.2	5.5	-3.0	58.0	yes
Ireland	+1.2	6.2	+0.9	66.3	yes
Italy	+1.8	6.7	-2.7	121.6	no <sup>4)</sup>
Luxembourg	+1.4	5.6	+1.7	6.7	yes
Netherlands	+1.8	5.5	-1.4	72.1	yes
Austria	+1.1	5.6	-2.5	66.1	yes
Portugal	+1.8	6.2	-2.5	62.0	yes
Finland	+1.3	5.9	-0.9	55.8	no <sup>4)</sup>
Sweden	+1.9	6.5	-0.8	76.6	no
United Kingdom	+1.8	7.0	-1.9	53.4	no
Reference value	+2.7	7.8	-3.0	60.0	minimum of two years

Source: OeNB Report on Convergence in the EU.

<sup>1)</sup> HICP average in the reference period February 1997 to yesnuary 1998.

<sup>2)</sup> Average yield of 10-year government bonds in the reference period February 1997 to yesnuary 1998.

<sup>3)</sup> Participation in the European Monetary Systems. Exchange Rate Mechanism (ERM) over a period of two years without devaluation on the participants own initiative. Reference period March 1996 to February 1998.

<sup>4)</sup> Italy joined the ERM in November 1996, Finland joined in October 1996 and Greece joined after the end of the reference period, in March 1998.

**Key Characteristics of the Euro Area 1997**

		EU-11	EU-15	U.S.A.	Japan
Area	1,000 km <sup>2</sup>	2,365.0	3,234.2	9,372.6	377.8
Population	million	290.4	374.1	267.9	126.0
GDP <sup>1)</sup>	as % of world GDP	19.4	24.6	19.6	7.7
Nominal GDP	ECU billion	5,548.1	7,132.3	6,896.5	3,708.4
<b>Sectors of production:</b>					
Agriculture, fishing, forestry	% of GDP	2.4	2.4	1.7	2.1
Industry (incl. Construction)	% of GDP	30.9	30.0	26.0	39.2
Services	% of GDP	66.7	67.6	72.3	58.7
Exports of goods	% of GDP	12.3	9.2	8.1	8.8
Imports of goods	% of GDP	11.0	8.6	10.6	6.9
Exports	as % of world exports	19.5	..	14.8	9.7
Current account balance	% of GDP	1.7	1.2	- 1.9	2.2
Debt securities	ECU billion	5,347.1	6,632.5	8,450.4	4,071.9
	% of GDP	102.7	102.8	157.2	103.7
Stock market capitalization	ECU billion	1,620.7	2,889.4	5,244.0	2,804.4
	% of GDP	31.1	44.8	97.6	71.4
Bank assets	ECU billion	10,082.5	12,479.7	4,211.0	6,217.3
	% of GDP	202.8	201.2	74.6	157.4
<b>General government:</b>					
Total expenditures	% of GDP	49.6	48.7	37.0	36.0
Total receipts	% of GDP	47.0	46.3	36.7	32.6
Budget deficit	% of GDP	- 2.5	- 2.4	- 0.3	- 3.4
Gross debt	% of GDP	75.2	72.1	63.1	99.7
Real GDP growth	%	2.5	2.7	3.8	1.0
Unemployment rate	%	11.6	10.6	4.9	3.4
CPI inflation <sup>2)</sup>	%	1'6	1'7	2'3	1'7

Source: IMF, OECD, EU; not all the data were calculated by the same methods and thus the values are comparable only to a limited extent.

<sup>1)</sup> At purchasing power standard.

<sup>2)</sup> EU: HICP inflation.

**Appendix:****Documents and regulations on Stage Three of EMU**

- EMI Convergence Report required by Article 109j of the Treaty establishing the European Community.
- European Commission Convergence Report and Recommendation required by Article 109j of the Treaty.
- European Parliament Statement of Opinion under Article 109j of the Treaty.
- OeNB Report on Convergence in the EU.
- Deutsche Bundesbank Statement of the Central Bank Council on Convergence in the EU and Stage Three of Economic and Monetary Union.
- Council (ECOFIN) Abrogation of the Decision on Excessive Government Debts – Article 104c (12) of the Treaty.
- Council (ECOFIN) Recommendation of May 1, 1998 in accordance with Article 109j (2) of the Treaty.
- Declaration by the Council (ECOFIN) and the Ministers meeting in that Council issued on May 1, 1998 (on enforcing budgetary discipline by advancing the implementation of the Pact on Growth and Stability to July 1, 1998, and on employment and structural reform).
- Council Decision of May 3, 1998 in accordance with Article 109j (4) of the Treaty.
- Council Recommendation on the Appointments of the Members of the ECB Executive Board – Article 109l (1) of the Treaty and Article 50 of the ESCB Statute.
- Joint Communiqué on the Determination of the Irrevocable Conversion Rates For the Euro (issued by the Ministers of Finance and the Governors of the Central Banks)
- Council Regulation of May 3, 1998 on the Introduction of the Euro- Article 109l (4) of the Treaty.

# Calendar of Monetary Highlights

## **April 1998**

24 The Amendment to the Nationalbankgesetz is being promulgated. Designed to adjust Austrian central bank legislation to Community law requirements relating to Austria's forthcoming participation in the third stage of EMU, the Amendment provides in particular for the redefinition of the goals, tasks and powers of the OeNB, the adaptation of monetary policy instruments, the adjustment of the functions of the OeNB decision-making bodies in view of the shift of monetary policy competences to the ECB, the legal establishment of the independence of the OeNB and its decision-making bodies as stipulated in the EC Treaty and the ECB Statute, and the adjustment of the provisions governing the issuance of banknotes.

The accounting-related provisions of the Amendment already took effect as of January 1, 1998. Several other adjustments, which do not result from EU legal harmonization efforts, and the provisions concerning central bank independence take effect on May 3, 1998. The provisions pertaining to the OeNB's exclusive performance of the tasks and powers of the ESCB will become effective on January 1, 1999.

## **May 1998**

2/3 At the summit of the European Council in the composition of the Heads of State or Government, the decision is taken to launch the third stage of EMU with eleven Member States (Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland).

Moreover, the ECOFIN Council, with the central bank governors attending, approves the communiqué pre-announcing the current ERM bilateral central rates of the currencies of the Member States participating in EMU, which will be used to determine the irrevocable conversion rates for the euro.

# Economic Background

The upturn in Western Europe has gained momentum in recent months. In 1997, the real effective depreciation of the Deutsche mark and of other EMS currencies against the U.S. dollar, as the U.S. economy expanded powerfully, entailed vigorous export growth and a corresponding boost in output. At the outset, the upturn had little effect on domestic demand, above all because the public sector's budget consolidation put a damper on real income growth. In Europe, especially in Germany, this state of affairs created a split in the business activity of export-oriented and domestically-oriented sectors of the economy. Business activity in the UK, the Netherlands and Ireland had already developed along separate lines from the main European economies since 1994. These countries now appear to be moving into the late phase of the economic cycle.

Export growth in Western Europe is anticipated to continue at a slightly less animated pace in 1998 and 1999. One reason is that the effects of last year's depreciation will peter out, and another is that according to forecasts the financial crisis that had gripped Asia will reduce the world trade volume. The United States and especially Japan feel the impact directly, whereas Europe will be affected mainly indirectly via second-round effects, which should, however, be quite moderate. The U.S. domestic economy appears to be healthy enough to absorb the impact of the decline in exports to Southeast Asia. Thus the turbulences in Asia will have a detrimental impact on the current account, yet it should dampen import demand but marginally. Hence the effects on European exports are liable to remain within acceptable bounds.

Conversely, European domestic activity has been signaling a revival since the beginning of 1998. In most countries in Europe leading indicators point to improved consumer confidence and a brighter climate for capital investment. In 1998, fiscal retrenchment has almost stopped acting as a damper on incomes; hence, consumption is anticipated to rise. This should also have beneficial repercussions on investment in the domestically oriented sectors. Signs point toward a revival of investment in the medium term. As is typical of the early phase of the business cycle, companies are now chalking up high profits and productivity gains. In connection with the current favorable cost of capital and labor and the rise in consumer demand, the expansion of investment should prove to result in higher profitability as soon as the gaps to full capacity utilization have been closed. This is all the more true once the stabilization and integration effects EMU is expected to entail have gained a foothold.

The brighter economic picture will impact on the labor market with a time lag. According to forecasts, unemployment rates are not scheduled to ease substantially until 1999. Moreover, joblessness is supposed to remain the most pressing economic policy problem in many European nations. Inflation will stay low until 1999. While inflation flared up briefly in Germany in 1997 when import prices mounted, moderate wage developments and current below-average capacity utilization rates indicate that there is not likely to be any upward pressure on consumer prices in the medium term.

The U.S. economy grew by 3.8% in 1997. Despite high capacity utilization and a record low unemployment rate, there is little indication that inflation might accelerate. The dip in export demand in the wake of the financial turbulences in Southeast Asia gave the Fed the leeway to delay raising key interest rates. The controlled pace of inflation indicates that economic growth is powered chiefly by supply-side factors and is thus very robust. The soft landing scenario still appears realistic and hence remains the basis for current forecasts, which predict growth to come to  $2^{1/4}$  to  $2^{3/4}$ % in 1998 and 1999, respectively. Conversely, in the United Kingdom, whose cyclical developments traditionally mesh closely with those of the United States, a sharper contraction in growth appears to be in the pipeline. After one short year of revival, Japan again suffered a marked cyclical setback that had already been foreshadowed before the Asian crisis broke out; it is linked to the still prevalent tension on Japan's financial markets, which sharply restricts the credit volume and thus domestic demand. The negative repercussions of the crisis in Asia on the demand for exports makes the situation even more difficult in Japan. However, Japanese domestic demand is developing so sluggishly that the current account surplus is in fact projected to widen.

Forecasts for Germany count on gradually expanding growth rates rising from  $2^{1/2}$  to 3% for 1998 and 1999, respectively. Growth will be fueled to a growing degree by consumption, while investment will still be slow to take off.

### **Austrian Domestic Demand on the Rise**

Basically, the cyclical trends in Western Europe outlined above determine developments also in Austria. On account of the favorable international framework conditions and the marked improvement of Austrian exports' competitiveness, nearly all economic data have improved.

Preliminary calculations show real economic growth to have come to 2.5% in 1997, somewhat higher than originally projected. The driving forces were more animated construction activity than forecast and the vigorous expansion of commodity exports. Commodity exports in nominal terms climbed by 16.8% according to foreign trade statistics, and commodity imports advanced by 10.9%. The foreign trade balance thus improved by ATS 25.3 billion, and net goods exports (according to the system of national accounts) contributed 0.9% to economic growth. As in the preceding years, the rise in deliveries to Eastern Europe was particularly robust. Since the changes in the service balance offset the trade development, the shortfall on current account remained unaltered at 1.9% of GDP.

For the most part the gratifying development of exports can be pinpointed to the strengthening of international trade links and the dynamic growth of Austrian export markets. In addition, however, the considerable improvement of unit labor costs relative to those of Austria's main trading partners may have contributed to the pickup in the trade balance. Wage policy was conducted with moderation in 1997. Also, the intensification of competitive pressure in formerly more protected areas may have contributed to the better trade result. Austria's relatively lower inflation

rate reduced costs for the export-oriented sector and was ultimately reflected in the improvement of the real effective exchange rate.

Advancing by 1.5%, domestic demand lagged behind other indicators in 1997. However, in the first months of 1998, signs pointing to a recovery of the domestic sector accumulated. In particular, now that budget consolidation measures have been wrapped up, real incomes are expected to rise in 1998 and 1999 after having contracted massively for two years. Even if people channel part of their income gains into building up savings, the boost to private consumption that the remainder of the higher incomes will entail will help the domestic trade-oriented sectors expand more vigorously. To corroborate this, leading indicators have in fact been pointing toward a brightening of the economic climate. The most recent consumer confidence barometer confirms consumers' clearly more upbeat mood, with positive expectations outweighing pessimistic ones for the first time in two years. The business survey of the Austrian Institute of Economic Research (WIFO) also shows businesses' more positive outlook on orders.

The WIFO forecast predicts GDP growth rates of 2.7 and 3.0%, respectively, for 1998 and 1999. While the net export contribution will contract substantially, consumption (+1.7 and +2.0%) and plant and equipment outlays (+6.0 and +7.0%) will propel the recovery.

The government succeeded in reaching its deficit target of 2.5% of GDP for the federal budget in 1997. The management of the state and municipal budgets contributed importantly to this outcome. The debt ratio ran to 66.1% of GDP in 1997, down from just under 70% in 1996. WIFO is projecting a drop in the deficit to 2.3% of GDP for 1998. Against the background of the cyclical recovery, this is likely to indicate a marginal increase in the structural deficit ratio.

### **Manufacturing Boom**

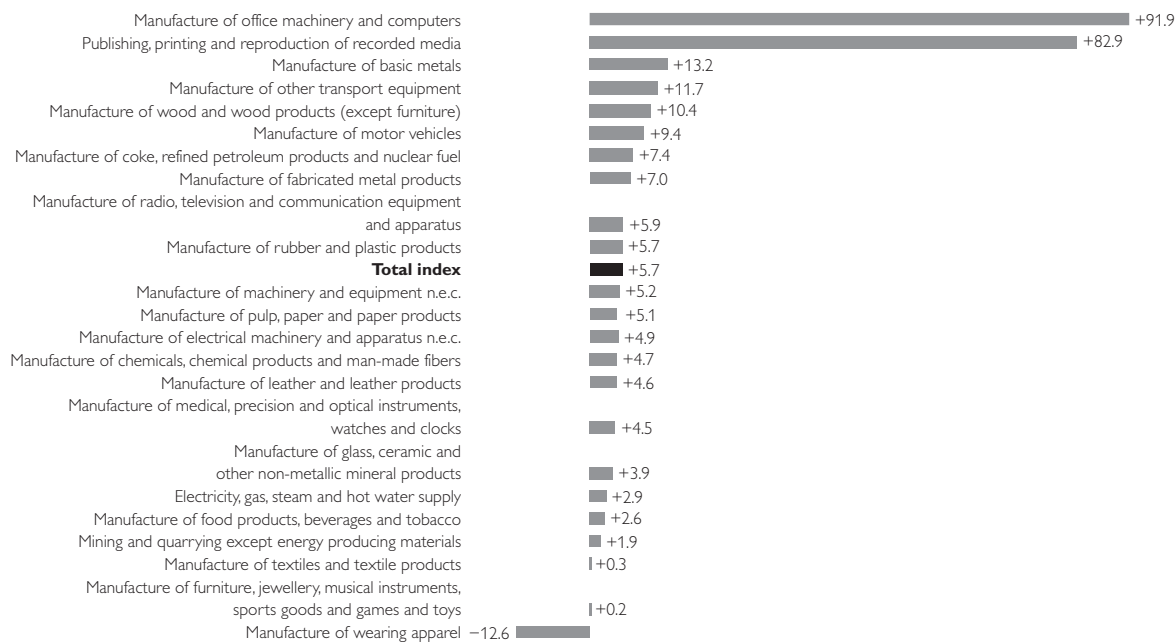
The harmonization of data collection in the EU compelled Austria to overhaul its manufacturing statistics at the beginning of 1998. The economic sectors have been reclassified for the new statistics and are no longer categorized according to the Austrian Economic Chamber's system. A prominent feature of the new system is that it no longer differentiates between industry and small-scale industry and trade, nor does it make a distinction between firms within the latter sector according to size. The sectoral classification within manufacturing was restructured. Moreover, the different survey systems used for manufacturing and the construction sector were reconciled. The Austrian Central Statistical Office now provides data for both areas, including production, sales, order, payroll, working hour, wage and salary figures. A number of other technical changes to the actual process of conducting the survey were made as well. Back calculations under the new system until 1995 have been made available; the old statistics will be continued until the end of 1998.

Manufacturing expanded by 5.7% in 1997, with purchased materials and services (+8.4%) and capital goods (+6.0%) racking up particularly hefty gains. By contrast, production of durable consumer goods was on the decline (-3.6%). However, in an industry breakdown only clothing posted a



## Manufacturing Indices According to the Austrian Statistical Classification of Economic Activities (ÖNACE) in 1997

Annual change in %



Source: ÖSTAT.

decrease (−12.6%). Manufacturers of office and computer equipment (+91.9%) as well as the printing and publishing sector (+82.9%) recorded exceptionally steep increases. Data attest capital goods and durables a gathering momentum in the second half of 1997.

Construction advanced by 4.3% on an annualized basis. Stepped-up output exclusively dates from the first quarter of 1997. The WIFO business forecast projects that construction orders will stabilize somewhat in 1998.

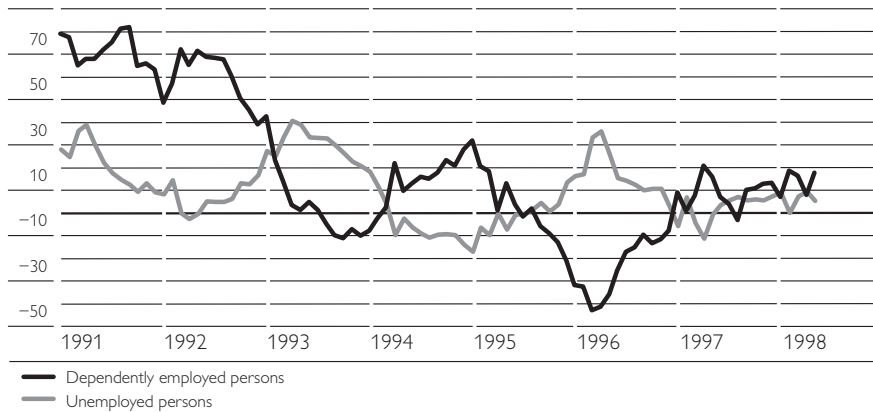
### More Jobs Added to the Labor Market

The economic uptrend benefited the labor market, which expanded by 0.4%, but the effects were still subdued. In April 1998, employment exceeded the analogous 1997 level already by 1.1%. Even though this value might be overly optimistic due to seasonal factors, it nevertheless points to an appreciable slackening of the labor market. In particular, factory employment rose by 2.1% year-on-year in April 1998 in spite of an enormous boost in productivity. The services industry, in contrast, only added new jobs at a rate of 0.8%. It has to be noted that a payroll swelled by 6.3% in business-related services contrasts with a 2.1% contraction in the commerce rolls. Statistics do not, however, reflect casual contracts, which have drastically expanded recently in the latter sector.

As the ripple effects of the business cycle are bound to spread to the domestic sector, service-industry employment might also get a boost in the foreseeable future. Given the simultaneous expansion of the pool of eligible labor, the 1998 unemployment rate might at best shrink marginally. Austria's labor market has always been characterized by labor supply that is

### Employment and Registered Unemployment

Annual change in 1,000



Source: Austrian Public Employment Office, Association of Austrian Social Security Institutions.

highly responsive to positive developments on the demand side. Chances are unemployment rates will dip somewhat in 1999 thanks to the business cycle. At 7.3%, the April 1998 jobless rate topped the analogous 1996 rate by 0.1% (according to the Austrian calculation method).

What is more, the Austrian government's National Action Plan (NAP) might already underpin the labor market in 1999. The NAP sets forth a set of measures which are to increase payrolls by 100,000 jobs and thus push back unemployment as calculated according to the EU method from 4<sup>1</sup>/<sub>2</sub>% (1997) to 3<sup>1</sup>/<sub>2</sub>% by the year 2002. Great store is set by maintaining the by international standards comparatively low level of youth unemployment, promoting new vocations and professions as well as making working time more flexible.

### Inflation Rate and Wage Increases Remain Moderate

Austria, along with Ireland and Finland, led the way in terms of price stability in the EU in 1997. The inflation rate as based on the Harmonized Consumer Price Index came to 1.2% year on year, compared to 1.3% when calculated according to the national CPI. Not since the late 1950s has this value been so low. In the first three months of 1998, inflation stood at 1.0%, and there is no disturbance of the price calm in sight. Much the same may be said of wholesale trade, where March 1998 prices surpassed last year's first-quarter prices by 0.5%.

Apart from the economic determinants of flexible wage policy and stepped-up competition, a number of special factors helped keep inflation in check. In mid-1997, the basis effect resulting from the introduction of the energy tax in June 1996 came to an end, and the dynamics of fuel prices temporarily slowed. 1997 rents and public tariffs and fees climbed at a markedly more moderate rate than in the years before.

Wage adjustments remained modest in 1997. Collectively bargained minimum wages rose by an annualized 1.8%, accelerating to 2.4% in the first quarter of 1998. The real effective exchange rate of the schilling sank by 3.3% in 1997; the downtrend will continue in a slightly less pronounced way in 1998: In the first three months the rate declined by 1.6%.

### Development of Selected Economic Indicators

	1996	1997	1997			1998			Forecast	
			2nd quarter	3rd quarter	4th quarter	January	February	March	1998 <sup>1)</sup>	1999 <sup>1)</sup>
<i>Annual change in %</i>										
<b>Overall economy</b>										
GDP, in real terms at 1983 prices	+ 1.6	+ 2.5	..	..	..	x	x	x	+ 2.7	+ 3.0
<i>dtthereof: investment</i>	+ 2.4	+ 3.6	..	..	..	x	x	x	+ 3.3	+ 4.6
<i>private consumption<sup>2)</sup></i>	+ 2.4	+ 0.7	..	..	..	x	x	x	+ 1.7	+ 2.1
Productivity (production per dependently)										
Industrial production	+ 2.1	+ 2.2	x	x	x	x	x	x	+ 1.9	+ 2.0
	+ 1.2	+ 5.4	+ 4.2	+ 5.1	+ 8.3	+ 4.5	..	..	+ 5.0	+ 4.3
<b>Labor market</b>										
Dependent employment	- 0.7	+ 0.3	+ 0.3	+ 0.2	+ 0.3	+ 0.6	+ 0.6	+ 0.3	+ 0.5 <sup>6)</sup>	+ 0.8 <sup>6)</sup>
Registered unemployment	+ 6.9	+ 1.2	+ 1.1	+ 3.0	+ 2.9	- 0.2	+ 2.4	+ 3.5	+ 3.1	- 2.1
%										
Unemployment rate <sup>3)</sup>	4.4	4.5	4.4	4.5	4.5	4.4	4.5	4.5	4.5	4.4
<i>Annual change in %</i>										
<b>Prices</b>										
Consumer price index	+ 1.9	+ 1.3	+ 1.4	+ 1.1	+ 1.0	+ 1.2	+ 1.0	+ 1.0	+ 1.2	+ 1.5
Harmonized consumer price index	+ 1.8	+ 1.2	+ 1.2	+ 1.1	+ 1.1	+ 1.2	+ 1.0	+ 1.0	x	x
Wholesale price index	+ 0.0	+ 0.4	- 0.0	+ 0.8	+ 0.5	+ 0.2	+ 0.3	+ 0.5	x	x
Foreign trade prices: <sup>4)</sup>										
Imports	+ 1.2	+ 1.1	..	..	..	x	x	x	+ 0.3	+ 1.3
Exports	+ 0.4	+ 0.5	..	..	..	x	x	x	+ 1.3	+ 1.1
<b>Wages</b>										
Negotiated standard wage rate index	+ 2.4	+ 1.8	+ 1.8	+ 1.9	+ 1.9	+ 2.4	+ 2.4	+ 2.4	+ 2.0 <sup>7)</sup>	+ 2.7 <sup>7)</sup>
Unit labor cost in industry	- 1.0	- 3.8 <sup>1)</sup>	x	x	x	x	x	x	- 2.5	- 1.5
<b>External sector</b>										
Imports, in nominal terms	+ 6.7	+10.9	+10.2	+13.0	+ 8.8	+ 6.4	..	..	+ 8.0	+ 9.6
Exports, in nominal terms	+ 5.5	+16.8	+20.2	+20.0	+16.5	+ 8.9	..	..	+11.4	+ 9.9
ATS billion										
Balance on current account	-43.4	-47.7	-20.7	- 8.2	-15.6	- 4.1	- 0.3	+ 0.4	-36.0	-37.2
%										
<b>Interest rates</b>										
Call money rate	3.19	3.27	x	x	x	3.37	3.37	3.36	x	x
Secondary market yield (federal government) <sup>5)</sup>	5.30	4.79	4.71	4.77	5.01	4.67	4.56	4.52	5.20	5.70
<i>Annual change in %</i>										
<b>Effective exchange rate</b>										
Nominal	- 1.5	- 2.3	- 1.9	- 3.2	- 1.9	- 1.3	- 1.1	- 1.0	+ 0.0	+ 0.8
Real	- 2.1	- 3.3	- 2.6	- 4.5	- 3.2	- 1.5	- 1.5	- 1.6	- 1.3	- 0.2
%										
<b>Budget</b>										
Federal government deficit in % of GDP	3.7	2.7	x	x	x	x	x	x	2.6	2.6
Deficit of the public households in % of GD	4.0	2.5	x	x	x	x	x	x	2.3	2.3

Source: OeNB, Austrian Central Statistical Office (ÖSTAT), Austrian Institute for Economic Research (WIFO), Austrian Labor Market Service, Association of Austrian Social Security Institutions.

