



OESTERREICHISCHE NATIONALBANK

F O C U S O N A U S T R I A

2 / 1 9 9 9





OESTERREICHISCHE NATIONALBANK

F O C U S   O N   A U S T R I A

2 / 1 9 9 9

---

**Published and produced by:**

*Oesterreichische Nationalbank*

**Editor in chief:**

*Wolfdietrich Grau*

*Secretariat of the Board of Executive Directors / Public Relations*

**In collaboration with:**

*René Dell'mour, Manfred Fluch, Astrid Höck, Wolfgang Messeritsch,*

*Peter Mooslechner, Gerhard Rünstler, Andy Samonig, Walter Waschiczek, Isabel Winkler*

**Edited by:**

*Beatrix Kossinowsky, Christiana Weinzettel*

*Economic Analysis Division*

**Translated by:**

*Thomas Bartsch, Johannes Chudoba, Ingrid Haussteiner, Irene Mühldorf, Ingeborg Schuch*

*Foreign Research Division*

**Layout, design, set, print and production:**

*Printing Office*

**Inquiries:**

*Oesterreichische Nationalbank*

*Secretariat of the Board of Executive Directors / Public Relations*

*Otto-Wagner-Platz 3, A-1090 Vienna, Austria*

*Postal address: P. O. Box 61, A-1011 Vienna, Austria*

*Telephone: (1) 404 20, ext. 6666*

*Fax: (1) 404 20 6696*

**Orders:**

*Oesterreichische Nationalbank*

*Mail Distribution, Files and Documentation*

*Schwarzspanierstraße 5, A-1090 Vienna, Austria*

*Postal address: P. O. Box 61, A-1011 Vienna, Austria*

*Telephone: (1) 404 20, ext. 2345*

*Fax: (1) 404 20 2399*

**Internet:**

*<http://www.oenb.co.at>*

**Paper:**

*Salzer Demeter, 100% woodpulp paper,*

*bleached without chlorine, acid-free,*

*without optical whiteners.*

# Contents

Imprint	2
<b>REPORTS</b>	
Calendar of Monetary Highlights	6
Economic Outlook for Austria from 1999 to 2001	8
Economic Background	17
Money and Credit in the First Quarter of 1999	24
Austria's Major Loans Register in 1998	30
Balance of Payments for the Year 1998	34
New Concept of the Austrian Balance of Portfolio Investment	49
<b>STUDIES</b>	
Harmonized Indices of Consumer Prices – Progress and Unresolved Problems in Measuring Inflation	54
<i>Consumer prices reflect the price level at the end of the production process and in the economy and may therefore be considered to sum up all inflationary and deflationary price developments in an economy. The Harmonized Index of Consumer Prices (HCPI) gained importance in the run-up to and at the start of Stage Three of EMU. For monetary policy purposes, the Eurosystem relies on the HICP. The monetary strategy of the Eurosystem defines price stability as a year-on-year increase in the HICP of below 2% across the entire euro area. This study relies on Austrian data to show that over a longer period, different concepts in index design may result in substantial divergence in the rates of inflation measured. This applies not only to Austria, but also to the EU. With the HICP, an inflation indicator is now available that meets important fundamental requirements for inflation measurement, namely comparability, elimination of measurement errors by optimizing measurement methods, and timely availability. Despite the progress made so far, a number of questions still remain unresolved. The basket of goods and services will not be completed until January 2000 (a few services will be integrated even later). Particularly difficult aspects of the underlying methodology – such as the measurement of quality changes and special services in the housing sector – also require further discussion and decisions. Harmonization is also needed in respect of the core inflation indicators, which are important in monetary policy but, for the time being, are used only to a limited extent because of insufficient consistency. Research into the bias in inflation measurement on a common basis might finally help in determining the “true” rate of inflation..</i>	

Economic Policy Cooperation in EMU: European Economic Policy Challenges	76
---	----

*How to achieve a favorable policy mix in the euro area represents one of the main economic policy challenges EMU faces. Whereas one institution formulates the monetary policy for the entire euro area, the individual EU Member States retain responsibility for most of the other economic policy domains. Given these prerequisites, how can we ensure that economic policy decisions at the different levels do not contradict one another and are instead optimally coordinated? At an international workshop held by the OeNB, the issue of the suitable degree of economic policy coordination was examined. There was a basic consensus that it is necessary to reinforce economic policy cooperation. This requires both a cooperative institutional framework for the interaction between various economic policy agents and these agents' awareness of their respective roles and responsibilities.*

The opinions expressed in the section "Studies" are those of the individual authors and may differ from the views of the Oesterreichische Nationalbank.