<sup>1)</sup> Forecast of the Austrian Institute of Economic Research of March 1998.

<sup>2)</sup> Incl. collective consumption of the private nonprofit institutions.

<sup>3)</sup> Calculated according to the EU method.

<sup>4)</sup> Imports and exports of goods and services according to WIFO.

<sup>5)</sup> Ten-year federal government bonds (benchmark).

<sup>6)</sup> Excl. persons doing compulsory military service and persons on paid leave.

<sup>7)</sup> Change in gross earnings per employee.

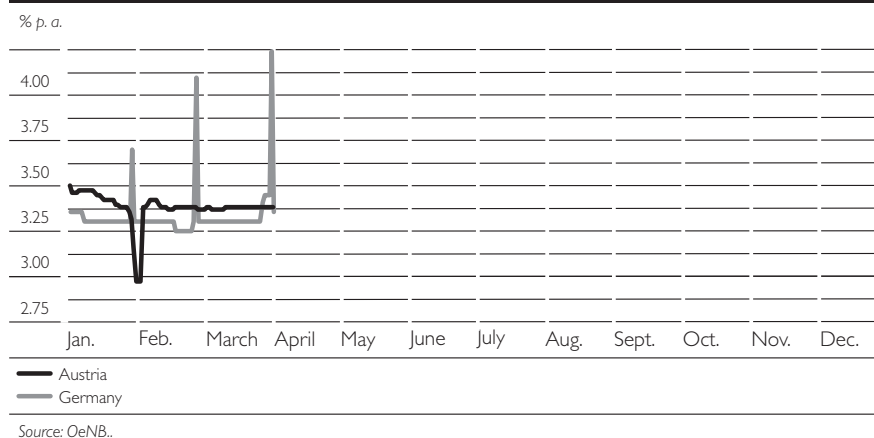
# Money and Credit in the First Quarter of 1998

## Ample Liquidity on the Money Market

Schilling money market rates largely stayed put in the first three months of 1998, fluctuating only marginally. The call money rate slightly declined in January, having before risen due to the year-end, and reached an exceptional low at the close of January/beginning of February, at 2.95%, dipping below the tender rate. Then it hovered around 3.35%. In the first quarter call money fluctuated between 2.95 and 3.49%, i.e. within a 0.54% bracket. For longer maturities, money market rates changed less pronouncedly: With three-month paper, the bandwidth amounted to 0.25 percentage points, six-month paper fluctuated within a 0.29 percentage point and 12-month paper within a 0.27 percentage point bracket.

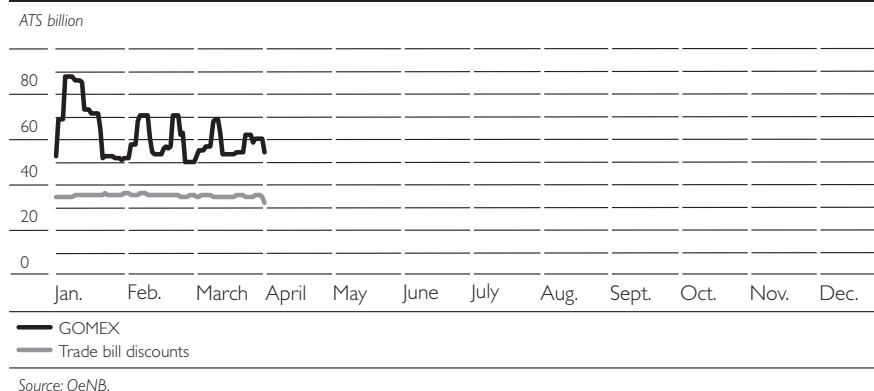
Austrian short-term rates lay slightly higher than comparable Euro-Deutsche mark rates, with the exception of the temporary drop of the call money rate end of January and the Deutsche mark gyrations at the end of each month.

### Call Money Rates Austria - Germany 1997



In the first three months of 1998, the OeNB left the tender rate (3.2%), the discount and lombard rates (2.5 and 4.75%, respectively) as well as the interest rate for GOMEX, or short-term open market, transactions (3.4%) unchanged.

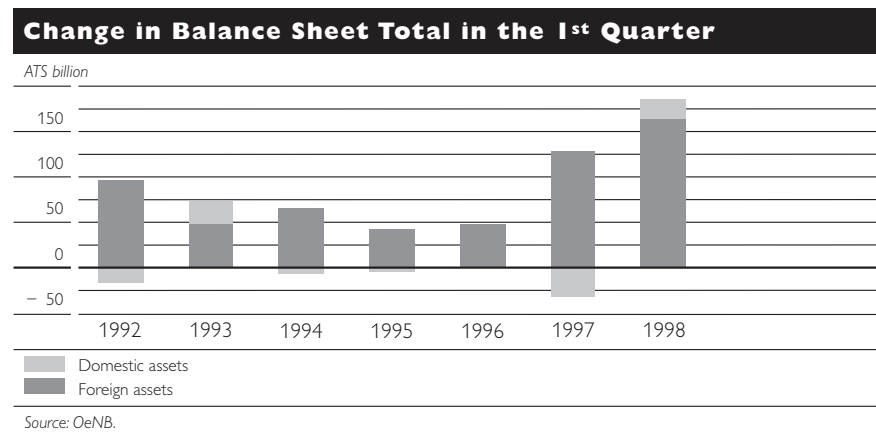
### Utilization of Refinancing Limits in 1998



In general, liquidity on Austria's money market was very high over the entire reporting period. Banks' recourse to central bank refinancing via standard instruments was somewhat greater than in the comparable 1997 period, averaging 62%. Up until March, banks made extensive use of tender operations (95%), with utilization retreating to below 80% by the end of the first quarter.

### Balance Sheet Total Grows Much More Heftily

In the first quarter of 1998, Austrian credit institutions' balance sheet total jumped by ATS 189 billion (+3.1%) or almost twofold compared to last year's analogous period. This expansion of the balance sheet total is primarily due to international business. On the domestic front, foreign currency direct loans and deposits pushed back their schilling counterparts. Following the steep decline in the first quarter of 1997, interbank positions decreased appreciably less on the liabilities side and nudged up slightly on the assets side. Hence, compared to last year domestic business gathered momentum.



At 2%, banks' operating result growth year-on-year slightly lagged business volume growth, in relation to the balance sheet total it edged down from 0.67% to 0.65%. This dip was due to sinking net interest income (also in absolute terms); the result from non-interest-related transactions progressed marginally in relation to the balance sheet total, namely from 0.29 to 0.30%. As a consequence the share of non-interest-related business in the aggregate operating result expanded further, reaching 46% and standing 9 percentage points higher than three years ago. On balance, operating income advanced at a somewhat slower pace than operating expenditure.

As in the first quarter of 1997, the number of bank staff was on the decline, shrinking by 833 to 70,053 persons. The operating result per employee thus climbed by 3.2% to roughly ATS 188,000.

In relation to average claims and liabilities the interest margin in nonbank business slipped from 2.14% to 1.97%. The drop in nonsecuritized claims and liabilities was contrasted with gains in securitized instruments.

### **International Business Still Going Strong**

As in previous years, international business was brisk in the first quarter; at about 85%, the share in the expansion of the (asset-side) business volume, however, trailed the comparable levels of the past four years somewhat. Foreign assets surged by ATS 165 billion or 11.4%, and foreign liabilities rose by ATS 153 billion (+9.3%). Therefore the foreign balance contracted by ATS 12 billion to –ATS 187 billion. Shadowing the first-quarter developments of the years 1996 and 1997, the share of foreign assets in the balance sheet total swelled further, topping the 1997 year-end level by 1.9 percentage points (26.1%).

Over half of the increase in business volume both on the assets and the liabilities side was accounted for by interbank business. The foreign interbank balance diminished by less than ATS 1 billion to –ATS 147 billion, while the balance on claims on and liabilities to foreign nonbanks augmented by ATS 13 billion to –ATS 41 billion. Almost a quarter of the expansion was driven by investments in securities and participations, another quarter was accounted for by lending to foreign nonbank customers. Both items posted slightly stronger gains than in the analogous 1997 period. The internationalization of the direct lending portfolio thus progressed further. At the end of March, already 21.9% of all nonsecuritized claims were vis-à-vis foreign customers and/or denominated in foreign currency; exactly a year ago their share had come to 17.7%, while it had racked up 20.2% at the close of 1997.

Over a quarter of the inflow of foreign funds, i.e. around ATS 41 billion, may be traced to issues on international capital markets. Nonresidents' deposits rose by ATS 27 billion. Savings deposits have increasingly been acquiring an international touch as well: The share of deposits held by nonresident customers or denominated in foreign currency increased by 1.7 percentage points to 20.2% in the first quarter.

International business saw both interest income and interest expenditure rise significantly; on balance, net interest income did, however, fall by about 0.3% to ATS 1.8 billion.

### **Demand for Direct Credits Is On the Wane**

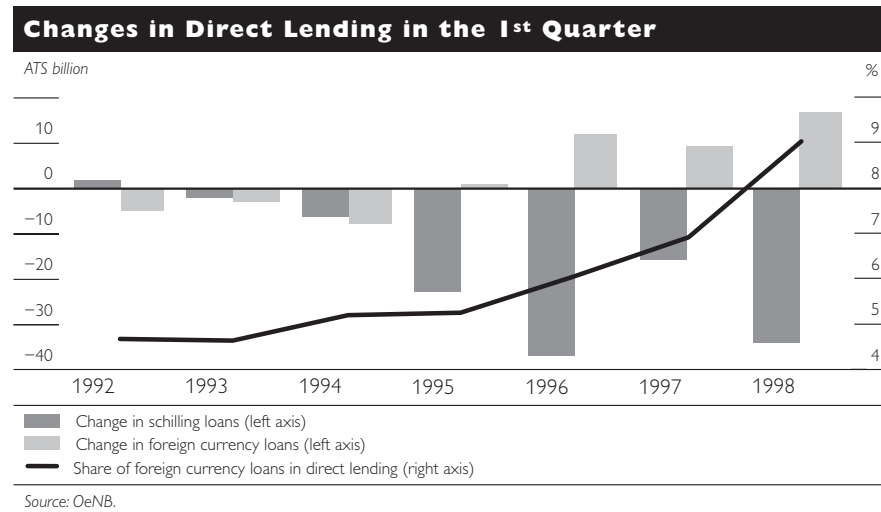
At ATS 19.1 billion, net interest income from domestic business basically remained unchanged from last year.

Domestic direct lending contracted by ATS 17.4 billion in the first quarter of 1998. The public sector in particular curbed its demand for direct credits, but households also followed suit – much in the same way as in the comparable 1997 period – and diminished their bank liabilities. Businesses expanded their bank loans in a lesser way than in 1997. However, housing loans for the acquisition and upkeep of accommodations slightly outperformed last year's figure, rising by ATS 9.9 billion.

As in the past five years, schilling direct lending was on the decline in the first three months of 1998, decreasing at more than double the rate year-on-year (–ATS 34.0 billion). In the wake of the maturity extension of export financing bills from three months to twelve months, such bills are no longer reported as bills discounted but instead as interbank claims or claims on

nonbanks. Outstanding bills discounted thus shrank sharply in the first quarter of 1998 (-ATS 20.7 billion or -35.9%). But other schilling loans also decreased, underperforming the 1997 year-end level by ATS 13.2 billion at the end of March 1998.

By contrast, foreign currency direct lending, having gained ATS 16.6 billion since the beginning of the year, remained buoyant. Its share in total direct loans outstanding augmented further and ran to no less than 9.0% at the end of March. The low interest level of a number of foreign currencies makes such financing instruments especially attractive. Both businesses and households widened their foreign currency liabilities – mostly at the expense of schilling items –, whereas the public sector diminished its foreign currency loans.



Securitized loans including GOMEX transactions posted a steep increase again, which mainly came on the back of stepped-up investment in government debt securities, with the latter expanding by ATS 15 billion in the first quarter of 1998. Nonsecuritized claims on the government sank by ATS 16 billion, causing total government financing through credit institutions to recede by ATS 1 billion.

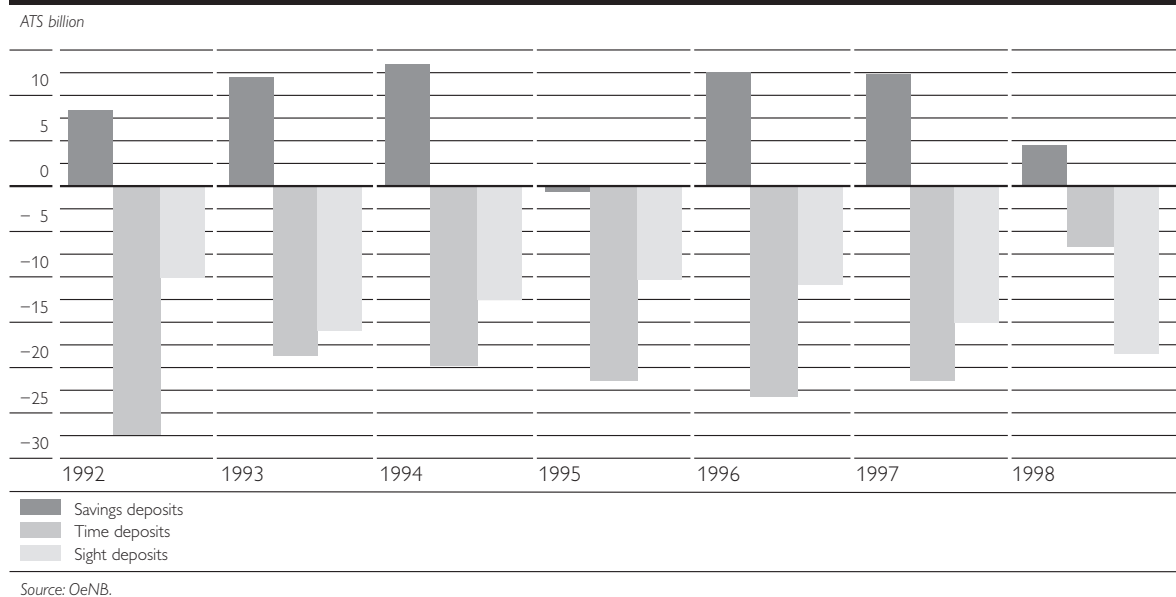
Holdings of domestic bank bonds recorded a relatively solid increase in the first three months, about half of which were denominated in schilling and half in foreign currency. By contrast, holdings of fixed income securities of enterprises were on the slide. Stocks were replenished only negligibly, merely foreign currency investment certificates were snapped up to a greater extent.

Domestic interbank claims only slipped by ATS 2.4 billion in the survey period after having plunged by more than ATS 50 billion in the first quarter of 1997. Liabilities rose by ATS 13.5 billion following a comparably sharp contraction a year earlier. The share of interbank assets in the balance sheet total shrank by  $\frac{1}{2}$  percentage point to 14.4%. This changing trend was, however, due in part to a different calculation method and the abovementioned reclassification of export financing bills.

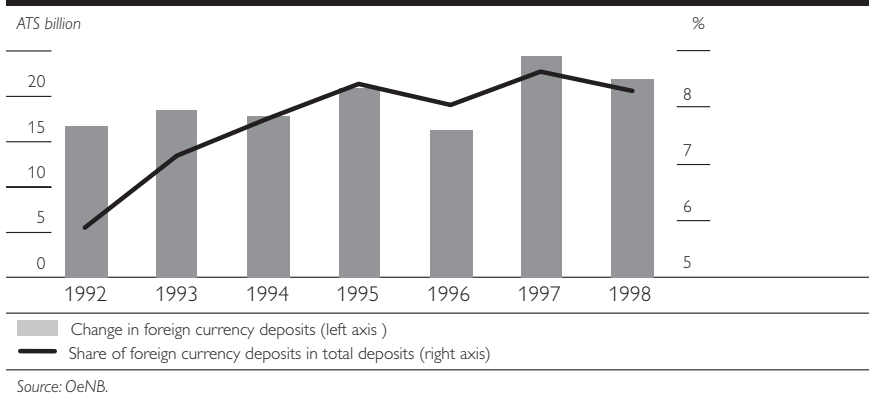
### Foreign Currency Deposits Continue to Rise

Schilling deposits at credit institutions declined for the seventh year in a row in the first quarter of 1998 (-ATS 11.7 billion). The slide moderated considerably in 1998, however. Sight and time deposits contracted – albeit less sharply than in the year-earlier period – by ATS 9.3 billion and ATS 6.7 billion, respectively, which was foremost attributable to diminishing public sector deposits. Households and nonfinancial enterprises boosted their bank deposits (which is particularly true of the latter's time deposits). Chalking up a mere ATS 4.4 billion, deposit growth slowed down markedly year-on-year. Deposits with maturities of over five years expanded quite substantially, causing deposits with maturities of up to twelve months to fare less well.

#### Schilling Deposits in the 1<sup>st</sup> Quarter



#### Changes in Foreign Currency Deposits in the 1<sup>st</sup> Quarter





The gain in foreign currency deposits, which amounted to +ATS 21.8 billion in the first quarter, slowed down somewhat. At 8.2%, their share in total deposits fell slightly short of the year-earlier value. All told, domestic nonbanks' deposits climbed by ATS 10.1 billion in the first three months of 1998 (first quarter 1997: –ATS 3.4 billion).

Demand for deposit substitutes remained brisk. Sales of credit institutions' own domestic issues edged up a mere ATS 2.0 billion since the end of 1997, but demand for investment certificates stayed unperturbedly strong.

Investment funds' assets advanced by ATS 53 billion in the first quarter of 1998 (first quarter of 1997: +ATS 40.5 billion).

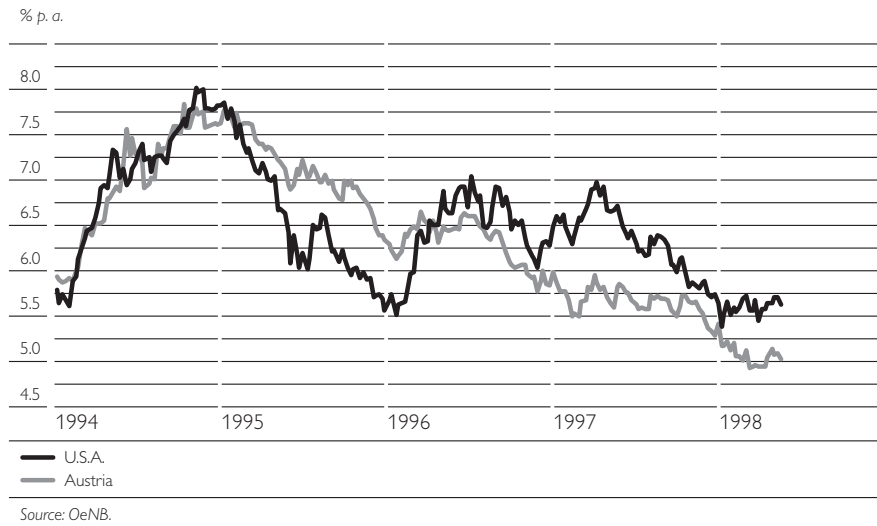
### **Rise in the Equity Ratio to 13.71%**

In the first quarter of 1998, domestic credit institutions' own funds increased by ATS 11.3 billion or 2.9% to a total of ATS 407.5 billion. In the corresponding year-earlier period they had mounted by ATS 20.8 billion. The banks' equity ratio according to § 23 of the Austrian Banking Act 1993 thus improved from 12.94 to 13.71%.

# The Bond Market in 1997

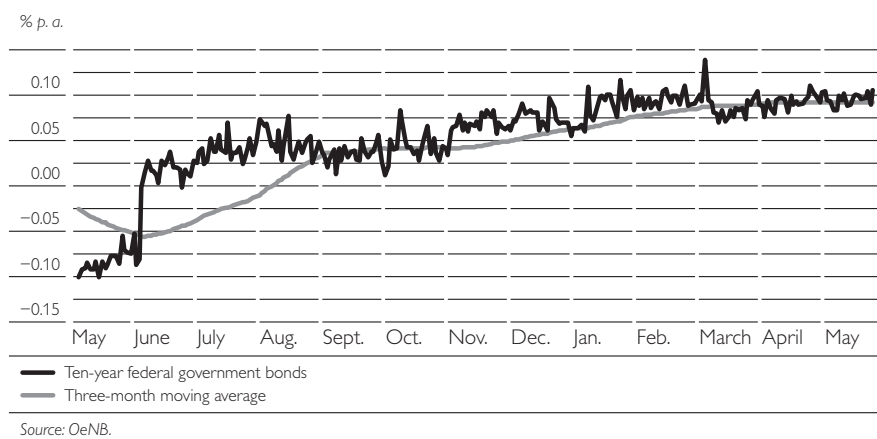
In 1997, interest rates in the major international capital markets declined. The downward trend was, however, less pronounced in Germany and in Austria than in the U.S.A. Nevertheless, in the first quarter of 1998 yields dropped to an all-time low in Austria.