Abbreviations	91
Official Announcements of the Oesterreichische Nationalbank	93
Council Regulations of the European Communities	94
List of Reports, Summaries and Studies	95
Publications of the Oesterreichische Nationalbank	97
Addresses of the Oesterreichische Nationalbank	102

#### SUPPLEMENTS

---

Austrian Outward and Inward Direct Investment at the End of 1997

# R E P O R T S

# Calendar of Monetary Highlights

## **Austria**

### **April 1999**

- 1 A new equity market segmentation is introduced on *Wiener Börse*. The “Austrian A Market” contains such Austrian stocks that have been admitted to the Official Market and are included in the blue chip ATX index. For a stock to be traded in this segment, at least one “specialist” and two “market makers” must have committed themselves to permanently place firm buy and sell prices (quotes). Listing on the “Austrian B Market” requires admission to listing on the Official Market and the commitment of at least one market participant to assume specialist obligations. The “Austrian C Market” (neither specialist nor market maker required) is the market for the less liquid stocks and participation certificates admitted to the Official Market or the Semi-Official Market.
- 9 The reference rate is lowered by 1 percentage point to 3.75% and the base rate by 0.5 percentage point to 2%, in line with the regulations of the First Euro-Related Amendment to Civil Legislation. The reduction is triggered by the decision of the *Governing Council of the ECB* taken at its meeting on April 8, 1999, to lower the interest rate for the marginal lending facility by 1 percentage point to 3.5% and the rate for the deposit facility by 0.5 percentage points to 1.5% with effect from April 9, 1999.
- 27 The federal law amending the Austrian Banking Act, the Securities Supervision Act, the Deposits Act and the Capital Market Act is promulgated. Among other things, this amendment transposes the EU Directive on investor-compensation schemes (97/9/EC) into national law. Said directive requires all investment business to be covered by compensation arrangements similar to deposit-guarantee schemes. Under the new law, investors are eligible for compensation of up to EUR 20,000 when a credit institution (investment firm) is unable to meet its obligations to its investor clients for reasons related to unlawful management of the assets entrusted to it. The law specifies the conditions governing compensation and regulates the financing of the compensation schemes. In addition, the new law permits credit institutions to hold minimum reserves and liquidity with an intermediary, i.e. with a second-tier or the top-tier institution of the sector to which they belong.

### **June 1999**

- 10/11 The Oesterreichische Nationalbank hosts its 27th Economic Conference. This year’s conference topic is “Possibilities and limitations of monetary policy.” Discussion centers on policy co-ordination within EMU, the question whether monetary policy affects the real economy and the issue of the macroeconomic policy mix. Other topics include the implications of job market reform for employment and the experiences of a number of countries in this field as well as the particulars of wage formation within a monetary union.

**July 1999**

- 22 The federal law establishing the Cross-Border Credit Transfers Act and the Settlement Finality Act and amending the Bankruptcy Act, the Reorganization Bankruptcy Act, the 1989 Stock Exchange Act, the Securities Supervision Act and the Banking Act is promulgated. The new law transposes the Directive 97/5/EC of the European Parliament and of the Council of 27 January 1997 on cross-border credit transfers and the Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems into national law. The federal law establishing regulations for dual pricing and other pricing/quotation is promulgated (Euro-Related Pricing Act).

**August 1999**

- 19 The federal law amending the Stock Corporation Act, the Austrian Commercial Code (Handelsgesetzbuch) and the Own Stock Repurchase Act is promulgated. The amendment is designed to facilitate and bring in line with international practice share buybacks by stock companies quoted on the stock exchange.



# Economic Outlook for Austria from 1999 to 2001<sup>1)</sup>

## General Assessment

The outlook for the European economic situation deteriorated in the second half of 1998. The financial crises in Asia and Russia led to depressed exports, which were only partly offset by vigorous demand from the U.S.A. Deliveries abroad seem to have remained sluggish into the first quarter of 1999.