## Benchmark Yields for Ten-year Federal Government Bonds



Austrian yields contracted largely in parallel with German yields; in spring the yields of Austrian ten-year government bonds even slid a few basis points below the corresponding German benchmark. In the early summer, the usual minor positive yield gap reemerged.

## Yield Curves Austria - Germany for Ten-year Federal Government Bonds



In the course of 1997, yields converged ever more closely in the euro area: In France, the Benelux countries, Finland, and Austria ten-year government bond yields lay within just a few basis points of the German benchmark. Italy's, Spain's and Portugal's progress towards convergence was remarkable, they narrowed their yield gaps by between 70 and 120 basis

points to less than 40 basis points at the beginning of the year and considerably less than 30 basis points at the end of April 1998.

### Dominant Share of Constant Emissions Poses Problems for Capital Market Statistics

After a restructuring in recent years, complete capital market statistics on bonds outstanding, gross and net issuing volumes are now available without a time lag. As Austria's capital market is becoming increasingly integrated in international market operations, statistics on the placement of new domestic issues were discontinued in mid-1997 because they had lost much of their relevance.

The fact that constant emissions are not sufficiently documented continues to cause serious problems for capital market analysts, as real utilization and outstanding volume cannot be reliably assessed. The 1992 Capital Market Act exempted constant emissions from the prospectus requirement; as a consequence, banks began to issue bonds mainly as constant emissions, not least to cut costs. Today, statistically documented one-off issues account for just a minor share of banks' issues. In 1997, for example, the constant emissions' share of total bank emissions came to 87% (approximately ATS 171 billion).

## Bond Market

	Nonbank issues						Issues by credit institutions			Debt securities total (5+6+7)
	federal government		other public bodies	other domestic nonbanks	domestic nonbanks (1+3+4)	foreign issuers	total	thereof		
	total	thereof federal obligations						mortgage bonds	municipal bonds	
ATS million	1	2	3	4	5	6	7	8	9	10
<b>Volume of debt securities outstanding</b>										
1993	480,400	85,621	30,008	34,945	545,353	29,900	577,481	66,583	131,969	1,152,734
1994	547,955	74,688	31,367	42,282	621,604	26,800	628,682	69,399	130,429	1,277,086
1995	616,032	67,221	25,731	50,597	692,360	26,050	682,597	71,581	130,478	1,401,007
1996 <sup>1)</sup>	674,634	52,546	23,659	41,733	740,027	19,190	735,664	65,995	127,592	1,494,881
1997	742,208	29,098	28,534	46,755	817,497	23,035	784,865	67,985	119,498	1,625,397
<b>Gross issues</b>										
1993	94,258	1,670	5,000	8,616	107,874	5,100	141,293	11,954	14,194	254,267
1994	100,244	2,690	4,250	12,037	116,531	4,550	136,925	8,498	12,195	258,006
1995	115,064	6,640	1,750	13,874	130,688	3,750	173,213	9,008	17,424	307,651
1996 <sup>1)</sup>	103,250	650	2,365	6,020	111,635	5,470	168,395	4,976	12,631	285,500
1997	120,436	0	5,486	10,911	136,833	6,589	171,049	9,461	10,127	314,472
<b>Redemptions</b>										
1993	27,638	14,312	4,813	3,229	35,680	2,000	73,354	5,192	13,985	111,034
1994	32,689	13,623	2,891	4,700	40,280	7,650	85,724	5,682	13,735	133,654
1995	46,987	14,107	7,386	5,559	59,932	4,500	119,298	6,826	17,375	183,730
1996 <sup>1)</sup>	33,860	11,281	1,835	6,124	41,819	4,000	123,720	8,784	14,473	169,539
1997	52,863	23,448	1,051	5,201	59,114	2,758	127,118	7,524	18,220	188,989
<b>Net issues</b>										
1993	66,620	-12,642	187	5,387	72,194	3,100	67,939	6,762	209	143,233
1994	67,555	-10,933	1,359	7,337	76,251	-3,100	51,201	2,816	-1,540	124,352
1995	68,077	-7,467	-5,636	8,315	70,756	-750	53,915	2,182	49	123,921
1996 <sup>1)</sup>	69,390	-10,631	530	-104	69,816	1,470	44,675	-3,808	-1,842	115,961
1997	67,573	-23,448	4,435	5,710	77,719	3,831	43,931	1,937	-8,093	125,483

Source: OeNB.

<sup>1)</sup> Data break because of the new survey method applied from the first quarter of 1996.

<sup>2)</sup> It is not possible to derive results (volume of debt securities outstanding of the previous period + net issues = volume of debt securities outstanding for periods which include data prior to the first quarter of 1996 because from that period onward the data include the shilling values of foreign currency issues (resulting in possible valuation differences).

Clarity on Austrian major issuers' placements is especially important in the context of the enhanced integration of EU capital markets triggered by the introduction of the euro. It might therefore be considered to amend the Capital Market Act to including a prospectus requirement for constant emissions or provisions for an equally efficient mode of recording statistical data. Recent years' growing variety of instruments (often including options) would also merit classifying banks' issues by structure and terms.

The volume of bonds outstanding came to ATS 1,625 billion at year-end 1997 and thus surpassed the previous year's level by almost 9%, keeping the growth rate steady at recent years' average pace. Banks' issues, as usual, took the lead with a share of 48%, followed by federal government issues at 46%. Gross issues mounted by 9% to ATS 314 billion, while net issues (after the deductions for redemptions) augmented by just 8% to ATS 125 billion. In line with 1990s trends, 54% of net issues (ATS 67.6 billion) were launched by the federal government, while the banks' share amounted to 35% (ATS 43.9 billion).

### One-off (Gross) issues

	Federal government total	Other public bodies	Other domestic nonbanks	Domestic nonbanks	Foreign issuers	Credit institutions total	Debt securities total
	ATS million						
1996	102,600	2,345	4,723	109,668	5,402	10,202	125,272
1996							
1st quarter	30,600	2,345	322	33,267	1,232	3,864	38,363
2nd quarter	25,600	x	3,383	28,983	1,000	3,108	33,091
3rd quarter	30,800	x	388	31,188	920	1,370	33,478
4th quarter	15,600	x	630	16,230	2,250	1,860	20,340
Floating rate issues							
1st half	x	245	50	295	x	1,055	1,350
2nd half	x	x	x	x	x	350	350
1997	120,436	250	15,612	136,298	6,050	21,990	164,338
1997							
1st quarter	35,268	x	1,145	36,413	1,200	6,855	44,468
2nd quarter	55,168	x	1,571	56,739	4,850	2,871	64,460
3rd quarter	25,000	x	1,817	26,817	x	8,018	34,835
4th quarter	5,000	250	11,079	16,329	x	4,247	20,575
Floating rate issues							
1st half	x	x	x	x	500	1,761	2,261
2nd half	x	x	4,546	4,546	x	1,188	5,734

Source: OeNB.

Traditionally, bank and federal government launches dominate Austria's primary market. In 1997, a gross total of ATS 164 billion in one-off issues was floated, 31% more than in 1996. The federal government accounted for the lion's share (ATS 120 billion), while banks more than doubled their placements to ATS 22 billion. However, these data refer only to the limited sector of one-off issues, not to the sector of constant issues, which made up more than 90% of bank issues in recent years.

95% of one-off issues were fixed interest bonds, merely ATS 8 billion (5%) were floating rate issues. Low interest rates and widespread

expectations among market participants that rates would decline further resulted in robust demand for fixed interest bonds.

### **Efforts to Promote the Austrian Bond Market**

In 1997, three quarters of the ATS 120 billion (gross) of government bonds were issued in the first half of the year. The government thus continued its policy of boosting this market segment's liquidity by increasing volumes and reopenings. Therefore, individual issuing volumes generally reached ATS 15 to 20 billion. In July the government issued its first thirty-year bond and thus significantly widened the maturity spectrum at the long end, counterbalancing the dominant position of five- to ten-year maturities.

In another step to reinforce government bonds' popularity, the federal government introduced strippable bonds, of which three issues have been launched so far. As strippable bonds' coupons can be traded separately from the redemption payment, they allow for greater investor flexibility. In major capital markets, e.g. in the U.S.A. and France, strips were launched a long time ago. In 1997, Germany and Spain also established strip markets. A broad strip market, such as the American and French bond markets, supplies data for the calculation and analysis of yield spread curves similar to those generated for zero coupon bonds. Countries with smaller capital markets, such as Sweden, opted not to issue strips in order not to fragment bond liquidity.

The federal government's launch of a parallel bond in January 1997 attracted international attention. In this case a euro market bond denominated in French francs (FF 5 billion; seven-year maturity) was linked to a schilling bond with equivalent coupon and maturity features. Following the launch of the euro (both bonds will then be denominated in the same currency, euro) the issuer can merge the two bonds, and other parallel bonds if coupon and maturity match. This new model supports the integration of the domestic market into international bond markets; it can serve to strengthen smaller markets' competitiveness in the vast euro capital market, where liquidity will play a vital role. With the elimination of exchange rate risks for participants in the European Economic and Monetary Union, yield spreads will be determined primarily by liquidity levels and credit ratings. In July the federal government launched a second parallel bond, this time in the Netherlands, with a volume of NLG 1 billion. Contrary to the first launch, the issuer did not include provisions for a right of termination; consequently, with the introduction of the euro this launch will be merged with the strippable thirty-year government bond mentioned above to raise liquidity.<sup>1)</sup> In October, Belgium also issued parallel bonds in French francs and Deutsche mark, to be merged automatically on their redenomination in euro.

Since 1991 federal government bonds have no longer been launched via a bank syndicate but through a tender procedure based on the American model. As a result, Austria has several years' experience with a launching method adequate to market requirements. Once agreement is reached on the maturity of a bond with a fixed volume, market participants submit their offers for the interest rate at which they are willing to accept a certain

volume.<sup>2)</sup> The changing composition of tender participants is especially remarkable. While in the early 1990s participation was confined mainly to Austrian banks, in recent years foreign banks increasingly took interest. In 1997, nine additional foreign banks joined the primary market: ABN/AMRO, Commerzbank, HSBC, ING, Salomon Brothers International, SBC Warburg, Société Générale and Banque Paribas. As a result, foreign banks now for the first time outnumber domestic banks in the tender procedures. The lively foreign interest in its most important sector is a sign of the Austrian capital market's growing integration into international markets.

### **Banks' One-off Issues Characterized by Diversification of Structures and Terms**

As in the past, banks for the largest part launched their one-off issues as private placements. The growing trend towards financial engineering is particularly noticeable in this sector of the market. In order to enhance competitiveness, banks increasingly cater to institutional investors' demand for custom-made products.

With the introduction of the euro issuing institutions will face even tougher competition in the issuing sector, since the bond market will no longer be segmented by separate currencies. Only large issuing institutions with a flexible response to changes in demand will be in a position to survive in such an environment. The euro capital market is, on the whole, likely to benefit from growing liquidity and shrinking issuing costs.

A number of banks (and the federal government) have launched fixed reverse floaters in addition to subordinated bonds. Holders of a fixed reverse floater receive fixed interest over a first period of time, which in the second period is replaced by a spread between a long-term rate and a money market rate (generally the six-month VIBOR). This instrument is designed for investors who expect long-term interest rates to slip in the first period and money market rates to be low in the second period. Both bond instruments were introduced in the Austrian market in the early 1990s. Furthermore, banks launched a number of novelties in the Austrian market in 1997, many of which incorporated options and were mainly directed at institutional investors. Cliquet bonds, which contain a series of call options for shares in the appreciation of a stock index, and dynamic collared floaters, i.e. money market floaters with a set upper and lower interest limit, are just two out of a variety of examples.

Enterprises such as Porsche, Lauda Air, max.mobil and SCHIG (the Austrian rail infrastructure financing company) more than tripled their issuing volume to almost ATS 16 billion in 1997. This represents a remarkable new trend, since traditionally, companies in Austria and Germany, other than in England or the U.S.A, usually turn to bank loans to raise external funds. With the introduction of the euro the market for corporate bonds in the EU can be expected to gain depth throughout the EU.

The volume of foreign issues climbed just slightly from the 1996 level to ATS 6 billion, with schilling bonds issued by the Republic of Argentina (ATS 1 billion) and the Republic of Brazil (ATS 2 billion) recording the

highest volumes. The Brazilian bond was the first parallel bond issued by an emerging market debtor and the first parallel bond to be launched in Austria.<sup>3)</sup>

For the first time in the 1990s, the secondary market suffered a notable setback after boisterous growth in recent years. After total turnover gains of 86% in 1995 and 27% in 1996, turnover slumped by 33% in 1997. This slack may in part be due to the fact that no substantial yield curve shifts occurred.

Foreign demand for schilling bonds in 1997 was bullish, with net turnover reaching ATS 32 billion (ATS 21 billion of which were government bonds). Foreign banks' enhanced participation in the primary market for government bonds mentioned above bolstered sales of schilling bonds abroad.

*1 One of the reasons why the government decided not to include a right of termination was that one of the most important groups of investors, Dutch pension funds, are not permitted to invest in bonds vested with a right of termination. The parallel bond is also strippable and features a thirty-year maturity.*

*2 A description of this issuing method can be found in Mader, R.: A Survey of the Austrian Capital Market; Oesterreichische Nationalbank, Working Paper 16, 1994.*

*3 The other two tranches were issued in French francs and Netherlands guilders; with the introduction of the euro, the three tranches will be merged.*

# Austria's Balance of Portfolio Investment 1997<sup>1)</sup>

## Overall Balance

In 1997 both the volume of residents' investment in foreign securities and of nonresidents' investment in domestic paper towered over the past decade's levels. Many of the trends observed in 1995 and 1996 continued in 1997, especially investors' shifting assets from low-interest bank accounts to higher-interest securities. Within the sector of securities, the upcoming onset of Stage Three of EMU can be seen as one of the factors which have prompted a further diversification of portfolios.

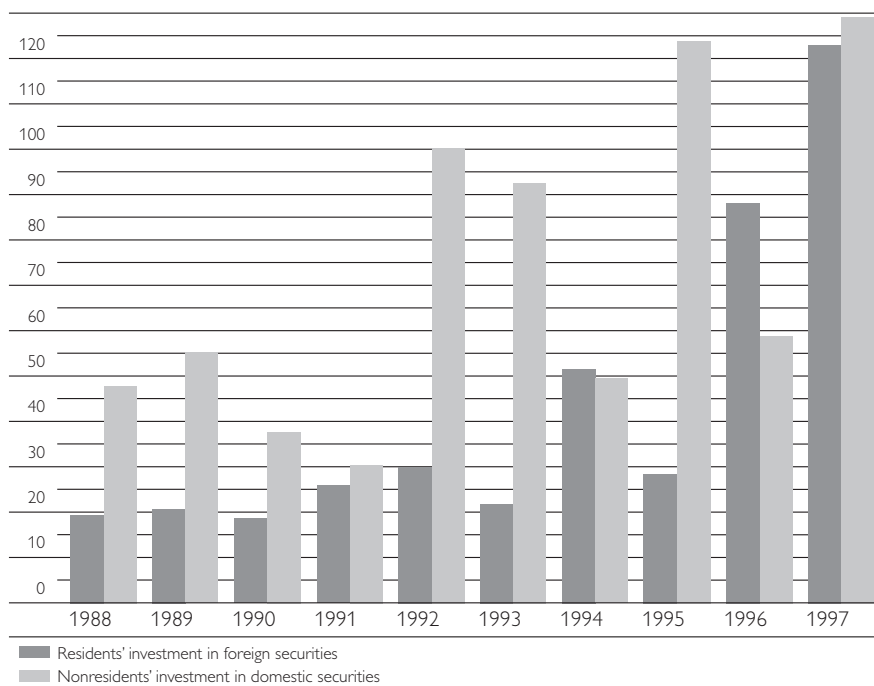
In the course of 1997, residents invested ATS 123.0 billion (1996: ATS 88 billion) in foreign securities, while nonresidents invested ATS 129.1 billion (1996: ATS 59.1 billion) in domestic paper. Resident investors increased their holdings of foreign paper by 33% on the 1996 year-end level of ATS 367.2 billion and nonresidents added a further 13% to their ample stock of ATS 961.6 billion at the end of 1996.

The dominant position of long-term securities both in overall acquisitions and in the structure of Austria's net external assets in 1997 is in keeping with longstanding trends.

Among long-term instruments debt securities hold the lead; equity securities and investment certificates have, however, gained increasing importance over the past five years. Equity posted particularly strong growth in 1997.

## Investment in Securities

ATS billion



Source: OeNB.



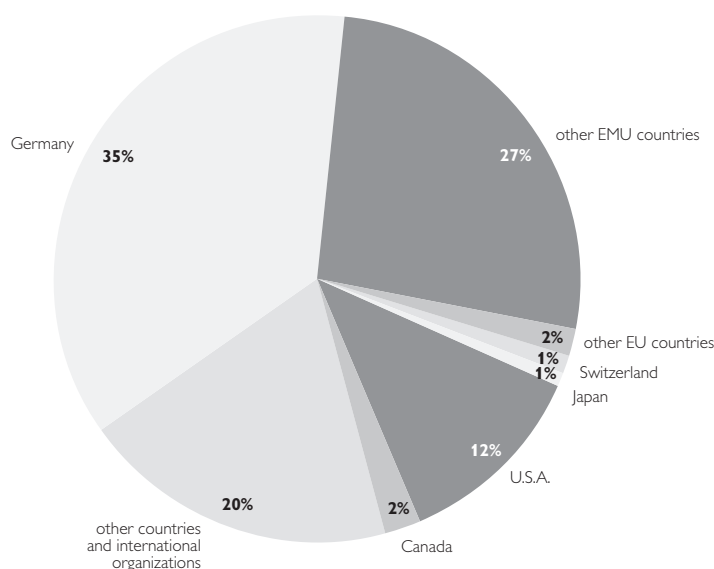
### Residents' Net Investment in Foreign Securities

Residents acquired a further ATS 91 billion of debt securities in 1997 (1996: ATS 75.8 billion) and thereby expanded their holdings by 31% on the ATS 294.1 billion held at the end of 1996. Soaring net selling of foreign bonds within residents' total volume of transactions of ATS 15 billion in December 1997 stopped at the beginning of 1998 and was offset by net acquisition in January. Overall, the transactions are likely to have taken place as part of transfers between different securities launched by the same foreign issuer.

An analysis of the debt securities' issuing currencies reveals that residents opt primarily for EU currencies (ATS 45 billion, some 50% of net debt security investment) and the U.S. dollar (ATS 35.2 billion or 39%). Among the EU currencies the euro-11 play a main role, with overall investment amounting to ATS 47.4 billion in this group of currencies in 1997. The euro-11 share of EU currencies investment came to an average of 88% from 1992 to 1997; with Deutsche mark share alone totaling 74%. Of securities issued in the other EU currencies only pound sterling issues posted net acquisitions (1997: ATS 3.1 billion; 1996: ATS 5.6 billion) whereas Danish krone and Greek drachma issues marked net sales. As to non-EU European currencies, Austrians for the first time bought notable volumes of debt securities issued in Czech koruny (ATS 1.2 billion) and Polish zlotys (ATS 1 billion).

The regional breakdown of issuers shows acquisitions of EU issues at a level of ATS 58.2 billion, which implies a close correspondence between the currency area and the group of countries of issue in this major segment of acquisitions. Domestic investors' portfolio structures reveal no evident effects of the Asian crisis.

### Residents' Total Purchases of Foreign Equity and Debt Securities from 1992 to 1997



Source: OeNB.

Residents' investment in equity securities must be seen against the backdrop of increased supply in equity markets, which is partly due to many EU countries' privatization drives. In 1997, ATS 20.9 billion of foreign stocks were bought, which is equal to the sum of acquisitions between 1994 and 1996. Residents invested mainly in stocks from EU countries (above all Germany, France and the United Kingdom) and the United States; while investment in Swiss shares was moderate, despite their good performance.

In addition, residents purchased ATS 10.4 billion of investment certificates, primarily shares in equity and mixed funds.

The main thrust for growth of residents' investment in foreign securities can be ascribed to investment funds. Recent statistics on domestic investment funds' assets report that holdings of foreign securities climbed 57% to ATS 80.7 billion in 1997.

Along with investment funds, banks and insurance companies act as powerful investment pools. Just as in 1996, banks raised their holdings of foreign securities, above all debt securities and bonds. Two additional factors affected the net changes on 1996: A higher volume of securities was purchased for forward contracts (with a strong focus on the German Bund future), and the altered legal framework prompted investors to reshuffle their portfolios. According to first calculations, net changes amounted to ATS 60 billion.<sup>2)</sup>

The surge of Austrian investment in foreign securities is in keeping with international trends: Recent IMF data show that German, French and Dutch investors expanded their holdings of securities by 15% to 20% in the first three quarters of 1997, measured against 1996 portfolio volumes on a U.S. dollar basis. In the same period Austrian holdings of securities grew by 40%, and Spanish volumes rose by 53%.

### **Nonresidents' Portfolio Investment in Domestic Securities**

In 1997 nonresidents purchased approximately ATS 97.5 billion (1996: ATS 30.7 billion) of domestic debt securities and thus augmented their holdings of domestic bonds by some 11% over the 1996 year-end level of ATS 861.2 billion. Of the securities purchased ATS 68 billion were issued by banks, ATS 19.5 billion by public institutions and ATS 10 billion by businesses.

The sales of domestic bank bonds abroad exceeded 1995 and 1996 levels by some ATS 40 billion, which is partly due to the above-average volumes of U.S. dollar commercial paper sold.

Schilling issues (ATS 20.7 billion) account for virtually all of the ATS 20 billion of capital imports from public sector securities. The net sales of schilling bonds are an aggregate of the net sales of ATS 38.2 billion (1996: ATS 10.7 billion) in the primary market and nonresident investors' reciprocal sales of some ATS 17.5 billion (1996: ATS 30.0 billion). Bonds issued in 1997 posted the highest share of transactions. Purchases by nonresidents accounted for ATS 20.7 billion or 24.6% of the total net change of schilling securities issued by the Republic of Austria in circulation in 1997 (funded ATS debt as recorded in the "Finanzschuldenbericht," the

report on federal debt). Other than in the years from 1992 to 1996, the volume of foreign currency bonds issued by the public sector traded abroad did not exceed the volume of such bonds due for redemption.

A sum of ATS 28 billion or 29% of nonresidents' investment in domestic bonds came from Germany and France.<sup>3)</sup> Both German and French investors primarily showed interest in public sector bonds, which may be linked to the fact that banks from both countries play a prominent role in tender procedures for domestic government bonds.

The classification of debt securities by denomination shows that nonresidents mainly bought securities issued in EU currencies (ATS 74.4 billion) and in U.S. dollars (ATS 19.7 billion). Among the EU currencies the Austrian schilling took the lead (ATS 32.4 billion; 1996: ATS -19.5 billion), followed by the Deutsche mark and pound sterling. Also, one bond issue each was floated in French franc and in Netherlands guilders via public sector parallel bonds linked to new or existing schilling bonds. At the start of Stage Three of EMU these and similar parallel bonds issued by Belgium and Spain will be converted into joint euro bonds.