Whereas short-term prospects for the U.S., in the face of increased risks, read much better than was expected a few months ago, the euro area does not show a homogeneous picture: While the peripheral countries post robust growth, 1999 and 2000 forecasts for neighboring Germany and Italy are rather bleak. Combined with a slowdown of exports to the Eastern European countries, this heralds a fairly modest advance of Austria's export markets of 3<sup>1</sup>/<sub>4</sub>% for 1999. Austria's export markets should rebound towards the middle of 1999 and gain greater momentum come the year 2000.

At the same time, a hefty expansion of real disposable incomes and a continuing favorable investment climate will back up domestic demand over the entire forecast horizon. The Austrian tax reform slated for 2000 and more extensive transfer payments for families will boost households' disposable incomes by about 1%. Even though households will use this windfall to pronouncedly step up the savings ratio, private consumption will be the key demand driver, accelerating by 1.9, 2.5 and 2.1% from 1999 to 2001. Given the projections for higher incomes for 2000, business expectations should underpin consumption, investment activity and employment in 1999 already.

According to the model-based macroeconomic forecast, GDP growth will quicken to 1.9, 2.5 and 2.7% in the years between 1999 and 2001. As a result of slowed exports and sound domestic demand, services sectors will post stronger growth than industrial sectors. In light of this, sustained wage restraint and the creation of part-time jobs, economic growth will add

Table A

<b>Economic Environment</b>				
	1998	1999	2000	2001
	%			
<b>GDP growth</b>				
U.S.A.	+ 3.9	+ 2.8	+ 1.8	+ 2.2
Euro area	+ 3.0	+ 2.0	+ 2.5	+ 2.6
<i>thereof Germany</i>	+ 2.9	+ 1.5	+ 2.5	+ 2.5
Austria's export markets	+ 6.5	+ 3.3	+ 5.8	+ 6.5
<b>Interest rates</b>				
Three-month rate	+ 3.6	+ 2.6	+ 2.6	+ 2.6
Ten-year rate	+ 4.7	+ 4.0	+ 4.0	+ 4.0
	USD/Barrel			
<b>Oil prices</b>	13.1	12.8	13.5	13.9
	USD/EUR			
<b>Exchange rate</b>	1.11	1.08	1.08	1.08
	% of GDP			
<b>Government deficit</b>	- 2.1	- 2.2	- 2.7	- 2.3

Source: IMF forecast (April 1999), OeNB.

Table B

<b>Austria's Economic Outlook 1999 to 2001</b>				
	1998	1999	2000	2001
<i>Annual change in %</i>				
<b>Real final uses</b>				
Gross domestic product	+ 3.3	+ 1.9	+ 2.5	+ 2.7
Private consumption	+ 1.7	+ 1.9	+ 2.5	+ 2.1
Government consumption	+ 1.3	+ 1.8	+ 1.0	+ 1.0
Gross fixed capital formation	+ 4.9	+ 2.9	+ 3.9	+ 4.0
Exports	+ 8.2	+ 4.1	+ 6.1	+ 6.7
Imports	+ 6.9	+ 4.2	+ 6.2	+ 6.4
<b>Labor market</b>				
Nominal unit labor costs	+ 0.1	+ 0.7	+ 0.8	+ 1.1
Gross compensation per employee	+ 2.7	+ 2.3	+ 2.8	+ 3.2
Labor productivity	+ 2.6	+ 1.7	+ 2.0	+ 2.1
Real wages	+ 1.7	+ 1.4	+ 1.5	+ 1.7
Employment rate	+ 0.7	+ 0.3	+ 0.6	+ 0.6
%				
<b>Unemployment rate<sup>1)</sup></b>	7.2	7.2	7.1	6.9
<b>Prices</b>				
GDP price deflator	+ 1.0	+ 0.9	+ 1.3	+ 1.5
Consumption deflator	+ 0.9	+ 0.6	+ 1.2	+ 1.4
Export prices	+ 0.0	+ 0.8	+ 1.1	+ 1.1
Import prices	- 0.7	+ 0.6	+ 1.2	+ 1.1
Terms of trade	+ 0.7	+ 0.2	- 0.1	+ 0.0
Real disposable income	+ 2.7	+ 2.0	+ 3.4	+ 2.4
Household savings ratio <sup>2)</sup>	8.3	8.4	9.2	9.5
<i>ATS billion</i>				
<b>Current account</b>	-54.5	-54.2	-53.8	-49.4
% of GDP				
	- 2.1	- 2.0	- 1.9	- 1.7

Source: OeNB.

<sup>1)</sup> National definition.

<sup>2)</sup> As a percentage of disposable income.

more jobs to the payrolls than in recent years. Consequently, unemployment will shrink to 6.9% by 2001. Owing to moderate unit labor cost developments, inflationary pressures will remain subdued throughout the entire forecast horizon. The trend reversal of energy prices and the depreciation of the euro will, however, make imports more costly in 1999, which should put a halt to the decline in the inflation rate. The increment of the consumption deflator will gradually climb to reach 1.4% by 2001. The current account will improve, albeit only slightly due to higher import prices and slowed export activity.

### Current International Economic Environment

The outlook for the European economic situation worsened in the past few months. The financial crises in Asia and Russia touched off a marked drop-off in exports in the second half of 1998, which was only partly offset by robust U.S. demand. This trend seems to have continued into the first quarter of 1999. Business confidence, in particular, slipped further in the euro area in early 1999.

Euro-area economies are in different stages of the economic cycle. Growth in the peripheral countries (Spain, Portugal, Ireland, Finland), led by buoyant domestic demand, shows no signs of weakening. By contrast, the

outlook for 1999 for Austria's neighboring countries Germany and Italy is generally more on the bleak side. German exports, normally heavy with capital goods, suffer especially from the downturn in global trade. To make matters worse, businesses, surprised by the drop in sales, involuntarily built up large inventories, which will likely be reduced again in 1999. Overall, this points to moderate demand for imports of intermediate goods in 1999. In this vein, Italy's dented competitiveness will this year also feed through to lackluster domestic demand.

In addition, the Eastern European countries will register a slight deceleration of growth in 1999. Corroborated by the negative base effect of a low initial level at the beginning of 1999, this will translate into a 1999 growth rate for Austria's export markets of 3.3%. This projection is based on a moderate recovery as of the second quarter of 1999. The pace will pick up in 2000 and 2001 to reach 5.8 and 6.5%, respectively.

The underlying assumptions about international economic indicators are summarized in table A. Interest rates, exchange rates and oil prices have been extrapolated from values as of April 1999 on a technical basis.<sup>3)</sup>

### **Demand-Side Factors**

According to preliminary quarterly calculations of the Austrian Institute of Economic Studies (WIFO), Austria's GDP grew by 3.3% in 1998. In line with international developments, all the data indicate a strengthening shift from export demand to domestic demand components, with the trend relenting somewhat over the course of the year. 1998 deliveries of goods abroad topped the year-earlier value by 7.8%, yet a look at the trends in the course of 1998 reveals that growth slackened perceptibly in the second half. In the first half of 1998, seasonally adjusted exports rose by 4.0%, while edging down by 0.5% in the second half. The waning of export dynamics will only partly affect the overall balance of 1998; it will, however, leave its mark on indicators in 1999 via the negative base effect.

In contrast, domestic demand in Austria progressed at an impressive 2.5% growth rate. With the effects of the budget consolidation measures having tapered off, real disposable incomes rebounded in 1998. Households stepped up consumption by 1.9%, and the savings ratio amounted to 8.2%, up from 7.9%.<sup>3)</sup>

In line with international forecasts, this outlook projects export growth to recover in the second quarter of 1999. Due to the base effect resulting from weak exports in the second half of 1998, overall exports are projected to grow by a moderate 4.1% in 1999. In 2000 and 2001, exports are set to rise by 6.1 and 6.7%, respectively according to the model-based forecast.

All things considered, domestic demand will continue to be the key buttress of the economy from 1999 to 2001. The tax reform slated for 2000 and the expansion of transfer payments benefiting families will push up households' disposable incomes by about 1%. Even though private households will subsequently boost the savings ratio to 9.5% in 2001, private consumption will essentially drive the economy, accelerating by 1.9% (1999), 2.5% (2000), and 2.1% (2001). The tax reform should not only

propel consumption in the year 2000, but also underpin expectations in 1999 and, thus, provide an impetus for domestic demand.