In addition, nonresidents invested some ATS 18 billion in domestic bank and industry stocks, which is almost ATS 1 billion more than in 1996. Foreign holdings of Austrian equity thus climbed 28% since the end of 1996. As in previous years, foreigners primarily opted for stocks with a major influence on the ATX (e.g. OMV) and shares launched in recent privatization bids, e.g. of Bank Austria and Austria Tabak, as well as new launches as in the case of Erste Bank.

At a level of ATS 14.0 billion, up from ATS 11.6 billion in 1996, nonresidents' purchases of investment certificates primarily benefited annuity funds and mixed funds.

## Tabellenanhang

### Balance of Residents' Portfolio Investment in Foreign Securities

#### Breakdown by Financial Instruments

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 <sup>1)</sup>
<i>ATS billion</i>										
<b>Foreign Securities Total</b>	19.6	20.7	18.6	25.9	29.9	22.0	51.5	28.5	88.0	123.0
<b>Long-term securities total</b>	17.8	23.8	19.7	19.9	29.8	20.4	48.9	29.8	81.4	127.3
Debt securities	10.9	16.8	14.6	19.3	27.7	14.0	39.0	24.5	69.1	95.3
Equity and other securities	6.7	6.5	4.9	- 1.0	- 1.2	4.9	10.0	4.4	6.1	21.7
Investment certificates	0.2	0.5	0.2	1.6	3.3	1.5	- 0.1	0.9	6.1	10.4
<b>Short-term securities total</b>	1.7	- 3.0	- 1.0	6.0	0.1	1.6	2.6	- 1.3	6.7	- 4.3
CPs und CDs	x	x	x	x	0.0	0.4	- 0.1	0.9	2.9	- 1.8
Other short-term securities	x	x	x	x	0.1	1.2	2.7	- 2.2	3.8	- 2.5

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

### Balance of Nonresidents' Portfolio Investment in Domestic Securities

#### Breakdown by Financial Instruments

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997 <sup>1)</sup>
<i>ATS billion</i>										
<b>Domestic Securities Total</b>	47.8	55.2	37.8	30.6	100.5	92.6	49.7	123.9	59.1	129.1
<b>Long-term securities total</b>	40.7	43.6	35.2	33.0	67.5	119.9	50.3	131.7	71.6	115.0
Debt securities	35.8	32.3	27.1	30.6	65.4	106.0	35.2	119.2	43.2	83.4
Equity and other securities	2.5	7.7	8.1	2.5	0.6	10.2	9.2	5.8	16.8	17.6
Investment certificates	2.5	3.6	0.0	- 0.1	1.6	3.7	5.9	6.7	11.6	14.0
<b>Short-term securities total</b>	7.1	11.5	2.6	- 2.4	33.0	- 27.3	- 0.6	- 7.7	-12.5	14.1
CPs und CDs	x	x	x	x	33.0	- 28.5	- 1.7	- 6.2	-13.2	15.0
Other short-term securities	x	x	x	x	0.0	1.1	1.1	- 1.6	0.6	- 0.9

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

### Balance of Residents' Investment in Foreign Debt Securities

#### Breakdown by Currencies of Issue

	1992	1993	1994	1995	1996	1997 <sup>1)</sup>	1997 <sup>1)</sup>				1992– 1997
							1st quarter	2nd quarter	3rd quarter	4th quarter	Total
ATS billion											
Total	27.8	15.6	41.6	23.2	75.8	91.0	32.7	50.7	17.0	– 9.5	274.9
EU currencies	24.3	8.9	27.2	14.2	47.5	45.0	26.1	28.2	11.7	–21.0	167.1
EMU currencies <sup>2)</sup>	24.0	8.0	25.8	9.1	32.5	47.4	17.1	26.8	12.1	– 8.7	146.7
EMU group 1 <sup>3)</sup>	23.1	7.0	23.5	10.6	28.7	34.5	14.4	20.5	7.1	– 7.4	127.5
thereof: Austrian schilling	6.4	2.7	– 3.5	0.7	2.0	3.1	3.1	3.9	– 2.4	– 1.5	11.4
Deutsche mark	14.3	8.6	24.3	13.2	31.8	32.2	12.3	16.9	8.5	– 5.4	124.5
EMU group 2 <sup>4)</sup>	1.0	0.9	2.3	– 1.5	3.7	12.9	2.7	6.4	5.0	– 1.2	19.3
Non-EMU currencies <sup>5)</sup>	0.2	0.9	1.4	5.2	15.1	– 2.4	9.0	1.4	– 0.4	–12.3	20.4
ECU	0.1	– 2.1	0.5	– 0.1	0.3	3.1	– 0.8	1.1	1.7	1.1	1.9
Swiss franc	0.2	0.9	0.0	– 0.2	1.0	0.8	– 0.1	0.7	0.2	– 0.1	2.7
Japanese yen	0.4	– 0.3	0.1	1.4	4.6	2.5	– 1.8	2.6	1.6	0.1	8.7
U.S. dollar	6.8	7.9	6.1	4.7	16.5	35.2	6.0	18.6	3.1	7.6	77.4
Canadian dollar	0.1	0.3	4.2	– 0.9	– 3.8	– 0.3	0.4	– 0.8	– 0.4	0.6	– 0.4
Other currencies	– 4.0	– 0.1	3.4	4.0	9.5	4.7	3.0	0.3	– 0.8	2.2	17.5

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

<sup>2)</sup> Currencies of countries participating in Stage Three of EMU as of 1999: Austrian schilling, Belgian/Luxembourg franc, Deutsche mark, Spanish peseta, Finnish markka, French franc, Irish pound, Italian lira, Netherlands guilder, Portuguese escudo.

<sup>3)</sup> Currencies with a variation coefficient of less than 2% against the Austrian schilling (Belgian/Luxembourg franc, Deutsche mark, French franc, Netherlands guilder) and the schilling.

<sup>4)</sup> All other currencies of the EMU group.

<sup>5)</sup> EU currencies of countries not participating in Stage Three of EMU as of 1999: Danish krone, pound sterling, Greek drachma, Swedish krona.

### Balance of Nonresidents' Investment in Domestic Debt Securities

#### Breakdown by Currencies of Issue

	1992	1993	1994	1995	1996	1997 <sup>1)</sup>	1997 <sup>1)</sup>				1992– 1997
							1st quarter	2nd quarter	3rd quarter	4th quarter	Total
ATS billion											
Total	98.3	78.7	34.5	111.4	30.7	97.5	26.7	33.2	33.2	4.4	451.1
EU currencies	46.8	46.3	19.0	59.1	22.2	74.4	15.3	28.7	23.2	7.3	267.7
EMU currencies <sup>2)</sup>	42.7	49.2	15.2	55.7	23.0	63.9	13.2	19.8	24.2	6.6	249.6
EMU group 1 <sup>3)</sup>	41.9	46.1	5.5	53.0	19.7	68.7	14.5	20.1	25.3	8.8	234.8
thereof: Austrian schilling	27.6	39.2	–14.6	36.2	–19.5	32.4	5.4	19.5	8.8	– 1.2	101.5
Deutsche mark	12.4	– 9.1	9.6	15.5	25.3	23.2	– 1.2	1.4	10.5	12.5	76.9
EMU group 2 <sup>4)</sup>	0.8	3.1	9.7	2.8	3.3	– 4.8	– 1.3	– 0.2	– 1.1	– 2.2	14.8
Non-EMU currencies <sup>5)</sup>	4.1	– 2.9	3.8	3.4	– 0.8	10.6	2.1	8.8	– 1.0	0.7	18.1
ECU	1.1	– 8.2	– 9.6	– 2.6	2.9	1.6	0.2	0.0	0.0	1.4	– 14.7
Swiss franc	2.5	31.1	17.2	33.0	14.4	–11.1	– 4.4	– 0.5	2.8	– 9.1	87.1
Japanese yen	– 5.0	6.8	3.9	20.9	– 3.6	– 3.2	1.4	– 2.1	1.3	– 3.7	19.7
U.S. dollar	4.9	– 7.7	3.9	– 6.3	–15.9	19.7	10.3	3.7	4.8	1.0	– 1.4
Canadian dollar	5.1	6.2	– 3.8	– 0.6	2.1	– 1.9	– 0.7	0.5	0.0	– 1.8	7.0
Other currencies	43.1	4.3	3.9	8.0	8.5	18.0	4.6	2.9	1.1	9.4	85.8

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

<sup>2)</sup> Currencies of countries participating in Stage Three of EMU as of 1999: Austrian schilling, Belgian/Luxembourg franc, Deutsche mark, Spanish peseta, Finnish markka, French franc, Irish pound, Italian lira, Netherlands guilder, Portuguese escudo.

<sup>3)</sup> Currencies with a variation coefficient of less than 2% against the Austrian schilling (Belgian/Luxembourg franc, Deutsche mark, French franc, Netherlands guilder) and the schilling.

<sup>4)</sup> All other currencies of the EMU group.

<sup>5)</sup> EU currencies of countries not participating in Stage Three of EMU as of 1999: Danish krone, pound sterling, Greek drachma, Swedish krona.

### Balance of Residents' Investment in Foreign Debt Securities

#### Breakdown by Currencies of Issue

	1992	1993	1994	1995	1996	1997 <sup>1)</sup>	1997 <sup>1)</sup>				1992– 1997
							1st quarter	2nd quarter	3rd quarter	4th quarter	Total
ATS billion											
Total	27.8	15.6	41.6	23.2	75.8	91.0	32.7	50.7	17.0	– 9.5	274.9
European Union (EU-15)	16.4	11.8	25.9	20.4	54.0	58.2	28.0	30.5	8.5	– 8.8	186.8
EMU countries (excluding Austria) <sup>2)</sup>	10.2	10.0	30.4	23.5	59.2	53.8	34.9	28.2	6.1	–15.4	187.2
thereof Germany	2.9	4.1	24.8	17.5	28.6	30.6	12.5	17.0	2.1	– 1.0	108.5
Non-EMU countries <sup>3)</sup>	6.1	1.8	– 4.5	– 3.1	– 5.3	4.4	– 6.9	2.2	2.5	6.6	– 0.4
Switzerland	1.9	– 0.6	– 0.9	0.0	1.2	0.6	0.2	0.0	0.4	0.0	2.2
Japan	– 0.9	– 0.8	– 0.2	0.0	3.3	– 3.2	– 4.5	0.3	0.6	0.4	– 1.8
U.S.A.	1.1	1.4	2.0	0.8	12.4	12.5	3.2	5.3	5.7	– 1.6	30.2
Canada	– 0.3	1.0	3.0	0.0	– 0.9	2.7	0.4	0.6	1.3	0.5	5.4
International organizations	6.7	– 4.4	0.5	– 2.6	– 1.8	0.7	0.3	0.6	0.0	– 0.2	– 0.9
Other countries	2.9	7.2	11.3	4.7	7.7	19.3	5.2	13.4	0.6	0.2	53.1

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

<sup>2)</sup> Countries participating in Stage Three of EMU as of 1999, excluding Austria: Belgium, Luxembourg, Germany, Spain, Finland, France, Ireland, Italy, Netherlands, Portugal.

<sup>3)</sup> Countries not participating in Stage Three of EMU as of 1999: Denmark, United Kingdom, Greece, Sweden.

### Balance of Residents' Investment in Foreign Equity Securities

#### Breakdown by Currencies of Issue

	1992	1993	1994	1995	1996	1997 <sup>1)</sup>	1997 <sup>1)</sup>				1992– 1997
							1st quarter	2nd quarter	3rd quarter	4th quarter	Total
ATS billion											
Total	–1.8	4.8	9.2	4.1	5.4	20.9	4.4	9.8	7.2	–0.4	42.7
European Union (EU-15)	–0.3	1.9	4.2	2.8	3.5	6.7	1.3	4.7	3.7	–3.0	18.8
EMU countries (excluding Austria) <sup>2)</sup>	–0.1	1.4	2.4	2.4	2.4	4.5	1.3	4.2	2.1	–3.0	12.9
thereof Germany	–0.9	0.4	0.7	0.3	2.7	4.0	2.5	1.3	2.8	–2.6	7.1
Non-EMU countries <sup>3)</sup>	–0.1	0.6	1.8	0.4	1.1	2.2	0.1	0.6	1.6	0.0	5.9
Switzerland	–0.5	0.9	–0.6	0.7	0.1	0.6	0.4	1.2	0.0	–1.0	1.4
Japan	0.0	0.2	1.1	0.2	0.9	2.0	0.9	0.5	0.3	0.3	4.4
U.S.A.	–0.5	1.3	1.1	0.0	0.1	6.1	0.4	0.8	2.5	2.3	7.9
Canada	0.0	0.2	0.0	–0.1	0.3	0.5	0.2	0.2	–0.2	0.3	1.0
Other countries	–0.6	0.2	3.4	0.5	0.5	5.0	1.1	2.3	0.9	0.7	9.1

Source: OeNB.

<sup>1)</sup> Preliminary figures (updated March 20, 1998).

<sup>2)</sup> Countries participating in Stage Three of EMU as of 1999, excluding Austria: Belgium, Luxembourg, Germany, Spain, Finland, France, Ireland, Italy, Netherlands, Portugal.

<sup>3)</sup> Countries not participating in Stage Three of EMU as of 1999: Denmark, United Kingdom, Greece, Sweden.

- 1 Data were recorded on the basis of preliminary revised annual results for 1997, as of March 20, 1998. Unless indicated otherwise, data are components of the balance of payments, and as such are flow data. The component data are published in Tables 7.0.2.0 and 7.0.2.1 of the OeNB's Focus on Statistics and they are available upon request in a detailed set of tables (In-Depth Classification) from the OeNB's Balance of Payments Division.
- 2 The net changes which augmented banks' and investment funds' holdings can be traced to both purchase transactions, as recorded in the Balance of Portfolio Investment, and to the higher market value of securities already held.
- 3 Data taken from statistics published by the Deutsche Bundesbank and the Banque de France.

# Balance of Payments in 1997

In 1997<sup>1</sup>), the *shortfall on the current account* came to ATS 47.5 billion. At 1.9% of GDP, the deficit basically equaled the levels recorded in the previous two years. The preliminary revised balance-of-payments figures for 1997 already reflect the major adjustments (some of which are estimates).

While the continued current account deficit is no real cause for concern from a monetary policy point of view, the sizable gap in the balance of merchandise payments and the dwindling travel surplus point to structural difficulties in the Austrian economy. Add to that Austria's net outflows to the EU, which take an ATS 11.5 billion bite out of the 1997 current account. By contrast, a number of services items, most notably freight, banking services and investment income, impact the current account favorably.

The *capital account* as a whole closed 1997 with net capital imports of ATS 15 billion compared to ATS 48 billion in 1996, due mainly to the fact that capital exports had grown at a much faster clip than capital imports last year.

In 1997, *official reserves* contracted by ATS 6 billion from the 1996 year-end level.

The key subaccounts of the balance-of-payments statistics for 1997 yield the following results:

## **Current account**

### **Merchandise payments<sup>2</sup>)**

*Receipts from merchandise* exports soared by ATS 88 billion (+11%) to ATS 863 billion on the back of the appreciation of Austria's key trading partners' currencies, particularly of the U.S. dollar, the Italian lira and the pound sterling. Austrian exporters' enhanced competitiveness boosted exports both directly and indirectly, e.g. through stepped-up demand from Germany. Furthermore, deliveries to Central and Eastern European countries surged as well.

The modified terms of trade following the real-effective depreciation of the schilling and the rising import component of demand buoyed up nominal imports of goods at a rate much quicker than suggested by subdued domestic demand. *Payments for goods shipped to Austria* increased by ATS 89 billion (+10%) to ATS 941 billion. The *shortfall on merchandise payments* ran to about ATS 78 billion.

### **Investment income**

The shortfall of the balance on investment income narrowed by ATS 5 billion to ATS 3.5 billion on the 1996 deficit. Income from direct investment dipped by roughly ATS 2 billion, mainly due to lesser repatriation of nonresident investors' income. The sharp rise in investment income derived from securities and time deposits and lending, which totaled a surplus of slightly more than ATS 3 billion, is partly traceable to the predominance of shorter maturities on the liabilities side and longer maturities on the assets side coupled with sinking interest rates.

### Travel

The downward trend of the travel balance continued in 1997, albeit to a lesser degree. The *travel surplus* decreased by nearly ATS 4 billion to about ATS 19 billion.

As in the years before, the increase in *expenditures* of ATS 131 billion largely contributed to this development, even though the gain was less pronounced (+5.5% or ATS 7 billion). Direct imports of goods, which are factored into the expenditures, sank for the second year in a row, namely from ATS 29.5 billion to ATS 22 billion.

Having contracted or stagnated for several years, *foreign exchange receipts* augmented again, advancing by ATS 3 billion or 2% to over ATS 150 billion. At 6.6%, the rise in receipts per bednight – at roughly a 2-percent tourist export price gain – was stronger than in 1995 and 1996. Nevertheless, Austria's share in global tourism continued to be on the wane in 1997.

The number of *foreign tourist bednights* recorded in 1997 contracted more sharply than the year earlier both in absolute and relative terms (–ATS 3.5 million and –4.3%, respectively). Since 1992, foreign tourist bednights have been declining steadily; from the historic high of next to 100 million bednights in 1992 overnight stays by foreign tourists have diminished by one fifth to 80.5 million in 1997.

What lies at the heart of the *problems facing Austria's tourism industry*? For one, flights have become ever more affordable. Also, given the enhanced tourism infrastructure all over the world, Austria has to compete with more and more countries in luring guests. Consequently, non-European industrial nations as well as developing countries have managed to continuously expand their market shares. Competitors (such as Italy) gained at least a temporary advantage from changes in the foreign exchange parities. Depending on the season, tourism was affected by these problems to varying degrees. *In winter* only a slight decline was registered, with 37.6 million bednights trailing the maximum of 42.2 million overnight stays in 1993 by a mere 11%. By contrast, *summer tourism* has been dealt a much harder blow. The record number of 61.4 million bednights already dates back to 1972. The seventies and eighties saw periods of marked contractions, but in 1991 the pace of diminishing bednights quickened further, hitting a 28-year low of 42.9 million in 1997.

The trend towards *upscale tourism* is also reflected in bednight statistics. Four- and five-star hotels posted a perceptibly better result (+1%) in 1997 than no-frills hotels (–10%) and private pensions (–11%), whose market shares continued to slip. These changes will prove to have a sharp impact over the long term. First-rate accommodations have pushed up their market share from 12% to 26% over a period of two decades, while private rooms now only account for 11% of bednights as opposed to one third previously.

### Transfers

The transfer balance's deficit widened from ATS 11 billion in 1996 to ATS 18 billion in 1997. The disbursements by the European Union recorded in the transfer balance came to ATS 19 billion in the reporting period, while



Austrian payments to the EU amounted to ATS 30.5 billion. Due to various special factors, the comparable balance ran to only ATS 3.5 billion in 1996.

### **Capital account**

Austria's capital account closed the survey period with net capital imports of ATS 15 billion; in 1996 the analogous figure stood at ATS 48 billion. Capital exports on the assets side jumped to ATS 182 billion (1996: ATS 108 billion), capital imports on the liabilities side progressed from ATS 156 billion in 1996 to ATS 197 billion. This development indicates that Austria has already attained a high degree of integration on the international capital markets.

At ATS 17.5 billion, outward direct investment surpassed the 1996 figure by ATS 3 billion. Inward *direct investment* only posted about half (ATS 21 billion) the impressive 1996 result of ATS 40.5 billion to which a number of spectacular transactions had contributed.

1997 marks a ten-year high both in terms of the sale of domestic *securities* and the purchase of foreign paper, with Austrians having invested ATS 123 billion in foreign securities. Residents acquired long-term bonds, shares and investment certificates to the amount of ATS 127 billion, which compares with ATS 4 billion worth of money market paper sold. Thus, net acquisitions of ATS 123 billion translate to a one-third gain in foreign securities holdings (end of 1996: ATS 367 billion).

Judged by currency or region, it has become evident that residents invest especially in securities from the EU and the United States. Investment funds proved the engine of Austrian investors' increased spending. Banks and insurance companies also invested heavily.

At the same time, foreigners snapped up Austrian securities to the amount of roughly ATS 129 billion (ATS 115 billion worth in long-term securities). Long-term fixed-interest securities made up a traditionally large share of new acquisitions, namely about ATS 83 billion compared to ATS 43 billion in 1996. As opposed to the previous year, there was a much stronger trend towards schilling securities, especially public sector issues. Nevertheless, net sales of foreign-currency paper remained relatively stable. All told, foreigners, who already hold a fairly high percentage of Austrian paper, expanded their holdings by another 13% (1996: ATS 962 billion).

Equity securities have been gaining ever greater importance over the past five years. 1997 was a case in point: More than ATS 21.5 billion were invested in foreign shares, and foreigners purchased Austrian shares for over ATS 17 billion.

In long-term *lending* by banks (ATS 44.6 billion), about 60% of credits newly extended to nonresidents served the purpose of export financing. Credits granted to countries of Eastern and South-Eastern Europe totaled ATS 18.3 billion.

With the item errors and omissions coming to –ATS 1 billion and valuation gains racking up ATS 27.5 billion, official reserves shrank by roughly ATS 6 billion in 1997.

Table 1

<b>Balance of Payments Summary</b>			
	1996 <sup>1)</sup>	1997 <sup>2)</sup>	Annual change
	ATS million		
<b>Current account</b>	- 43,370	- 47,657	- 4,287
Goods and services	- 32,440	- 29,618	+ 2,822
Merchandise payments	- 77,457	- 78,340	- 883
Investment income	- 8,889	- 3,586	+ 5,303
Travel	+ 22,689	+ 18,804	- 3,885
Other items	+ 31,217	+ 33,504	+ 2,287
<b>Transfers</b>	- 10,930	- 18,039	- 7,109
<b>Capital account</b>	+ 48,017	+ 15,184	-32,833
Long-term	- 9,448	- 20,735	-11,287
Assets	-128,922	-180,091	-51,169
Liabilities	+119,474	+159,356	+39,882
Short-term	+ 57,465	+ 35,919	-21,546
Assets	+ 21,210	- 2,170	-23,380
Liabilities	+ 36,255	+ 38,089	+ 1,834
<b>Reserve creation and valuation changes<sup>3)</sup></b>	+ 20,302	+ 27,523	+ 7,221
<b>Errors and omissions</b>	+ 6,376	- 1,291	- 7,667
<b>Changes in official reserves<sup>4)</sup></b>	+ 31,325	- 6,241	-37,566

<sup>1)</sup> Revised figures.

<sup>2)</sup> Preliminary revised figures.

<sup>3)</sup> Above all, allocation of Special Drawing Rights and changes in the valuation of official reserves.

<sup>4)</sup> Oesterreichische Nationalbank: Gold and foreign exchange, Reserve Position in the Fund, Special Drawing Rights, etc.; increase: + / decrease: -.

Table 2

<b>Travel<sup>1)</sup></b>			
	1996 <sup>2)</sup>	1997 <sup>3)</sup>	Annual change
	ATS million		%
Travel receipts	147,469	150,433	+2,964 +2.0
Travel expenditures	124,780	131,629	+6,849 +5.5
Balance	22,689	18,804	-3,885 -17.1
	in 1,000		%
Foreign tourist bednights	84,203	80,562	-3,641 -4.3

Source: Austrian Central Statistical Office (ÖSTAT), OeNB.

<sup>1)</sup> Unadjusted.

<sup>2)</sup> Revised figures.

<sup>3)</sup> Preliminary revised figures.

Table 3

<b>Foreign Tourist Bednights</b>				
	1997			
	Bednights	Annual		Share
	in 1,000	change	%	
Germany	52,822	-3,482	- 6.2	65.6
Netherlands	6,728	- 301	- 4.3	8.4
United Kingdom	2,478	+ 108	+ 4.6	3.1
Belgium, Luxembourg	2,370	- 144	- 5.7	2.9
Switzerland, Liechtenstein	2,783	- 189	- 6.4	3.5
Sweden	613	- 7	- 1.1	0.8
France	1,851	- 159	- 7.9	2.3
Italy	2,378	+ 103	+ 4.5	3.0
Spain	440	+ 14	+ 3.2	0.5
Finland	140	+ 3	+ 2.3	0.2
U.S.A.	1,411	- 1	- 0.1	1.8
Japan	558	+ 19	+ 3.5	0.7
Hungary	600	+ 32	+ 5.6	0.7
Slovakia	103	+ 8	+ 8.9	0.1
Czech Republic	545	+ 61	+12.7	0.7
Poland	587	+ 103	+21.3	0.7
Commonwealth of Independent States	322	+ 57	+21.3	0.4
Slovenia	191	+ 5	+ 2.4	0.2
Kroatia	202	+ 11	+ 5.9	0.3
Other countries	3,440	+ 118	+ 3.5	4.3
<b>Total</b>	<b>80,562</b>	<b>-3,641</b>	<b>- 4.3</b>	<b>100.0</b>
<i>Memorandum item: Austrian tourists</i>	<i>28,504</i>	<i>- 215</i>	<i>- 0.7</i>	<i>x</i>

Source: Austrian Central Statistical Office (ÖSTAT).

Table 4

<b>Capital Account Excluding Change in Official Reserves</b>		
	1996 <sup>1)</sup>	1997 <sup>2)</sup>
	Net values in ATS million	
<b>Sub-items of the long-term capital account</b>		
Austrian direct investment abroad	- 14,860	- 17,696
Foreign direct investment in Austria	+ 40,649	+ 21,211
Balance	+ 25,789	+ 3,515
Portfolio investment in foreign fixed-interest securities	- 69,136	- 95,265
Portfolio investment in domestic fixed-interest securities	+ 43,215	+ 83,354
Balance	- 25,921	- 11,911
Portfolio investment in foreign shares and investment certificates	- 11,529	- 31,283
Portfolio investment in domestic shares and investment certificates	+ 28,461	+ 31,579
Balance	+ 16,932	+ 296
Loans extended to nonresidents	- 30,484	- 46,691
Loans extended to residents	+ 7,380	- 2,754
Balance	- 23,104	- 49,445
Balance of other capital movements	- 3,144	+ 36,810
<b>Long-term capital account total</b>		
Long-term Austrian capital abroad	-128,922	-180,091
Long-term foreign capital in Austria	+119,474	+159,356
Balance	- 9,448	- 20,735
<b>Short-term capital account total</b>		
Short-term Austrian capital abroad	+ 21,210	- 2,170
Short-term foreign capital in Austria	+ 36,255	+ 38,089
Balance	+ 57,465	+ 35,919
<b>Balance of long- and short-term capital movements</b>	+ 48,017	+ 15,184

Source: OeNB.

<sup>1)</sup> Revised figures.

<sup>2)</sup> Preliminary revised figures.

- 1 The preliminary revised 1997 data are compared with final revised data stemming from the previous years.
- 2 The Austrian Central Statistical Office (ÖSTAT) released the 1997 data on foreign trade only recently. Hence, the calculations for the balance of payments for the entire year 1997 are still based on merchandise as compiled by the OeNB; these calculations not only include goods, but also unclassified goods and services as well as merchanting.

# Conceptual Changes in the Austrian Balance of Payments

## I Framework Conditions

As of the January 1998 reporting period, the OeNB has been compiling a new balance of payments in compliance with international conventions that have been changed to meet modified economic circumstances, heightened analytical requirements as well as the need for harmonization triggered by the upcoming launch of the euro. This report provides an overview of the conceptual and schematic changes in Austria's balance of payments.

Macroeconomic statistics have undergone a dynamic transformation in the past 10 years both with regard to the underlying theories, compilation methodologies and international harmonization efforts.

- 1991 marked not only complete liberalization of capital movements in Austria, but also the introduction of a new compilation system. Starting with January 1992, the schematic presentation of the Austrian balance of payments was adapted to the standard components laid out in the IMF's 4th edition of the Balance of Payments Manual (BPM4).
- In 1993, the IMF issued the 5th edition of the BPM, which, among other things, aimed at an approximation to the System of National Accounts (SNA).
- In 1996, the EU Member States cooperated with EUROSTAT on a European convention for the statistical treatment of current-account transactions. At the same time, a primer, referred to as Balance of Payments Vademecum, set out guidelines (content and timing) for the EU Member States on furnishing EUROSTAT with balance-of-payments statements.
- 1996 also marked the adoption of the European System of National Accounts (ESA95), which builds on the SNA and, as an EU regulation, is legally binding.
- The European Monetary Institute (EMI) released another relevant document in 1996, namely the "Implementation Package," which is designed to standardize the reports national central banks have to submit to the ECB.
- In 1996 and 1997, Austria readied itself for implementing the new requirements: Even though they demand that statistics be broken down into more subcategories and fulfill more stringent quality criteria, the OeNB's reporting system was in need of only a few slight adaptations. The OeNB shouldered the majority of the extra effort, devising a number of new calculation methods and estimation procedures.

The new balance-of-payments statistic ties in more closely with other national and supranational statistics. Furthermore, the revised concept of the Austrian balance of payments is more highly integrated with the System of National Accounts (SNA). It serves as one of the key sources for drawing up the SNA external account. Owing to the approximation of concepts, it has become easier to perform analyses.

The SNA provides indispensable fundamental macroeconomic data. This information is essential for the EU and its Member States for formulating economic and social policies. It is also crucial for monitoring and controlling European monetary policy. Both the Pact on Stability and Growth and the

excessive deficit procedure refer to SNA indicators. In addition, the own resources of the EU depend on national accounts figures in three ways:

- The total resources for the EU are determined as a percentage of the Member States' gross national products (GNP).
- The third own resource of the EU is the VAT own resource, which is largely affected by national accounts figures.
- The relative sizes of the contributions by the Member States for the fourth own resource of the EU are based on their gross national products.

From a monetary policy viewpoint, Austria's current-account disequilibria will certainly lose some significance in light of the size of the future monetary union, but they will, no doubt, still have considerable implications for the national economy.

To compile an all-European balance of payments or, to be more precise, one balance of payments for the monetary union, the national balances of payments must be merged to form a supranational aggregate. This is only feasible if the concepts and definitions the participating countries use are highly convergent.

Regardless of the shifting focus of analyses, the Austrian balance of payments will retain its importance in Stage Three of EMU, which is manifested by its tight integration both with national and supranational statistics.

## **2 Dissemination Strategy**

Until January 1998 a monthly balance of payments was drawn up on a preliminary basis. The annual result of the balance of payments was first revised three months after year-end (preliminary revised data) and a second time nine months after year-end (final revised data). Quarterly revisions were first published jointly with the final revised annual result.

Now the public is furnished with monthly balance-of-payments data which offer timely and condensed information, complemented by quarterly balances of payments which provide more clearly categorized and in-depth data. The quality of the new quarterly balance of payments matches that of the old preliminary revised balance: Thus, high-quality results are made available at a much earlier time.

### **Quarterly and Annual Results**

The quarterly balance of payments (see Annex 3) largely complies with the requirement of measuring "economic transactions" rather than payments. This content-based and highly detailed statistic is released three months after the end of the respective quarter.

The quarterly and annual results undergo the first revision nine months after year-end. The second, final revision takes place after 18 months. The attached Annex 1 highlights the scope and timing of publications.

The OeNB's German-language statistical monthlies, "Statistische Monatshefte," feature the quarterly and annual results.

### Monthly Results

To assist the ECB in making monetary policy decisions, topical information on the balance of payments should be available as soon as possible after the close of the reporting period. This is why it is still necessary to compile a monthly balance of payments.

As becomes clear from Annex 2, the breakdown of the provisional monthly balance sheet is less detailed (similar to the ECB concept developed by the EMI) and relies in many areas on cash flows only (cash balance). It represents a series in its own right and is not comparable to the quarterly series. Whereas the quarterly balance sheds light on levels and structures, the monthly balance reflects current trends.

The monthly balance is drawn up quickly and is available just 30 workdays after the end of the respective calendar month. Monthly results are made public in a press release and may be accessed on the Internet shortly afterwards. What is more, the OeNB's abovementioned statistical monthly publications contain the monthly balance-of-payments series; the supplement (set of balance-of-payments statistics) has been discontinued.

### Regional Balance of Payments

A regionally structured balance of payments will in the future be available both on a quarterly and an annual basis upon request.

## 3 Quarterly and Annual Balances of Payments

### 3.1 Schematic Presentation

In line with international conventions the balance of payments consists of the following accounts:

- the *current account*,
- the *capital and financial account* comprising
- the *capital account* and
- the *financial account*,
- *errors and omissions*.

In the future, official reserves are covered by the financial account. The former item *reserve creation and valuation changes* no longer forms part of the balance of payments, but is shifted to the International Investment Position.

The current account as such is newly structured as well: It is divided into the four subaccounts *goods, services, income and current transfers*.

The *new* capital account (reflecting capital transfers) has been added to the balance of payments as a subaccount of the capital and financial account to further harmonize the coordination between BoP and SNA, whose external account corresponds to the balance of payments. Depending on the analytical purpose, the capital account is contrasted either with the current or the financial account.

Another innovation concerns the nature of the financial account (previously referred to as the capital account). The former rigid distinction between long-term and short-term transactions is no longer that pertinent for analytical purposes and has been retained for just a few subcategories. The *financial instrument* in question now determines the breakdown into the

four components *direct investment, portfolio investment, other investment* and *official reserves*.

As the official reserves are now integrated with the financial account, the arithmetic signs have been reversed: a *negative* sign indicates a *rise* and a *positive* sign a reduction in official reserves.

Annex 4 provides information on the structure of the new balance of payments and highlights the key shifts in the subaccounts.

### 3.2 Conceptual Changes

Balance-of-payments statistics are meant to reflect “economic transactions” as opposed to payments: the transaction principle governs the time of recording. In other words, transactions are to be recorded when they are made and not when the respective payments are effected. The 5th edition of the IMF’s Balance of Payments Manual stresses this principle more than ever before and calls for its implementation at the European level as well. Such alterations and conceptual modifications will be spelled out under the individual subheadings below.

#### 3.2.1 Current Account

The new makeup of the current account *conforms more closely* to the SNA. The current account has been trimmed to include only “current transfers” in addition to goods, services and income. Capital transfers, formerly covered under transfers, have been excluded. Therefore, the current account encompasses merely transfers which affect income and consumption, which is not directly the case with capital transfers. After all, they mainly impact “only” the wealth of the respective transactors. For a transaction to be classified under capital transfers, it suffices for a transfer to be considered “unilateral” by one of the transactors concerned. Cases in point are debt forgiveness, legacies as well as investment grants, but also migrants’ transfers, i.e. repatriation of capital by emigrants and immigrants. In this context, EU transfers are especially significant. Austria’s contributions to the EU are deemed current outflows and are therefore classified as current transfers. EU disbursements to Austria partially impact income, as is e.g. the case with subsidies for infrastructure measures; also included is money channeled back from the European Agricultural Guidance and Guarantee Fund, Guidance Section (EAGGF-G) and from the European Regional Development Fund (ERDF).

Before these recent modifications, the current account had to reflect the entire transaction-induced change in an economy’s net international position. According to the new balance-of-payments concept, the balance on current account corresponds to the difference between residents’ savings and net investment. The SNA item *net lending or borrowing*, which provides a clue on the transaction-induced changes in the net international position, is derived from the current-account balance and capital account.

Technically speaking, the new current account is *broken down into more components*, which, above all, bears testimony to the growing importance of services in global trade. Annex 5 illustrates the major changes in the current



account at a glance, in particular which subcategories have been added or taken out.

The following sections deal with the scope of the individual components of the current account.

### 3.2.1.1 Goods

The foreign trade data of the Austrian Central Statistical Office (ÖSTAT) have remained to be the reference values for goods. However, not only goods exports but also imports of goods fob (free on board) instead of cif (cost, insurance, freight) are considered. Temporarily, the data compiled by the OeNB on goods transport and auxiliary transport services are used to adjust the ÖSTAT import value.

Transactions primarily involving production and merchandise are classified under *goods*. This principle applies, above all, to *processing*. The value added during processing is regarded as being part of standard manufacturing. Exports of goods for processing and reimports after processing are also comprised under *goods*.

Goods also encompass other *transactions*, i.e. the sale of goods to nonresidents and the acquisition of goods by residents. These goods are, however, not reflected in the foreign trade statistics.

As *merchandising* is not primarily concerned with production and merchandise, this position is part of the services account.

### 3.2.1.2 Services

The most important change here has been the *reclassification of investment income and compensation of employees* from services to a separate subaccount in the current account in addition to *goods*, *services* and *current transfers* under the heading *income*.

### Transportation

Now the debit side of transportation is reflected as well, which has to do with the fact that goods are presented fob.

International passenger transport has been taken out of travel and is shown as a separate item under transportation.

Transportation is structured by mode of transport: sea, air, other transport.

### Travel

Travel has been defined in more restrictive terms and includes fewer transportation services, namely use of one's personal car or use of means of transportation within the country of destination. Additions and corrections, hitherto performed only once a year, are now carried out continuously so that quarterly results already provide clues as to the annual result.<sup>1)</sup>

### Communications Services

Telecommunications services (cable, satellites) together with postal and courier services are still covered by the item communications services, formerly referred to as communications.

### **Construction Services**

In the new presentation, construction services are additionally classified according to the location of the construction site (domestic or abroad).

### **Insurance Services**

These services cover net premiums, i.e. the risk premiums proper, all crossborder damages, reimbursements and the like as well as the value added by insurances.

### **Financial Services**

Financial services have been adjusted to exclude the derivatives trade – except for the related manipulation charges. Derivatives trade and the derivatives formerly recorded under the capital account now form a separate item in the financial account. Income equivalent to interest from derivatives is classified under income.

### **Computer and Information Services**

This new item covers hardware and software maintenance, development of customized software, use of international databases, information services, photo agencies, etc. The bulk of such transactions was encompassed in the old position *technical, scientific and economic consulting*. Software licenses are still classified under *royalties and license fees*.

### **Royalties and License Fees**

The item *royalties and license fees* has essentially remained unchanged. Like before, it covers the use and utilization of patents, licenses, trademarks and copyrights, software license fees and maintenance fees, but the sale of such rights (capital transfers) has been excluded and classified in the capital account.

### **Other Business Services**

This category consists of four components.

The income on *merchandising* is the difference between purchase and sale. The assumption is that the merchant creates value added by buying and reselling merchandise.

*Other trade-related* services comprise services such as intermediation and brokerage. They basically correspond to the old *commissions* category.

*Operational leasing* encompasses e.g. the leasing of means of transport and capital goods, with the business risk borne by the lessor. This item is defined as clearly separate from financial leasing, whose capital component is assigned to *loans*, while the income component is shown in the *income* category. The old item *leasing, rental fees* covered both operational and financial leasing.

*Miscellaneous business, professional, and technical services* comprises technical and business consulting, e.g. legal, accounting and management consulting, R&D, engineering as well as agricultural and mining services (incl. recycling).

### **Personal, Cultural and Recreational Services**

This category refers to the *old culture and entertainment* item and covers Austria's receipts and expenditures in the fields of culture, sports and entertainment, such as artists' fees, awards, box-office returns, fees for distribution rights, and the like.

### **Government Services, n.i.e.**

This item corresponds to the old category called *embassies* and *consulates* and includes all transactions by embassies and consulates with the residents of the host country and of foreign embassies and consulates in Austria.

### **Unclassified Transactions**

This category is more or less tantamount to the difference between the reported transactions and the merchandise flows recorded by the Austrian Central Statistical Office (ÖSTAT). Apart from fuzziness in these two data sources, it reflects above all the following economic circumstances:

- Service components in connection with merchandise transactions, e.g. planning, training seminars, knowhow transfer, consulting, marketing, patents and licenses, and the like;
- plant engineering, especially on-site purchases;
- valuation differences between foreign trade statistics and payment flows, such as transportation and insurance.

### **Abolished Categories**

Some categories of the old presentation scheme are no longer included in the new concept. As mentioned before, the old items *merchandise according to the foreign trade returns, adjustments* as well as *processing* are now covered by *goods*. The old items *technical, scientific, business consulting, advertising* and *other services* have mainly merged in the new category *other business-related, professional and technical services* with the exception of the above-mentioned transactions.

Transactions hitherto recorded under *overhead expenses of related enterprises* are assigned in line with the nature of the performance (content) to the respective items. Only transactions which cannot be clearly assigned to any other category are covered by the new item *other business-related, professional and technical services*.

### **3.2.1.3 Income**

On top of *compensation for employees*, income above all encompasses *investment income*, which is broken down into three subitems: *investment income derived from direct investment, portfolio investment* and *other investment*. This stresses the special role these transactions play as factor income even more than before. In line with the SNA concept, they are not considered in the gross domestic product (GDP), which measures domestic economic performance. As part of the gross national product (GNP), which indicates the economic performance of all Austrian nationals, factor income is taken into account though. In light of this, it will be easier in the future to use the individual current-account categories.

The time of recording has changed considerably to reflect the accruals principle. Income (debit and credit) is recorded not at the time when the actual payment of interest and dividends occurs, but at the (sometimes fictitious) time when income is created.

When calculating income from portfolio investment, both the income directly inferable from the security's interest rate and receipts indirectly arising from the issuing and redemption prices (zero coupon bond) are considered.

The transaction principle also lies at the heart of mandatory recording of reinvested earnings in connection with direct investment. Up to now, income on direct investment was only registered when profits were actually paid out to the foreign owner. Now income from direct investment contains earnings both paid out and reinvested in the company as well as interest accrued on credits between affiliated enterprises. As income is reflected in the current account and direct investment in the financial account, this booking method introduces alterations both to the current and the financial account.

The definition of income derived from other investment virtually comprises income on the investment of fixed-term deposits, interest on savings and credits as well as income on official reserves.

The preliminary monthly balance of payments continues to reflect investment income on a cash basis.

#### **3.2.1.4 Current Transfers**

This subaccount of the current account now only encompasses those transactions which impact the wealth and consumption of the respective economies. With current transfers a distinction is still made between public and private transfers.

Austria's contributions to the EU are, for instance, recorded under public transfers – they had previously also been part of transfers. By contrast, EU reimbursements are partly shown in the financial account. Private transfers comprise e.g. migrants' transfers and pensions and annuities.

#### **3.2.2 Capital Account**

To further approximate the balance of payments and the SNA, whose external account forms the balance of payments, the *capital account*, which covers capital transfers, was newly introduced into the balance of payments.

Public sector capital transfers mainly consist of those EU reimbursements which are not attributable to *current transfers*. Private sector capital transfers comprise, among other things, debt forgiveness, migrants' transfers, legacies, the setting up of foundations and the like.

The category *acquisition/disposal of nonproduced, nonfinancial assets* reflects e.g. the purchase of patents (as opposed to their use), the sale of customer bases, transfer fees for professional athletes and so on.

#### **3.2.3 Financial Account**

As already mentioned, the financial account no longer distinguishes between long-term and short-term transactions at all times, as their analytical

potential has diminished. To give an example, when investors purchase securities, transactions which were classified as long-term investment according to the original maturity, they frequently think of it as short-term. Besides, the definitions of direct investment and portfolio investment have been broadened, so that these categories now inevitably end up with a number of short-term elements as well.

The financial account is now structured by the following financial instruments: *direct investment*, *portfolio investment*, *other investment* and *official reserves*. Within the various instruments the distinction between assets (Austrian investment abroad) and liabilities (foreign investment in Austria) remains intact, and some subitems are classified by maturity and domestic sectors.

Annex 6 illustrates the major changes in the new financial account.

### 3.2.3.1 Direct Investment

The basic idea behind recording direct investment<sup>2)</sup> is to identify business relationships which are characterized by the investors' long-term, active interest in a given enterprise. In line with the definitions set forth in the BPM5, direct investment under the financial account covers not only participations (in the form of shares and other capital stock) but also credits between affiliated enterprises. The crossborder acquisition and disposal of premises and buildings also falls under the *direct investment* category.

Including credits between affiliated enterprises in the direct investment category bears testimony to the fact that lending within multinational company groups is not necessarily subject to international market conditions. As these items are distinguished statistically, they may be analyzed accordingly.

Direct investment has been extended to include reinvested earnings. The preliminary monthly cash balance of payments does not comprise reinvested earnings.

### 3.2.3.2 Portfolio Investment

Portfolio investment<sup>3)</sup> encompasses *all* securities investment independent of the securities' maturity and is divided into *equity securities*, *debt securities* (long-term), *money market instruments* (short-term) and *financial derivatives*.

In response to the dynamic evolution of financial innovations, the new category *financial derivatives* has been created, which up to now had been covered under several balance-of-payments items. The acquisition and disposal of financial derivatives is recorded at their respective transaction value. The differences between purchase and resale prices are not booked as earnings but viewed as valuation gains. Valuation gains do not stem from the creation of value added and thus have no place in the current account. Income does, however, still cover those components which clearly affect earnings. This applies e.g. to financial derivatives based on interest (such as forward rate agreements and interest rate swaps in connection with securities).

### 3.2.3.3 Other Investment

This item refers to the components *trade credits, loans, sight and time deposits* as well as other assets and *liabilities*. These items are also broken down by domestic sector, but not by maturity in general. In recognition of the quantitative significance of banks in Austria, long-term loans are shown on the assets side and short-term sight and time deposits are stated on the liabilities side as subitems (thereof).

The subitems *other assets* and *other liabilities* now also cover debt forgiveness (offsetting entry for capital transfers) and outstanding claims and liabilities. For instance, an outstanding credit is shown at the time of its maturity as a repayment under *loans*, regardless of whether the redemption has already been effected or not. If the redemption deadline has expired and the claim has not been settled, a new claim is generated under other assets.

### 3.2.3.4 Official Reserves

The definition of official reserves remains unchanged, but the presentation of financial instruments is structured in greater detail. As mentioned above, official reserves now make up part of the financial account and are thus treated in the same way as any other financial-account transaction. Therefore the negative sign denotes a gain, while the positive sign signals a decrease. The arithmetic signs were used differently in the old concept, as the official reserves were the bottom-line item on the balance of payments.