The favorable cost environment for enterprises warrants a fair amount of optimism. Low levels of both unit labor costs and interest rates plus an uptrend in consumption seem suited to counterbalance in part the impacts the export slowdown had on investment activity and employment. The model forecast predicts gross fixed capital formation to advance by 2.9, 3.9 and 4.0% from 1999 to 2001.

Exports, which pale in comparison with domestic demand, entail a slightly negative contribution to growth of net exports (1999: -0.1%). Only in 2001 will net exports again make a positive contribution to GDP growth, namely to the tune of 0.2%.

### **Labor Market**

Employment grew by 0.7% in 1998, while healthy productivity trends prevailed. Over the course of the year, a number of structural shifts brought about fundamental changes in the labor market. Employment growth – in line with demand developments – became increasingly driven by the services sector as opposed to the manufacturing industry, somewhat tapering off towards the end of the year. Besides, several legal changes led to a significant boost of both the supply of and the demand for part-time employment. Besides cyclical effects, to which Austrian labor supply is known to be particularly sensitive, the 0.7% expansion was also due to the numbers by which young women entered the workforce. According to a microcensus, part-time jobs make up about two thirds of new employment.

Forecasters base their projections on the assumption that increased demand for jobs induced by structural changes is not yet due to subside: While the expansion of labor supply can be expected to decelerate to a pace in line with long-term trends, part-time employment opportunities will increase. A shift of demand to services is likely to further corroborate the effects of cyclical growth on employment. Overall, prospects for employment as related to GDP growth look bright for the coming years. The improvement of labor productivity, however, will slow down correspondingly.

Faced with employment risks in recent years, wage setting in Austria was characterized by remarkable flexibility. In actual fact, real unit labor costs dropped by an annual average of 1.8 percentage points since 1994. Modest wage hikes and ample productivity gains since 1996 theoretically provide leeway for wage increases. The structural changes described above (labor supply expansion, part-time employment and weaker productivity in the services sector) and a general orientation towards fostering employment are likely to keep a lid on wages.

Model forecast calculations speak of 0.3, 0.6 and 0.6% employment growth in the years 1999 to 2001. At a rate of 1.7, 2.0 and 2.1%, productivity growth will clearly lag behind the improvements achieved in recent years. At 2.3%, nominal per capita wages, will move along moderately in 1999; they will, however, accelerate to 2.8% in 2000 and 3.2% in 2001. Combined with smaller productivity gains this means that

unit labor costs will rise by 0.7, 0.8 and 1.1%, respectively. Productivity growth will, however, remain strong enough to sustain the shrinkage of real unit labor costs over the forecast horizon.

The unemployment rate (national definition) will remain unchanged at 7.2% in 1999, but is expected to drop to 7.1% in 2000 and 6.9% in 2001.<sup>4)</sup>

### **Inflation**

Inflationary pressures can be expected to remain slight over the whole of the forecast horizon.

Import prices will likely exert limited upward pressures. The low levels of inflation throughout 1998 can largely be attributed to import price developments. Last year, import prices fell 0.7% on account of lower world market prices for oil and other commodities, and the effects have already largely been passed on to domestic prices. The first months of 1999 brought a turnaround of oil prices. The forecast is now based on an assumption of slightly rising oil prices in 1999 and 2000. Amplified by the euro's depreciation, import prices are, thus, likely to advance 1.2% in 1999. This can be expected to push up domestic consumer prices.

By merits of favorable supply-side conditions, above all the still modest ascension of unit labor costs, the risk of persistent inflationary pressures is negligible. Also, the price effects resulting from Austria's integration into the common market do not appear to have run their full path yet. Unleashed competition in formerly protected sectors of the economy is also likely to keep inflation at bay.

After a 0.9% increase in 1998, the consumption deflator is estimated to remain low at 0.6% in 1999, 1.2% in 2000 and 1.4% in 2001.

### **Current Account**

Mainly on account of the recovery in tourism, the current account deficit narrowed by ATS 6.9 billion to ATS 54.5 billion in 1998. Over the forecast horizon, only minor improvements can be expected. Primarily, exports' loss of momentum will push total net exports' (including tourism) contribution to growth slightly below zero in 1999. Developments in merchandise trade can, thus, not be fully offset by tourism's recovery. Nevertheless, prospects for tourism are good in so far as vigorous demand is forecast in the traditionally important countries of origin. Deteriorating terms of trade triggered by higher import prices will further harm the trade balance.