The transaction principle has also been applied to official reserves. Up to now the *change in official reserves* item in the balance of payments corresponded to the net change in the weekly return of the OeNB; now the category reflects *official reserves* at transaction prices. The valuation does not draw on balance-sheet rates but is governed by the same rules as the valuation of all other transactions of the financial account. Changes which are not caused by transactions and had been shown under *reserve creation and valuation changes* have been transferred to the International Investment Position.

### 3.2.4 Errors and Omissions

Errors and omissions continue to be a residual on the balance of payments. Theoretically, balance-of-payments transactions are to be based on a double entry system, i.e. the simultaneous recording of a transaction on both the credit and debit sides. If this theoretical requirement is met, errors and omissions should amount to zero. As logically connected transactions are not always recorded and reported in the same periods, the simultaneous recording of credit and debit bookings is not a given in the balance of payments. This is particularly evident with monthly values. Short-term transactions of banks contribute most heavily to errors and omissions.

As the time period available for drawing up the new quarterly balance is relatively long, it is possible to cancel out most of these differences. As a consequence, the quality of the quarterly balance will be on a par with that of the hitherto preliminary revised annual balance of payments.

#### **4 Monthly Balance (Cash Balance)**

The statistical requirements for Stage Three of EMU elaborated in conjunction with the EMI call for a topical monthly balance-of-payments statistic covering the euro area. It is calculated from the Member States' national data and serves as the statistical basis for monetary policy decisions.

In compliance with this requirement Austria draws up a monthly balance of payments six months following the reporting month. As topicality and quality do not equal those of the quarterly balance sheets, the monthly balance of payments is what is called a cash balance. It is primarily based on *payment flows* and goes into *less detail*.

To provide interested Austrians with the same information as the ECB, this monthly statistic is also published in Austria.

The monthly balance-of-payments statistic differs from the quarterly one as follows:

- Instead of the ÖSTAT foreign trade data merchandise payments are used.
- Changes in trade credits as well as reinvested earnings from direct investment are not considered.
- Income is still recorded at the time of payment (and not when it is created).
- Transactions are also recorded at the time of payment and not when they are incurred.

As there is occasionally a mismatch between the booking and the value date of a transaction, the sum total of any given three-month period does not, as a rule, correspond to the quarterly result.

#### **5 Back Calculation**

Monthly and quarterly values for the period from 1992 to 1997 were back calculated according to the new concept. These figures are released in the OeNB's German-language statistical monthlies.

In 1997, compilers already used the new concept, which is why back calculation for 1997 presented no real problem. For 1996 and 1995 existing returns came in handy, while back calculations for the period 1992 to 1994 largely relied on aggregates. Regional sectoring was also considered in the back calculations.

With most items it was possible to avoid breaks in the time series. To provide a consistent picture, the few unavoidable breaks were uniformly set at the start of the 1997 reporting period. In these cases the back calculated statistics reflect the abovementioned conceptual changes as of the 1997 survey period, namely above all: consideration in the direct investment item of loans between affiliated enterprises, integration of income from direct investment credits with the income derived from direct investment, application of the accruals principle to the field of portfolio investment.

With the current account, back calculations have resulted in a shift in the level. The sum of changes caused the level of the current-account deficit to chart in Annex 7, the temporal pattern is unaffected by these adjustments.

The *reinvested income from direct investment* category, now recorded in the current account under *income*, has the greatest effect on the current account.

This change alone has led to an annual rise of the current-account shortfall by ATS 4.5 to ATS 13.5 billion since 1992.

A number of *other components* also plays a role, the most important of which are mentioned below.

According to the new concept, EU *payments* are recorded in line with the accruals principle, i.e. at the time when a claim or liability arises and not when the respective payment is effected. This is why during back calculations the EU's 1996 reimbursements of ATS 5.5 billion were reclassified under 1995. Consequently, the balance of payments is consistent with the SNA.

Some EU *reimbursements* are considered infrastructure investment and were retroactively transferred from the current account to the new capital account.

The item *migrants' transfers* was also moved from the current to the capital account, as the gain in wealth of an economy based on change of residence is not attributable to an exchange of goods and services.

Back calculation of *derivatives* had a *positive impact* on the current account. Previously these instruments were entirely covered by the current account (investment income, financial services), but during back calculation only *income equivalent to interest in connection with derivatives* was booked under income.

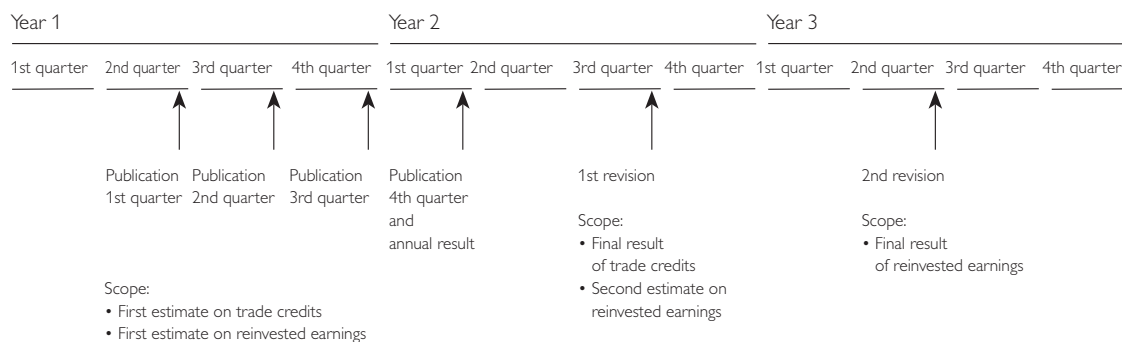
1 Given the significance of tourism for Austria, monthly travel and passenger transport results are provided in a special travel table in the OeNB's monthly statistical publication, "Statistisches Monatsheft."

2 More details are available in a separate annual statistic on direct investment.

3 The table "Austria's Portfolio Position – Resident issuers' debt securities in residents' portfolios, Resident issuers' debt securities in nonresidents' portfolios" published in the OeNB's statistical monthlies further breaks down portfolio investment and includes a sectoral classification.



**Publication Schedule of the New Austrian Balance-of-Payments Statistics**



Source: OeNB.

**Schematic Presentation Quarterly Balance of Payments**

**Current Account**

**Goods, services and income**

- Goods and services
  - Goods
  - Services
    - Transportation
      - thereof: passenger transport
      - sea transport
      - air transport
      - other transport
    - Travel
    - Communications services
    - Construction services
      - abroad
      - in Austria
    - Insurance services
    - Financial services
    - Computer and information services
    - Royalties and license fees
    - Other business services
      - Merchandising
      - Other trade-related services
      - Operational leasing services
      - Miscellaneous business, professional and technical services
    - Personal, cultural and recreational services
    - Government services, n. i. e.
    - Unclassified transactions
- Income
  - Compensation of employees
  - Investment income
    - from direct investment
    - from portfolio investment
    - other
- Current transfers
  - General government
  - Private sector

**Schematic Presentation Quarterly Balance of Payments**

**Capital and Financial Account**

**Capital account**

- General government
- Private sector
- Acquisition/disposal of nonproduced, nonfinancial assets

**Financial account**

- Direct investment
  - abroad
  - in Austria
- Portfolio investment
  - Foreign securities
    - Equity securities
    - Long-term debt securities
    - Money market instruments
    - Financial derivatives
  - Domestic securities
    - Equity securities
    - Long-term debt securities
    - Money market instruments
    - Financial derivatives
- Other investment
  - Assets
    - Trade credits
    - Loans
      - Monetary authorities
      - General government
      - Banks
        - thereof: long-term
        - Other sectors
    - Sight and time deposits
      - Monetary authorities
      - General government
      - Banks
      - Other sectors
    - Other assets
      - Monetary authorities
      - General government
      - Banks
      - Other sectors
  - Liabilities
    - Trade credits
    - Loans
      - Monetary authorities
      - General government
      - Banks
      - Other sectors
    - Sight and time deposits
      - Monetary authorities
      - Banks
        - thereof: short-term
    - Other liabilities
      - Monetary authorities
      - General government
      - Banks
      - Other sectors
- Official reserves
  - Gold
  - Special drawing rights
  - Reserve position in the Fund
  - Claim on the EMI
  - Currency and deposits
  - Securities
  - Other claims

**Errors and omissions**

Source: OeNB.

**Schematic Presentation – Monthly Balance of Payments**

**Current Account**

**Merchandise payments**  
**Services**  
**Income**  
**Current transfers**

**Capital Account**

**Financial Account**

**Direct investment**

Austrian direct investment abroad  
Foreign direct investment in Austria

**Portfolio investment**

Assets

Equity securities  
Debt securities  
    Long-term debt securities  
    Money market instruments  
    Financial derivatives

Liabilities

Equity securities  
Debt securities  
    Long-term debt securities  
    Money market instruments  
    Financial derivatives

**Other investment**

Assets

Monetary authorities  
General government  
Banks  
    thereof: banks long-term  
    banks short-term  
Other sectors

Liabilities

Monetary authorities  
General government  
Banks  
    thereof: banks long-term  
    banks short-term  
Other sectors

**Official reserves**

**Errors and omissions**

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Source: OeNB.

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Annex 4

**Structural Changes in the Quarterly Balances of Payments**

Old concept	New concept
<b>Current account</b>	<b>Current account</b>
Goods and services	Goods
Purchase of royalties and license fees	Services
Derivatives	
Financial leasing	
	Income
	Reinvested earnings
	Interest from financial leasing
	Income equivalent to interest from derivatives
Interest payments	
	Current transfers
Transfers	
Parts of EU disbursements	
Migrants' transfers	
Large donations	
Foundations	
	<b>Capital account</b>
	Purchase of royalties and license fees
	Parts of EU disbursements
	Migrants' transfers
	Foundations
	Large donations
	Debt forgiveness
	<b>Financial account</b>
	Direct investment
	Reinvested earnings
	Portfolio investment
	Change in interest payments due
	Derivatives
	Other investment
	Financial leasing
	Debt forgiveness
	<b>Official reserves</b>
<b>Capital account</b>	
<b>Reserve creation and valuation changes</b>	
No longer part of the balance of payments but covered in International Investment Position	
<b>Errors and omissions</b>	<b>Errors and omissions</b>
<b>Changes in official reserves</b>	

Source: OeNB.

<b>Current and Capital Accounts</b>	
New BoP	Old BoP
<b>Current account</b>	
<b>Goods</b> extended to include processing reduced by freight imports (fob-fob valuation) foreign trade statistics are no longer directly deductible	net services old: freight imports = zero
<b>Services</b> Travel Passenger transport Travel  Transportation broken down by mode Overhead costs (only a residual item now) Technical, economic, scientific consulting, communications services Computer and information services (new!)  Operational leasing services Financial services (excl. derivatives)	Travel was revised   reduced now incl. overhead; excl. computer and communications from consulting; partly unclassified goods and formerly "Consulting" and unclassified goods and parts of financial leasing
<b>Income</b> structured by instrument; accrual principle; direct investment plus loans and reinvested earnings	
<b>Capital account</b>	
<b>General government</b> Debt forgiveness Other	Capital account transfers: parts of EU disbursements
<b>Private sector</b> Migrants' transfers Debt forgiveness Other	Transfers Capital account Transfers: parts of donations
<b>Acquisition/disposal of nonproduced or nonfinancial assets</b>	Services
<i>Source: OeNB.</i>	

## Financial Account

Old concept

New concept

The main classification feature is now the financial instrument rather than the maturity (old: short-term and long-term capital movements), which was the concept formerly used.

Austrian direct investment abroad  
sectoral breakdown by banks and businesses  
and households no longer exists  
special statistics contain more detailed information

Foreign direct investment in Austria  
see Austrian direct investment abroad

Foreign securities  
Shares and investment certificates  
Other securities  
Debt securities

Foreign money market instruments

Various items in the financial and current accounts

Domestic securities

Credits extended by Austria  
Credits extended to foreigners

Austrians' short-term time deposits and credits  
Austrians' short-term sight deposits

Other short-term claims  
Other long-term claims

### Reserve creation and valuation changes

#### Changes in official reserves

The changes in official reserves were derived from the net change in holdings and are shown separately. Note the change in the use of the arithmetic signs!

Source: OeNB.

### Direct investment

Austrian direct investment abroad  
+ claims on and liabilities to affiliated enterprises  
+ reinvested earnings  
+ premises and buildings

Foreign direct investment in Austria  
see Austrian direct investment abroad

### Portfolio investment

Assets

#### Equity securities

+ majority of paper hitherto classified under "Other securities"

#### Debt securities

Long-term debt securities  
+ changes in interest payments due  
Money market instruments  
old: part of short-term capital movements  
+ changes in interest payments due  
Financial derivatives  
old:  
Banking services  
Other capital movements short-term/long-term

Liabilities

see Assets

### Other investment

Assets

Trade credits

Loans

+ short-term loans  
+ financial leasing  
- claims on and liabilities to affiliated enterprises  
sectoral breakdown incl. monetary authorities,  
long-term loans – banks as a subitem (thereof);  
recorded at time of maturity  
only net positions

#### Sight and time deposits

+ long-term time deposits  
- short-term loans  
sectoral breakdown incl. monetary authorities

#### Other assets

+ outstanding loans  
+ debt forgiveness  
- premise and buildings  
- long-term time deposits  
sectoral breakdown incl. monetary authorities

Liabilities

see Assets

### Official reserves

#### Gold

#### Special drawing rights Reserve Position in the Fund

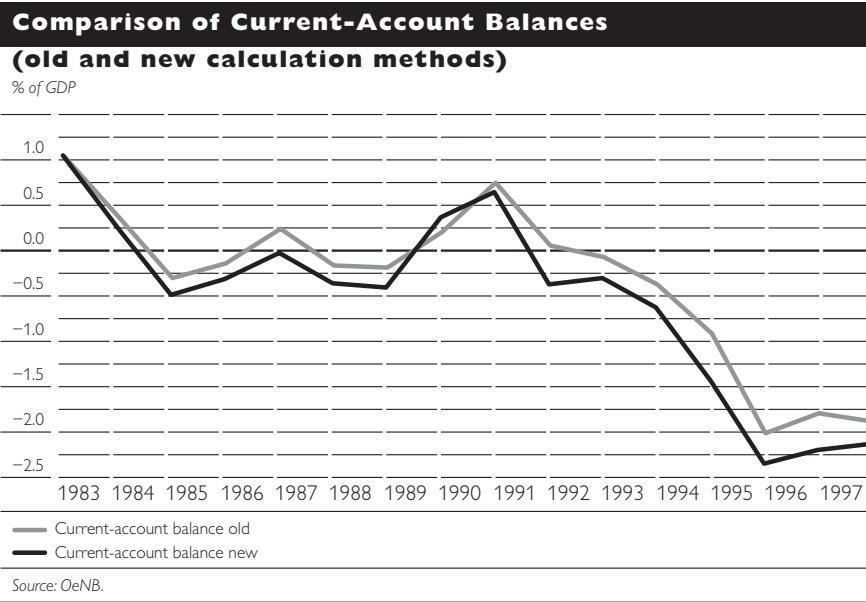
#### Claim on the EMI

#### Currency and deposits Securities

#### Other claims

The transaction-induced change in reserves is shown.  
Thus, it is not comparable to the weekly return of the OeNB!  
NOTE that the sign is reversed!  
Minus balance = increase,  
Plus balance = decrease.

The balance of payments now only reflects transactions. Valuation changes and reserve creation must be indicated in the International Investment Position under "Adjustments".



S T U D I E S



# *Disinflation and Fiscal Indicators – A Comparative Analysis of the EU Member States between 1970 and 1996<sup>1)</sup>*

Eduard Hochreiter

## **I Introduction**

After inflation rates had diverged greatly within the EU, and had reached high levels in the seventies, inflation has recently been contained to below 2%. Disinflation was, at least initially, accompanied by subdued economic growth, massive public deficits and rapidly expanding public debt. Since the eighties, governments have tried to counter the decline of public finances with austerity programs. However, these efforts became successful only in the mid-1990s, when governments stepped up measures to meet the criteria for fiscal convergence set down in the Maastricht Treaty.

This paper examines the link between disinflation and the development of general government budget balances as well as public debt in EU countries between 1970 and 1996. The analysis focuses on the medium-term effects of disinflation on the budget and public debt, as well as the role of interest rates, seigniorage (i.e. monetary income) and fiscal policy measures in the process. The question whether “Keynesian” (sticky price model) or “neoclassical” (flexible price model) effects are predominant in disinflation periods is given particular attention.

Section 2 contains a short theoretical summary and an explanation of the data. Section 3 presents the empirical results, and section 4 provides a number of conclusions.

## **2 Theoretical Background and Data Structure**

In Keynesian standard models with rigid prices, disinflation induced by monetary contraction leads to a drop of GDP, as interest rates rise, while prices and wages show no reaction (initially) to restrictive monetary policy.<sup>2)</sup> Conversely, neoclassical models conclude that disinflation does not necessarily lead to higher real interest rates, contracting GDP and employment figures, and deteriorating budget balances. In such models disinflation is transmitted via changes in wealth and expectations.

Dornbusch (1998), for example, sees a connection between Ireland’s disinflation in the eighties, rising real interest rates, modest economic growth and galloping budget deficits and public debt. McDermott and Wescott (1996), by contrast, show for 20 OECD countries that disinflation and budgetary consolidation do not automatically entail the effects listed above. If this line of arguments proves true, the disproportionate growth of public deficits and debt must be attributed to factors other than disinflation.

As a model presented in another recent paper (Hochreiter, 1998) shows, there are four principal channels via which inflation or disinflation can have effects on public deficits and public debt:

1. effects on central banks’ monetary income (seigniorage);
2. effects on real interest rates;
3. effects on economic growth and
4. effects on the budget.

Our task was, therefore, to test the statistical significance of these interrelationships empirically and to ascertain which channel or which combination of channels lead to the documented development of debt levels in the EU Member States. This would also allow us to investigate whether the theoretical approaches described above are empirically relevant or not.

We started off by identifying disinflation/inflation periods on the basis of the CPI. This involved the following steps: First, a Hodrick-Prescott filter was employed to eliminate short-term irregularities from the data.<sup>3)</sup> Next, we established the turning points and calculated the length of each disinflation period. As this study is focused on longer-term developments, the minimum length of a disinflation period was set at 36 months. Similar methods were also applied for the other time series of data used in this study. Wherever possible, the fiscal variables and long-term interest rates were selected according to Maastricht standards, even if this entailed breaks in the time series. The data were compiled from OECD, EUROSTAT and BIS sources. The time coverage period 1970 to 1996 was then divided into three subperiods, the 1970s, 1980s and 1990s, which also allowed us to examine whether the statistical interrelationships changed over time. The fact that we only measured the variables' change at the beginning and the end of the inflationary period is also important, as it implies that developments within a period were not assessed.

### **3 Empirical Results<sup>4)</sup>**

#### **3.1 The Relationship between Disinflation and Changes in General Government Debt**

Graph 1 relates disinflation, as measured in percentage points from the identified inflation peak to the trough, with the percentage point change in the debt to GDP ratio for the same period. As the values indicated represent the differential between absolute values at the beginning and end of each subperiod, the development within each subperiod and the sustainability of fiscal positions cannot be assessed with this method.<sup>5)</sup>

A first glance at the graph reveals that the developments in the three periods were strikingly distinct. After the oil shock in the 1970s public debt rose in all EU Member States except the United Kingdom. However, the rise was relatively moderate (less than 10% of GDP except in Austria) and disinflation and debt accumulation were negatively correlated, i. e. quicker disinflation coincided with more moderate accumulation of debt.

By contrast, disinflation and debt accumulation were positively correlated in the 1980s. In this disinflation period debt levels increased by an average of 21.5%, more than twice as fast as in the 1970s. However, accelerated disinflation did not necessarily imply expanding debt accumulation. In Belgium, for instance, disinflation remained stable at 6.6 percentage points throughout the 1970s and the 1980s, while debt accumulation jumped from +8.9 percentage points in the seventies to +19.8 percentage points in the eighties. In Ireland, on the other hand, in the 1980s both disinflation and debt accumulation speeded up considerably from the 1970s' levels.

In the 1990s disinflation in the majority of EU Member States converged in a range between 1% and 4%, while debt levels continued to show clearly dissimilar developments. While public debt in Ireland dropped by about 25 percentage points, it rose by some 25 percentage points in Italy.

With these developments in mind, let us now examine the development of seigniorage, real interest rates and primary balances in the three disinflation periods.

### 3.2 The Relationship between Disinflation and Seigniorage

A priori we would expect the state's seigniorage income to decline in disinflation periods, as the central banks' monetary income would decline along with the fall of (nominal) interest rates. The focus in this part of our study is therefore on the question to what extent seigniorage income contracted and whether the fall was sizable enough to explain the expansion of public debt.

We calculated seigniorage using the opportunity cost concept.<sup>6)</sup> We selected the interest rate of 10-year government bonds as the relevant benchmark,<sup>7)</sup> because many governments usually prefer long-term bonds to seigniorage financing.

Table 2, below, summarizes the results. Seigniorage in the "low seigniorage countries" remained within an 0.2 to 1.3% of GDP bracket throughout the observation period. In the "high seigniorage countries" – Greece, Ireland, Italy, Portugal, and Spain – seigniorage ranged from 1.2% to 4.6% of GDP up until the late 1980s and early 1990s, and was thus an important, yet gradually eroding source of revenue for general government budgets.

However, seigniorage did not differ significantly between inflationary and disinflation periods, especially in the low seigniorage countries. This somewhat surprising result can be attributed to the following factors:

- In the 1970s, at a time of soaring inflation, interest rates and financial markets were still highly regulated in most of the countries under review. Starting around 1974, the first disinflation period coincided with (slow) moves to deregulate interest rates in some countries, which caused nominal interest rates to rise rather than fall.
- In addition, the level of interest rates began to reflect the development of inflation. As a consequence, seigniorage actually increased both in the 1970s and the 1980s, as the examples of Greece (1980s) and Portugal (1970s) show.

Yet over time seigniorage shrank, and in 1996 the levels converged at approximately 0.5% of GDP for low seigniorage countries, with the exception of Finland and Sweden, whose seigniorage was higher, as well as France and the United Kingdom, which recorded lower seigniorage. High seigniorage countries' levels fell to 0.5 to 1.5% of GDP, with the exception of Greece whose seigniorage income is 2.2% of GDP.

Overall, seigniorage barely showed the effects of inflation and disinflation in the subperiods; it can be concluded that seigniorage was a less important source of revenue for the government than is sometimes argued, except in the case of the high seigniorage countries in the 1970s and 1980s.

### 3.3 The Relationship between Disinflation and Real Interest Rate Changes

Under "neoclassical" assumptions we would expect real interest rates to remain unaffected by disinflation, *ceteris paribus*, while under "Keynesian" assumptions we would expect disinflation and real interest rates to correlate positively, at least initially.

Graph 2 demonstrates that real interest rates (recorded ex post) were positively linked with the absolute amount of disinflation in all three periods, although the overall increase during disinflation periods varies considerably both between countries and over time. Similarly, levels of average real interest rates displayed marked differences, yet in the 1990s they converged in a 4 to 6% bracket.

In the 1970s and 1980s real interest rates climbed in most Member States, rising sharply in some, as a result of the following interrelated developments:

- Interest rates went up worldwide after 1980, increasingly reflecting inflation premia;
- direct monetary control was gradually replaced by indirect measures, which required a deregulation of interest rates;
- economic policies became increasingly stability-oriented, which at least initially may have raised risk premia; and finally,
- public debt was accumulating.

These facts contain evidence of “Keynesian” interest rate reactions to disinflation. Nevertheless, high levels of public deficit alone do not necessarily imply a substantial increase of real interest rates in disinflation periods, with the exception, perhaps, of the 1980s (Greece, Italy, Ireland and Spain). In the 1990s disinflation period, seven countries recorded declining real interest rates, whereas just two countries reported rises of more than two percentage points.

The results of the 1990s may have been associated with the moderate pace of disinflation, the greater credibility of its sustainability and, perhaps most importantly, with the introduction and persistent implementation of corrective fiscal measures.

### **3.4 The Relationship between Disinflation and Primary Balance Changes**

Graph 3 gives an overview of the interrelationship between disinflation and primary balances.<sup>8)</sup> Again, there were major differences between the developments in the three subperiods. In the seventies, disinflation and primary balances were negatively correlated. Enhanced disinflation tended to weaken primary balances. In the eighties and nineties, by contrast, disinflation and primary balances were positively correlated. Yet it was precisely in the 1980s that average primary deficits peaked (with the exception of Finland and Sweden) and in some cases reached unsustainable levels.<sup>9)</sup> In Belgium, Greece, Ireland, Italy and the Netherlands, public debt levels surged by between 20 and 40% of GDP. Conversely, Belgium, Denmark, Ireland and the Netherlands, on average, achieved primary balance surpluses in the 1990s.

In the analysis of disinflation effects on government revenue and expenditure we distinguish between direct and indirect effects of disinflation. The former depend on the degree of indexation of the fiscal system, i.e. on the reaction of revenue and expenditure to changes of the inflation rate. The latter depend on the response of revenue and expenditure to changes in GDP growth induced by disinflation. Finally, changes in budget

balances can also stem from discretionary fiscal policy measures, both in periods of inflation and of disinflation.

In today's fiscal systems, budget receipts are at least partially influenced by changes of the inflation rate. Budget expenditure, however, is set in nominal terms in a budgeting process and approved by Parliament. An unexpected change of the inflation rate, therefore, has no effect on budget expenditure.<sup>10)</sup> Receipts, on the other hand, are at least in part (*de facto*) indexed, which leads to a certain asymmetry of the budget in disinflation periods.

Regarding the indirect disinflation effects we first have to consider the role of automatic stabilizers. Hoeller et al. (1996) demonstrate the importance of automatic stabilizers in EU countries. To be able to picture the indirect effects of disinflation, we first need to quantify disinflation's effects on real economic growth and in due consequence on budget balances. One possible approach is to calculate the sacrifice ratio<sup>11)</sup>, by dividing cumulative GDP shrinkage in a disinflation period by the absolute reduction of the inflation rate. The results recorded in Table 3 show that the sacrifice ratios varied widely among EU countries and over time. France, Italy and Finland presented declining sacrifice ratios over the three subperiods. By contrast, the ratio climbed in Denmark, the Netherlands and the UK. In other countries there appeared to be no systematic relationship between the level of inflation and the sacrifice ratio and between disinflation and output losses.

These findings point to the pivotal role of discretionary measures in the development of EU countries' debt levels since 1970. In our analysis, we can distinguish between two phases of fiscal effects in a disinflation period: first, a phase dominated by direct disinflation effects and by changes of the automatic stabilizers induced by disinflation, but not by discretionary policy measures, and second, a phase dominated by discretionary policy measures.

The prime example for the existence of such effects is Austria, where each of the three disinflation periods coincided with at times dramatic surges of budget deficits in the first one or two years, which were, however, later reversed. We found similar developments, if somewhat subdued, in other EU countries such as Denmark and the Netherlands. The evidence as to how much of these effects can be traced to explicit policy measures was mixed. Calculations on the basis of Neely and Waller's (1996) results offered some, but not very conclusive evidence. Using OECD country studies produced somewhat better results.

#### 4 Conclusions

Disinflation is not a new phenomenon. There were several attempts to contain inflation since the seventies, but it was not until the second half of the 1990s that inflation converged at a low level throughout the EU.

This paper's findings indicate that disinflation influenced public debt via all four channels described in section 2; the intensity of the influence, however, varied considerably.

1. Disinflation coincided with rising real interest rates, at least in the 1970s and 1980s. The quantitative effect, however, was moderate.

2. There was a secular decline of seigniorage in all countries. With the exception of the 1970s and 1980s in Greece, Ireland, Italy, Portugal and Spain, however, the dampening effect of seigniorage on budget deficits was small.
3. Sacrifice ratios varied widely between EU countries, and statistically no systematic relationship between disinflation and output losses was found.
4. Automatic stabilizers played an important role, but their effects alone cannot suffice to explain the rapid surge of debt levels in the EU. Consequently, a major factor for the expansion of public debt in Europe from 1970 to the mid-1990s appears to have been discretionary fiscal policy.

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- 1 This is a nontechnical abbreviated version of the study by Hochreiter (1998). The full version will be published as a "Working Paper." The author wishes to thank Leopold Diebalek for his valuable comments.
- 2 See Burda and Wyplosz (1993; 218).
- 3 See Neely and Waller (1997).
- 4 The econometric estimates can be found in Hochreiter (1998).
- 5 The term "fiscal positions" here refers to primary budget balances and public debt.
- 6 See Drazen (1984); Hochreiter, Rovelli and Winckler (1996).
- 7 Gros (1992) also uses a long-term interest rate to gauge opportunity costs.
- 8 Net deficit minus interest payments.
- 9 For an analysis of budget balance sustainability see Brandner et al. (1998).
- 10 Excluding expenditure directly linked to earmarked receipts.
- 11 Sacrifice ratios depend significantly on the empirical approach (see Neely and Waller, 1994). In this study trend output was calculated using a Hodrick-Prescott filter.

## Annex

Table 1

## Basic Data

	Inflation/Disinflation periods <sup>1)</sup>				Fiscal Positions <sup>2)</sup>				Interest rates <sup>3)</sup>			seigniorage <sup>3)</sup> % of GDP
	start/end	inflation		duration of months	gross debt change	budget deficit change	primary balance excl. seigniorage		nominal rate of interest change	real rate of interest change	real rate of interest average level	
		min./max.	inflation/ disinflation				change	average level				
	%	%-age points		change start-end in %-points			%	%				
<b>1 Austria (AT)</b>												
Inflation 70	1/70– 9/74	3.56– 8.7	5.1	57	3.7	–2.2	–2.1	0.5	1.2	–1.8	1.8	1.1
Disinflation 70	10/74–11/78	8.7 – 4.34	– 4.4	49	10.4	–1.3	–0.6	–1.9	–0.1	1.8	2.3	1.1
Disinflation 80	5/81– 5/87	5.95– 1.7	– 4.3	73	13.9	–0.6	0.6	–1.4	–1.7	0.9	4.3	0.9
Inflation 80/90	6/87– 5/92	1.7 – 3.74	2.0	60	3.3	0.4	0.7	–0.5	0.5	–0.4	4.9	0.7
Disinflation 90	6/92– 3/97	3.74– 1.65	– 2.1	57	10.2	–1.9	–1.5	–1.2	–1.2	0.1	4.3	0.7
<b>2 Belgium (BE)</b>												
Inflation 70	1/70– 1/75	3.22–11.64	8.4	61	– 5.3	–1.6	–1.4	–1.9	0.7	–4.9	1.0	1.1
Disinflation 70	2/75– 2/79	11.64– 5.0	– 6.6	49	8.9	–2.4	–1.2	–3.5	1.5	4.0	0.7	1.1
Inflation 80	3/79– 7/82	5.0 – 8.06	3.1	41	27.1	–2.6	0.3	–4.6	1.6	1.4	5.0	1.3
Disinflation 80	8/82–10/87	8.06– 1.48	– 6.6	63	19.8	2.6	4.3	–1.1	–3.1	0.7	5.9	1.0
Inflation 80/90	11/87–12/90	1.48– 3.2	1.7	38	0.6	0.8	0.8	2.1	0.1	–0.1	6.3	0.7
Disinflation 90	1/91– 7/96	3.2 – 1.85	– 1.4	66	0.1	2.9	2.0	3.4	–1.9	–1.1	5.5	0.5
<b>3 Denmark (DK)</b>												
Inflation 70	1/70– 9/74	5.46–11.65	6.2	56	x	x	–0.4	1.9	3.1	–1.8	4.0	0.7
Inflation 70/80	11/76– 9/80	10.21–11.46	1.3	47	x	–3.6	–2.1	–3.0	1.9	2.1	6.4	0.7
Disinflation 80	10/80–12/86	11.46– 4.07	– 7.4	74	8.9	5.1	8.3	–0.3	–6.1	–0.6	7.7	0.6
Disinflation 80/90	7/88– 7/93	4.24– 1.67	– 3.6	61	9.5	–2.6	–3.3	1.4	–1.8	–0.3	7.0	0.5
Inflation 90	8/93– 3/97	1.67– 2.26	0.6	43	0.2	0.7	0.8	0.4	–0.8	–0.9	5.8	0.5
<b>4 Finland (FI)</b>												
Inflation 70	1/70– 3/75	1.59–16.45	14.9	63	– 6.7	1.1	0.5	5.0	1.3	–8.6	–0.6	0.3
Disinflation 70	4/75– 3/79	16.45– 8.98	– 7.5	47	2.7	–2.1	–2.6	3.9	1.5	5.0	–2.5	0.3
Disinflation 80	5/81–12/86	10.83– 4.03	– 6.8	67	2.7	0.5	0.3	1.1	0.3	4.8	5.0	0.6
Disinflation 90	10/89– 3/97	5.94– 0.36	– 5.6	89	42.6	–6.6	–3.6	–4.4	–4.4	0.1	7.2	0.8
<b>5 France (FR)</b>												
Inflation 70	1/70– 2/75	4.81–11.46	6.7	61	x	–1.3	–1.5	–0.4	1.6	–3.6	1.6	1.0
Inflation 70/80	10/77– 3/81	9.69–12.96	3.3	42	1.5	–0.3	0.0	–1.4	1.6	0.9	1.0	0.9
Disinflation 80	4/81–12/87	12.96– 2.86	–10.1	80	9.0	–0.2	1.1	–1.4	–4.2	3.7	4.4	0.8
Disinflation 90	4/90– 4/95	3.32– 1.78	– 1.5	60	12.2	–2.5	–1.6	–1.2	–1.5	–0.7	5.7	0.4
<b>6 Germany (DE)</b>												
Inflation 70	1/70–11/73	3.05– 6.78	3.7	47	2.6	–1.5	–1.4	–1.8	0.5	–1.2	3.3	0.9
Disinflation 70	12/73– 2/78	6.78– 3.42	– 3.4	51	6.2	–1.2	–0.2	–3.4	–1.2	0.2	2.8	0.9
Inflation 80	7/83– 5/81	3.42– 5.64	2.2	39	4.2	0.0	0.5	–2.8	0.7	0.5	3.2	0.8
Disinflation 80	6/81–12/86	5.64– 0.38	– 5.3	67	6.5	1.4	2.3	–0.9	–1.8	1.5	4.7	0.8
Inflation 80/90	1/87– 6/92	0.38– 4.45	4.1	66	3.1	–1.2	–1.2	–0.4	1.0	–1.4	4.7	0.7
Disinflation 90	7/92– 3/97	4.45– 1.1	– 3.4	56	11.1	–0.9	–0.1	–1.2	–0.9	0.8	4.1	0.7
<b>7 Greece (GR)</b>												
Inflation 70	1/70– 7/74	0.23–19.02	18.8	54	– 0.3	x	–2.1	–2.0	x	x	–8.6	1.2
Inflation 70/80	5/77– 3/81	12.95–23.39	10.4	47	4.9	–1.9	–2.1	–3.5	4.0	–1.0	–5.2	2.3
Disinflation 80	4/81–10/88	23.39–15.29	– 8.1	90	37.5	–6.9	–2.2	–7.6	2.4	6.5	–2.7	3.3
Disinflation 90	3/91– 3/97	18.53– 6.54	–12.0	72	21.6	4.7	8.0	–2.1	–5.4	3.3	7.5	2.7
<b>8 Ireland (IE)</b>												
Inflation 70	1/70– 7/75	6.48–18.23	11.8	67	n. a.	n. a.	–2.3	–1.8	4.3	–3.9	–0.9	1.8
Disinflation 70	8/75– 8/78	18.23–11.88	– 6.4	36	4.5	n. a.	–3.2	–6.3	0.7	1.7	–1.2	2.2
Disinflation 80	7/81– 3/88	18.33– 2.8	–15.5	80	24.5	5.0	7.3	–5.6	–4.6	5.8	4.8	1.4
Disinflation 90	5/90– 3/97	3.4 – 1.43	– 2.0	82	–24.8	1.2	–0.8	2.0	–1.7	–0.9	6.0	0.7

Source: OECD, EUROSTAT, BIS, OeNB.

<sup>1)</sup> Monthly data; HP-filtered.<sup>2)</sup> Percent of GDP; HP-filtered.<sup>3)</sup> HP-filtered.



**Basic Data – cont.**

	Inflation/Disinflation periods <sup>1)</sup>				Fiscal Positions <sup>2)</sup>				Interest rates <sup>3)</sup>			seigniorage <sup>3)</sup>
	start/end	inflation		duration	gross debt change	budget deficit change	primary balance excl. seigniorage		nominal rate of interest change	real rate of interest change	real rate of interest average level	
		min./max.	inflation/ disinflation				change	average level				
	%	%-age points	of months	change start-end in %-points	%	% of GDP						
<b>9 Italy (IT)</b>												
Inflation 70	1/70– 7/75	4.9 –17.39	12.5	66	15.5	-5.0	-4.0	-8.3	3.2	- 8.7	-1.0	2.0
Disinflation 80	1/81–12/87	18.4 – 5.11	-13.3	83	25.8	-0.6	2.5	-7.4	-5.3	5.1	4.2	2.4
Disinflation 90	8/90– 2/97	6.18– 3.56	- 2.6	78	22.3	3.3	2.9	-1.6	-2.5	- 1.3	6.7	1.7
<b>10 Luxembourg (LU)</b>												
Inflation 70	1/70– 6/75	4.06– 9.87	5.8	66	x	x	x	x	x	x	-1.5	x
Disinflation 70	7/75–11/78	9.87– 4.59	- 5.3	41	x	x	x	x	0.2	1.7	-0.2	x
Inflation 70/80	12/78– 7/82	4.59– 8.76	4.2	44	x	x	x	x	1.8	1.0	1.6	x
Disinflation 80	8/82– 4/87	8.76– 0.6	- 8.2	57	x	x	x	-0.1	-0.7	3.1	4.7	0.1
Inflation 80/90	5/87– 3/91	0.6 – 3.5	2.9	47	x	x	0.0	-0.1	-0.5	- 1.2	5.9	0.1
Disinflation 90	4/91– 3/97	3.5 – 1.14	- 2.4	71	2.5	x	0.1	-0.1	-2.4	- 1.1	4.2	0.1
<b>11 Netherlands (NL)</b>												
Inflation 70	1/70–12/74	3.27– 9.67	6.4	60	- 8.8	0.5	0.5	0.2	1.5	- 2.1	0.5	0.6
Disinflation 70	1/75– 1/79	9.67– 4.9	- 4.8	48	1.5	-1.5	-1.2	-0.6	0.5	2.8	1.6	0.6
Disinflation 80	5/81– 5/87	6.11– 0.02	- 6.1	73	21.4	-0.2	1.6	-1.8	-3.0	1.1	5.6	0.6
Inflation 80/90	6/87– 3/92	-0.02– 3.09	3.1	58	3.6	1.0	0.8	-0.5	0.8	- 0.8	5.9	0.6
Disinflation 90	4/92– 3/97	3.09– 1.94	- 1.2	59	- 1.2	0.8	1.1	0.7	-1.3	- 0.8	4.5	0.6
<b>12 Portugal (PT)</b>												
Inflation 70	1/70– 7/75	5.48–22.65	17.2	66	4.3	-7.0	-8.1	-1.8	4.5	-10.3	-6.1	2.1
Disinflation 70/80	8/77– 9/80	23.96–19.8	- 4.2	38	6.0	0.0	0.6	-7.1	4.0	4.9	-3.7	4.6
Inflation 80	10/80–11/83	19.8 –25.52	5.7	38	10.3	-1.4	-0.1	-7.4	2.6	2.4	1.6	5.7
Disinflation 80	12/83– 2/88	25.52–10.15	-15.4	50	10.1	2.0	5.1	-3.7	-5.4	2.2	5.4	4.6
Disinflation 90	6/90– 3/97	12.2 – 1.89	-10.3	80	4.4	0.2	-0.1	-0.7	-7.2	0.7	5.5	2.6
<b>13 Spain (ES)</b>												
Inflation 70	1/70– 8/77	4.69–21.04	16.4	92	- 2.9	-1.2	-1.5	-1.4	2.4	-11.7	-2.9	1.3
Disinflation 70/80	9/77– 6/88	21.04– 5.69	-15.4	129	29.1	-2.7	-1.0	-5.2	0.4	12.5	1.5	2.4
Disinflation 90	7/90– 3/97	6.34– 2.23	- 4.1	80	20.4	-1.5	0.9	-2.4	-3.0	- 1.1	6.1	1.5
<b>14 Sweden (SE)</b>												
Inflation 70	2/72– 3/77	6.7 –10.54	3.8	61	0.1	-2.3	-2.7	1.5	1.7	- 1.0	-0.5	0.6
Disinflation 80	12/80– 2/87	11.42– 4.76	- 6.7	75	8.5	4.9	6.5	-2.4	-0.4	3.8	4.0	0.9
Inflation 80/90	3/87– 7/90	4.76– 8.51	3.8	41	- 3.0	-1.2	-2.4	2.0	-0.1	- 1.1	5.1	0.8
Disinflation 90	8/90– 3/97	8.51– 0.38	- 8.9	79	25.1	-5.3	-3.1	-5.7	-2.7	2.9	6.0	0.9
<b>15 United Kingdom (GB)</b>												
Inflation 70	1/70– 8/75	6.01–19.27	13.3	68	-14.1	-6.4	-6.7	-0.2	4.9	- 5.2	-0.4	1.0
Disinflation 70	9/75– 9/78	19.27–12.73	- 6.5	36	- 3.2	0.3	0.8	-2.7	-0.1	1.7	-2.0	1.0
Disinflation 80	4/80– 7/86	14.2– 4.14	-10.1	76	- 0.1	1.8	2.3	-0.2	-3.3	4.5	3.8	0.6
Inflation 80	8/86– 2/90	4.14– 7.76	3.6	43	- 7.2	0.1	-0.4	1.3	-0.1	- 1.1	4.2	0.4
Disinflation 90	3/90– 4/94	7.76– 2.38	- 5.4	49	3.3	-3.7	-3.6	-1.9	-1.1	1.3	4.2	0.4

Source: OECD, EUROSTAT, BIS, OeNB.

<sup>1)</sup> Monthly data; HP-filtered.<sup>2)</sup> Percent of GDP; HP-filtered.<sup>3)</sup> HP-filtered.

Table 2

<b>Seigniorage (SE)<sup>1)</sup></b>					
	Period	Inflation Periods	Disinflation Periods	Loss	
period averages in % of GDP					
<b>Low Seigniorage Countries</b>					
Austria	1970 to 1979	1.1	1.1		0.0
	1980 to 1989		0.9		
Belgium	1990 to 1996	0.7	0.7		0.1
	SE 1996			0.6	
	1970 to 1979	1.1	1.1		0.0
	1980 to 1989	1.3	1.0		0.3
Denmark	1990 to 1996	0.7	0.5		0.2
	SE 1996			0.4	
	1970 to 1979	0.7			
	1980 to 1989	0.7	0.6		0.1
Finland	1990 to 1996	0.5	0.5		0.0
	SE 1996			0.5	
	1970 to 1979	0.3	0.3		0.0
	1980 to 1989		0.6		
France	1990 to 1996		0.8		
	SE 1996			0.8	
	1970 to 1979	1.0			
	1980 to 1989	0.9	0.8		0.1
Germany	1990 to 1996		0.4		
	SE 1996			0.2	
	1970 to 1979	0.9	0.9		0.0
	1980 to 1989	0.8	0.8		0.1
Netherlands	1990 to 1996	0.7	0.7		0.1
	SE 1996			0.6	
	1970 to 1979	0.6	0.6		0.0
	1980 to 1989		0.6		
Sweden	1990 to 1996	0.6	0.6		0.0
	SE 1996			0.6	
	1970 to 1979	0.6			
	1980 to 1989		0.9		
United Kingdom	1990 to 1996	0.8	0.9		-0.1
	SE 1996			1.1	
	1970 to 1979	1.0	1.0		-0.1
	1980 to 1989		0.6		
<b>High Seigniorage Countries</b>	1990 to 1996	0.4	0.4		0.0
	SE 1996			0.3	
	1970 to 1979				
	1980 to 1989				
Greece	1990 to 1996	1.2			
	SE 1996			2.2	
	1970 to 1979	1.2	3.3		-1.1
	1980 to 1989	2.3	2.7		
Ireland	1990 to 1996		0.7		
	SE 1996			0.6	
	1970 to 1979	1.8	2.2		-0.5
	1980 to 1989		1.4		
Italy	1990 to 1996		1.7		
	SE 1994			1.5	
	1970 to 1979	2.0	2.4		
	1980 to 1989		1.7		
Portugal	1990 to 1996	2.1	4.6		-2.5
	SE 1994			1.6	
	1970 to 1979	2.1	4.6		1.0
	1980 to 1989	5.7	2.6		
Spain	1990 to 1996		1.5		
	SE 1996			1.2	
	1970 to 1979	1.3	2.4		
	1980 to 1989		1.5		

Source: OeNB, IFS.

<sup>1)</sup> HP-filtered.

Table 3

<b>Sacrifice Ratios<sup>1)</sup></b>			
	1970s	1980s	1990s
Austria	2.14	1.42	2.54
Belgium	-4.42	4.89	3.85
Denmark	x	1.35	3.42
Finland	1.12	1.07	-0.32
France	3.22	0.84	0.06
Germany	3.12	0.44	1.56
Italy	3.13	0.87	0.69
Netherlands	0.37	1.47	2.23
Spain	-0.58	0.83	-1.14
Sweden	x	0.99	0.72
United Kingdom	0.61	2.08	2.40

Source: OeNB, IFS.

<sup>1)</sup> Sacrifice ratios are calculated by dividing cumulative GDP shrinkage in a disinflation period by the absolute reduction of the inflation rate.

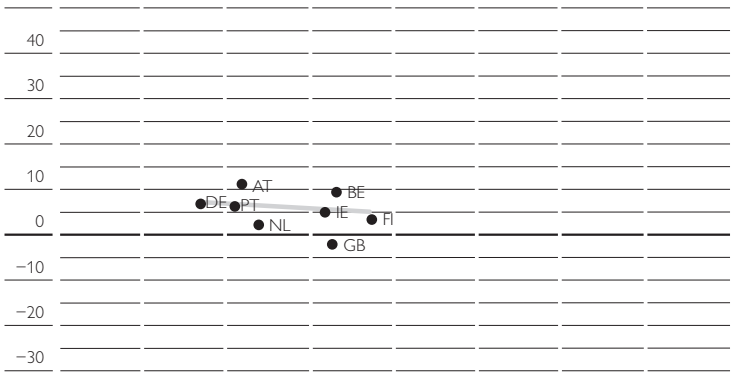
Chart 1

**Disinflation (DI) and General Government Debt (GGD)**

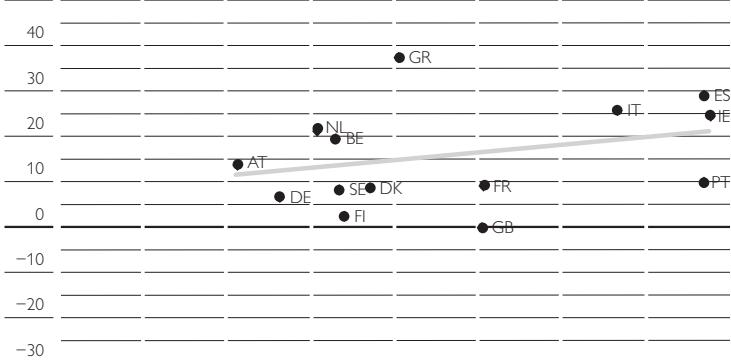
change in %-points

**Period 1 (1970s)**

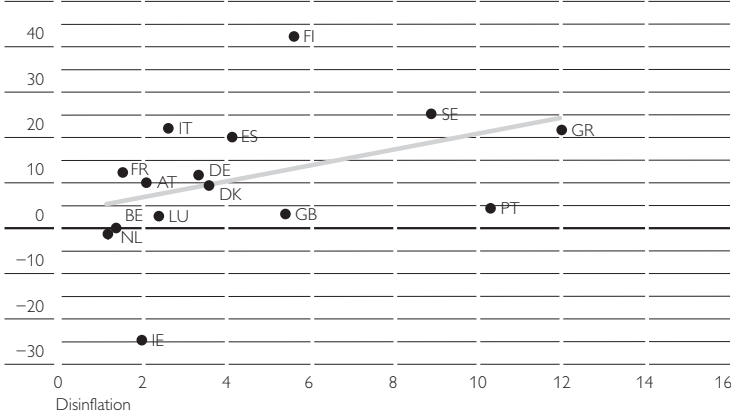
General Government Debt



**Period 2 (1980s)**



**Period 3 (1990s)**



Source: OeNB, IFS.

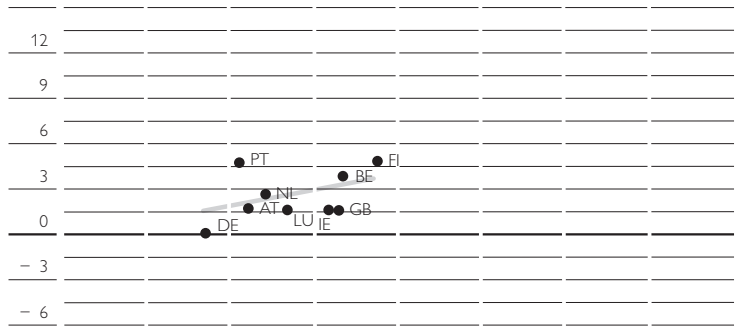
Chart 2

**Disinflation (DI) and Real Rate of Interest Change (RIR)**

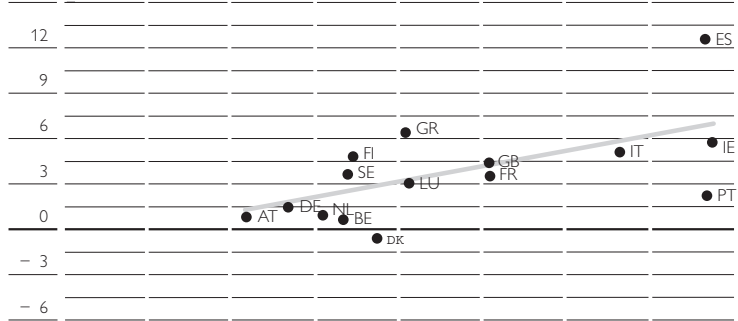
change in %-points

**Period 1 (1970s)**

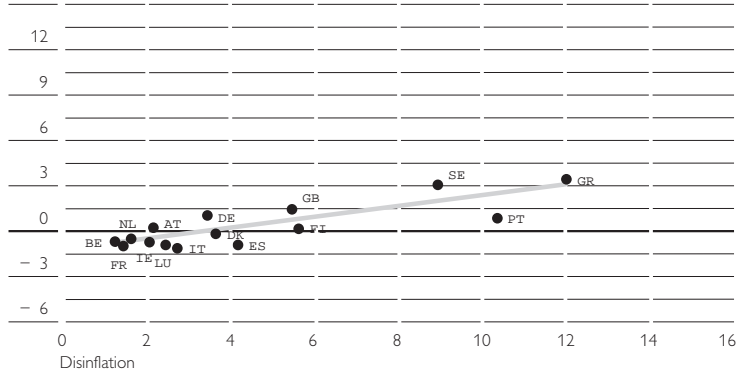
Real Rate of Interest Change



**Period 2 (1980s)**

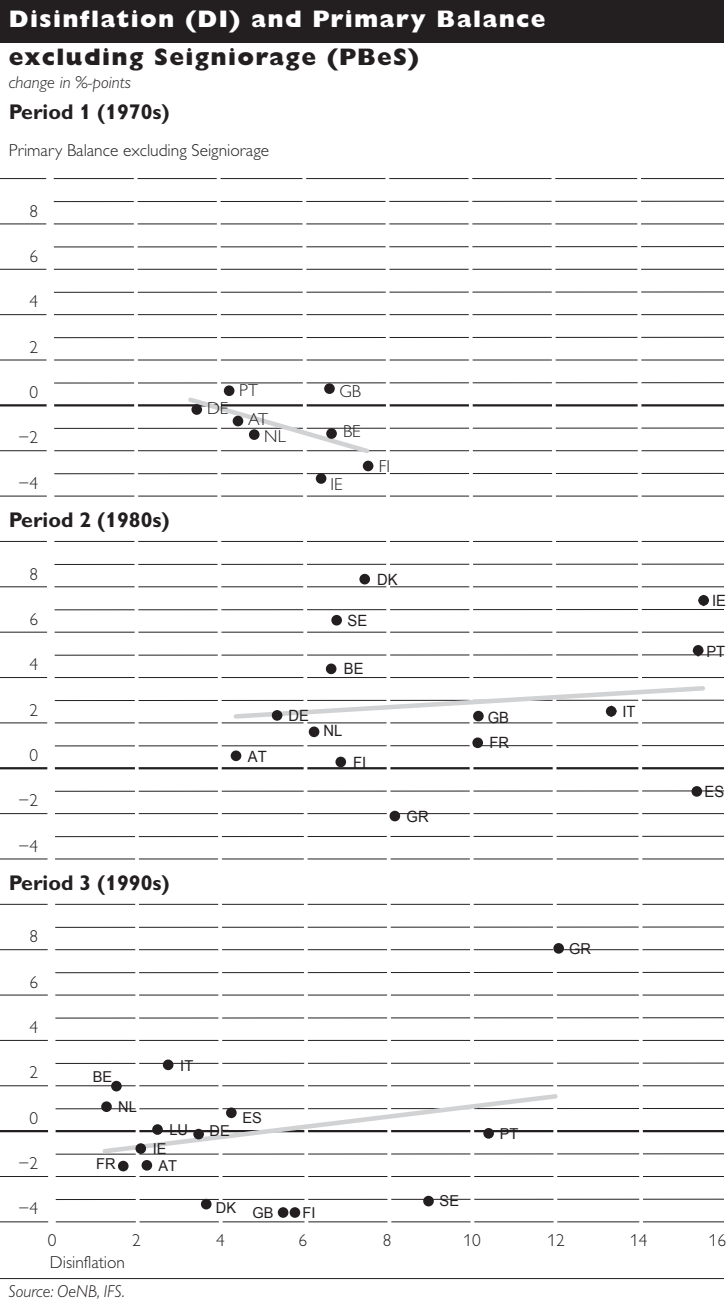


**Period 3 (1990s)**



Source: OeNB, IFS.

Chart 3



# Official Announcements of the Oesterreichische Nationalbank

Authentic  
German text  
published in the  
Official Gazette  
(Amtsblatt zur  
Wiener Zeitung)

Translation  
published in  
"Reports and  
Summaries"  
issue no.

## Official Announcements Regarding the Foreign Exchange Law

DL 1/91	Promulgation of the new Official Announcements regarding the Foreign Exchange Law; general provisions 1. Issuance of new Official Announcements 2. Definitions 3. Fees	Sept. 24, 1991	4/1991
DL 2/91	Granting of general licenses 1. General license 2. Waiver of obligation to declare; release 3. Nonbanks 4. Banks not engaged in foreign business 5. Foreign exchange dealers 6. Exchange bureaus 7. Special banks and financial institutions 8. Provisions applying to both banks and financial institutions	Sept. 24, 1991	4/1991
DL 3/91	Reporting requirements 1. General provisions 2. Exemptions from the reporting obligation 3. General reports 4. Reports by banks 5. Reports by nonbanks and financial institutions 6. Special reports	Sept. 24, 1991	4/1991
DL 4/91	Assets of nonresidents with residence (domicile) in Iraq	Oct. 29, 1991	4/1991
DL 2/93	Modification of the Official Announcement DL 3/91	May 5, 1993	2/1993
DL 3/93	Modification of Official Announcement DL 2/91; Sanctions of the United Nations Against Libya (SC Resolution No. 883/1993)	Dec. 15, 1993	4/1993
DL 1/96	Modification of Official Announcement DL 3/91	Sept. 3, 1996	3/1996

Please see the German-language publication "Berichte und Studien" for a list of all Official Announcements in German.

## Official Announcements Regarding Minimum Reserve Requirements

MR 4/95	Calculation of the minimum reserve	Aug. 3, 1995	3/1995
MR 5/95	Minimum reserve ratios and special interest	Aug. 3, 1995	3/1995
MR 6/95	Minimum reserve requirements for credit institutions in the customs exclaves	Aug. 3, 1995	3/1995
MR 1/96	Supplement to § 2 subparagraph 1 of Official Announcement MR 4/95 issued by the Oesterreichische Nationalbank	Dec. 20, 1996	12/1996

# List of Reports, Summaries and Studies<sup>1)</sup>

Published in  
F = "Focus on Austria"

Please see the German-language publication "Berichte und Studien" for a list of all German-language reports, studies and special publications of the OeNB.

## **Oesterreichische Nationalbank and Selected Monetary Aggregates**

Official Announcements Regarding the Foreign Exchange Law and Minimum Reserve Requirements – see preceding page	
Implications of Cash Innovations for Monetary Policy	F 1/1997
Calendar of Monetary Highlights	F 3/1997
The Influence of the Oesterreichische Nationalbank on the Financing Conditions of Austrian Enterprises	F 3/1997
Calendar of Monetary Highlights	F 1/1998
EMU-Decisions on the Changeover to the Euro	F 2/1998
Calendar of Monetary Highlights	F 2/1998

## **Austrian Financial Institutions**

Austria's Major Loans Register –	
Functions, Classification of Major Loans by Sectors and 1996 Results	F 1/1997
The Second Major Amendment to the Banking Act	F 1/1997
Financial Flows in the Austrian Economy in 1996	F 3/1997
Austrian Bank Holidays in 1998	F 4/1997
Money and Credit in the First Three Quarters of 1997	F 4/1997
Money and Credit in 1997	F 1/1998
Austria's Major Loans Register in 1997	F 1/1998
Money and Credit in the First Quarter of 1998	F 2/1998

## **Austrian Interest Rates**

The Information Content of the Term Structure – The Austrian Case	F 1/1998
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## **Austrian Capital Market**

The Bond Market in 1997	F 2/1998
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## **Austrian Public Finance**

Structural Budget Deficits in Austria	F 3/1997
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## **Austrian Real Economy**

The Influence of the Oesterreichische Nationalbank on the Financing Conditions of Austrian Enterprises	F 3/1997
Economic Background	F 4/1997
The Payment Habits of Austrian Private Households	F 4/1997
Economic Background	F 1/1998
Economic Background	F 2/1998

<sup>1</sup> For a comprehensive list of reports, summaries and studies hitherto published please refer to issue no. 4/1997 of "Focus on Austria."



Published in  
F = "Focus on Austria"

### **External Sector**

Austria's Balance of Portfolio Investment	F 1/1997
Austria's International Investment Position in 1996 – Austria's Portfolio Position and the International Investment Position of the Domestic Banking Sector	F 3/1997
Austrian Direct Investment Stocks in 1995	F 3/1997
Austrian Portfolio Investment	F 3/1997
Austrian Outward and Inward Direct Investment at the End of 1995	F 3/1997
Balance of Payments in the First Three Quarters of 1997	F 4/1997
Austria's Balance of Portfolio Investment 1997	F 2/1998
Balance of Payments in 1997	F 2/1998
Conceptual Changes in the Austrian Balance of Payments	F 2/1998

### **Economic and Monetary Union**

Disinflation and Fiscal Indicators – A Comparative Analysis of the EU Member States between 1970 and 1996	F 2/1998
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### **International Economy**

# Publications of the Oesterreichische Nationalbank

	Published
<b>Periodical Publications</b>	
Statistisches Monatsheft	monthly
Statistische Daten der inländischen Kreditinstitute (advance excerpts from “Statistisches Monatsheft”)	monthly
Leistungsbilanz Österreichs, revidierte Jahresdaten gegliedert nach Regionen und Währungen	annually
Berichte und Studien	quarterly
Focus on Austria (selected chapters from “Berichte und Studien”)	quarterly
Focus on Transition	semiannually
Geschäftsbericht	annually
Annual Report (English translation of “Geschäftsbericht”)	annually
Notenbank und Währung	annually
Volkswirtschaftliche Tagung (for a list of the topics discussed at the conferences see below)	annually
The Austrian Financial Markets – A Survey of Austria’s Capital Markets – Facts and Figures	annually
<b>Other Publications</b>	
National Bank Act 1984 (as of September 1990)	1990
Money and the Central Bank (English translation of “Notenbank und Währung”)	1990
New Developments in Banking and Finance in East and West (Kranichberg 1989)	1990
Erfahrungen Österreichs beim Übergang von administrativer Regulierung zur Marktwirtschaft (Moscow 1990)	1990
Challenges for European Bank Managers in the 1990s (Badgastein 1990)	1991
From Control to Market – Austria’s Experiences in the Post-War Period (Warsaw 1990)	1991
The Economic Opening of Eastern Europe (Bergsten Conference Vienna 1991)	1991 <sup>1)</sup>
Erneuerung durch Integration – 175 Jahre Oesterreichische Nationalbank	1991
Striking a Balance – 175 Years of Austrian National Bank	1991
Transparente Dispositionen – Liberalisierter Devisenverkehr unter Beachtung internationaler Publizitätsverpflichtungen	1991
Ausgeglichene Position – Die neue Präsentation der österreichischen Zahlungsbilanz	1992
Aktive Bilanz – Ein Jahr vollständig liberalisierter Devisenverkehr in Österreich	1992
Nationalbankgesetz 1984 (as of January 1993)	1993
Economic Consequences of Soviet Disintegration (Bergsten Conference Vienna 1992)	1993
Neuorientierung – Internationale Vermögensposition und Außenwirtschaftliche Investitionsbilanz Österreichs	1993
Bankwesengesetz 1993	1994 <sup>1)</sup>

<sup>1</sup> Out of print.

Published

**Other Publications (cont.)**

Internationale Vermögensposition 1992 – Die grenzüberschreitenden Forderungen und Verpflichtungen Österreichs	1994
International Investment Position for 1992 – Austria’s cross-border assets and liabilities	1994
Western Europe in Transition: The Impact of the Opening up of Eastern Europe and the former Soviet Union	1995
Die Oesterreichische Nationalbank als Unternehmen	1996
Monetary Policy in Central and Eastern Europe: Challenges of EU Integration 1996	1996
Information literature on banknote security	recurrently
Working Papers (for a list of the topics discussed in the papers, see below)	occasionally

**Videos**

Wie Mozart entsteht (banknote security)	1990
The Evolution of W. A. Mozart (English version of “Wie Mozart entsteht”)	1995
Bank der Banken (tasks and functions of the OeNB)	1991
The Banks’ Bank (English version of “Bank der Banken”)	1991

**List of the Topics Discussed at the  
Volkswirtschaftliche Tagungen**

- 1975 Die ökonomischen, politischen und sozialen Konsequenzen der  
Wachstumsverlangsamung
- 1976 Störungsanfällige Bereiche in unserem ökonomischen  
und sozialen System
- 1977 Fiskalismus kontra Monetarismus
- 1978 Wirtschaftsprognose und Wirtschaftspolitik
- 1979 Technik-, Wirtschaftswachstums-, Wissenschaftsverdrossenheit:  
Die neue Romantik – Analyse einer Zeitströmung
- 1980 Probleme der Leistungsbilanz in den achtziger Jahren
- 1981 Systemkrisen in Ost und West
- 1982 Forschung und Wirtschaftswachstum
- 1983 Ausweg aus der Krise –  
Wege der Wirtschaftstheorie und Wirtschaftspolitik
- 1984 Der Weg zur Welthandelsnation
- 1985 Weltanschauung und Wirtschaft
- 1986 Vollbeschäftigung, ein erreichbares Ziel?
- 1987 Vollendung des Binnenmarktes in der Europäischen Gemeinschaft –  
Folgen und Folgerungen für Österreich
- 1988 Sand im Getriebe – Ursachen und Auswirkungen  
der Wachstumsverlangsamung in Österreich
- 1989 Banken und Finanzmärkte –  
Herausforderung der neunziger Jahre
- 1990 Wettbewerb und Kooperation im Finanzbereich
- 1991 Wirtschaftliche und politische Neugestaltung Europas –  
Rückblick und Perspektiven
- 1992 Zukunft regionaler Finanzmärkte in einem integrierten Europa
- 1993 Europäische Währungspolitik und internationaler Konjunkturverlauf
- 1994 Neue internationale Arbeitsteilung – Die Rolle der Währungspolitik
- 1995<sup>1)</sup> Die Zukunft des Geldes – das Geld der Zukunft
- 1996 Auf dem Weg zur Wirtschafts- und Währungsunion –  
Bedingungen für Stabilität und Systemsicherheit
- 1997 Die Bedeutung der Unabhängigkeit der Notenbank  
für die Glaubwürdigkeit der europäischen Geldpolitik

<sup>1</sup> Out of print.

Published

**List of the Topics  
Discussed in the Working Papers**

No. 1 <sup>1)</sup>	Hat Böhm-Bawerk recht gehabt? Zum Zusammenhang zwischen Handelsbilanzpassivum und Budgetdefizit in den USA <sup>2)</sup>	1990
No. 2 <sup>1)</sup>	Ost- und Mitteleuropa auf dem Weg zur Marktwirtschaft – Anpassungskrise 1990	1991
No. 3 <sup>1)</sup>	Die Wirtschaft Österreichs im Vergleich zu den EG-Staaten – eine makroökonomische Analyse für die achtziger Jahre	1991
No. 4 <sup>1)</sup>	The Soviet Banking Reform	1991
No. 5 <sup>1)</sup>	Die Auswirkungen der Finanzmarkt- und Kapitalverkehrs- liberalisierung auf die Wirtschaftsentwicklung und Wirtschafts- politik in Norwegen, Schweden, Finnland und Großbritannien – mögliche Konsequenzen für Österreich <sup>2)</sup>	1991
No. 6 <sup>1)</sup>	Zwei Jahre G-24-Prozeß: Bestandsaufnahme und Perspektiven unter besonderer Berücksichtigung makroökonomischer Unterstützungsleistungen <sup>2)</sup>	1991
No. 7 <sup>1)</sup>	Die Finanzoperationen der öffentlichen Haushalte der Reformländer ČSFR, Polen und Ungarn: Eine erste quantitative Analyse	1991
No. 8 <sup>1)</sup>	Erfüllung der Konvergenzkriterien durch die EG-Staaten und die EG-Mitgliedswerber Schweden und Österreich <sup>2)</sup>	1992
No. 9 <sup>1)</sup>	Alternative Strategies For Overcoming the Current Output Decline of Economies in Transition	1992
No. 10 <sup>1)</sup>	Signaling a Hard Currency Strategy: The Case of Austria	1992
No. 11 <sup>1)</sup>	The Impact of the Opening-up of the East on the Austrian Economy – A First Quantitative Assessment	1993
No. 12	The Scope for Regional Autonomy in Russia	1993
No. 13	EMU and the International Monetary System: A Transatlantic Perspective	1993
No. 14 <sup>1)</sup>	Austria's Role as a Bridgehead Between East and West	1993
No. 15 <sup>1)</sup>	Prospects for Growth in Eastern Europe – Some questions raised in the course of a macroeconomic forecasting exercise	1994
No. 16	A Survey of the Austrian Capital Market	1994
No. 17	Trade and Employment: Can We Afford Better Market Access for Eastern Europe?	1994
No. 18	Interdependence of Politics and Economic Development: Financial Stabilization in Russia	1994
No. 19 <sup>1)</sup>	Austrian Exchange Rate Policy and European Monetary Integration	1995
No. 20 <sup>1)</sup>	Monetary Spill-over Effects in the ERM: The Case of Austria, A Former Shadow Member	1995
No. 21	Investing in Insider-dominated Firms: A Study of Voucher Privatization Funds in Russia	1995
No. 22	Pessimism Confounded? Economic Recovery in Eastern Europe	1996
No. 23	Will Asymmetric Shocks Pose a Serious Problem in EMU?	1996
No. 24	Exchange Rates and Monetary Policy in Central Europe – a Survey of Some Issues	1997

1 Out of print.

2 Published in a modified form  
in "Berichte und Studien".

**List of the Topics****Discussed in the Working Papers (cont.)**

No. 25	Sources of Currency Crises: An Empirical Analysis	1998
No. 26	Structural Budget Deficits and Sustainability of Fiscal Positions in the European Union	1998
No. 27	Trends in European Productivity: Implications for Real Exchange Rates, Real Interest Rates and Inflation Differentials	1998
No. 28	What Do We Really Know About Real Exchange Rates?	1998
No. 29	Goods Arbitrage and Real Exchange Rate Stationarity	1998
No. 30	The Great Appreciation, the Great Depreciation, and the Purchasing Power Parity Hypothesis	1998

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