In addition, net factor income increasingly trends towards a structural decline of net investment income. The negative current account balances incurred in recent years have been progressively eroding Austria's net investment position. Lower net transfers to the EU budget will, on the other hand, improve the transfer balance as of the year 2000.

Overall, the current account gap will therefore not shrink significantly in the years 1999 and 2000. Shortfalls of ATS 54.2 billion for 1999 and ATS 53.8 billion for 2000 are forecast. It is only in the year 2001 that the current account deficit can be expected to contract more strongly, to ATS 49.4 billion (1.7% of GDP).

### **Risks**

A hard landing of the U.S. economy or a prolongation of the crises in Asia and the CIS could engender a somewhat bleaker international environment for the economy in Europe, which would, to a lesser extent, also affect Austria. A subsequent delay in the recovery of exports could seriously hamper growth in 1999.

On the other hand, the forecast rests on the assumption that Austrian households will markedly raise their savings ratio. Even if income falls somewhat behind expectations, a lower propensity to save should sustain robust consumption growth. The risk of accelerated inflation in the years 1999 and 2000 can be regarded as minor.

*1 The cut-off date for this forecast was April 27, 1999.*

*2 For a more detailed account of recent international economic developments and international forecasts refer to the article "International Debt and Emerging Markets" in this issue.*

*3 For a more detailed account of the Austrian economic situation refer to the article "Economic Background" in this issue.*

*4 Statistics released after this report's cut-off date point to higher employment figures and a stronger-than-expected improvement of the unemployment rate. Additional employment (+35,000) was, however, created primarily in the form of part-time employment in the private and public services sectors (+15,600). Thus, this development does not necessarily reflect a surge of demand in the first quarter of 1999.*

**Annex**

Table 1

<b>Demand Components</b>								
<b>in real terms, at 1983 prices</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	ATS billion				Annual change in %			
Private consumption	982,904	1,001,338	1,026,278	1,048,280	+1.7	+1.9	+2.5	+2.1
General government consumption	273,918	278,720	281,577	284,456	+1.3	+1.8	+1.0	+1.0
Gross fixed capital formation	460,008	473,294	491,852	511,757	+4.9	+2.9	+3.9	+4.0
Errors and omissions	29,359	27,700	26,300	26,750	x	x	x	x
Domestic demand	1,716,830	1,753,352	1,799,707	1,844,493	+2.5	+2.1	+2.6	+2.5
Exports (total)	1,025,794	1,067,769	1,133,339	1,209,141	+8.2	+4.1	+6.1	+6.7
Imports (total)	1,013,800	1,056,844	1,122,312	1,194,552	+6.9	+4.2	+6.2	+6.4
Gross domestic product	1,758,183	1,791,977	1,837,034	1,885,833	+3.3	+1.9	+2.5	+2.7

Source: OeNB.

Table 2

<b>Demand Components (at Current Prices)</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	ATS billion				Annual change in %			
Private consumption	1,449,821	1,485,807	1,540,331	1,594,933	+2.6	+2.5	+3.7	+3.5
General government consumption	493,429	511,083	525,393	542,206	+3.2	+3.6	+2.8	+3.2
Gross fixed capital formation	627,999	649,541	683,565	720,649	+5.4	+3.4	+5.2	+5.4
Errors and omissions	45,414	43,956	45,151	49,673	x	x	x	x
Domestic demand	2,571,249	2,646,431	2,749,289	2,857,788	+3.4	+2.9	+3.9	+3.9
Exports (total)	1,151,550	1,207,971	1,296,450	1,398,251	+8.2	+4.9	+7.3	+7.9
Imports (total)	1,145,641	1,201,050	1,290,207	1,387,809	+6.2	+4.8	+7.4	+7.6
Gross domestic product	2,622,572	2,697,308	2,800,683	2,917,904	+4.3	+2.8	+3.8	+4.2

Source: OeNB.

Table 3

<b>Demand Components (Price Indices)</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	1983=100				Annual change in %			
Private consumption	147.5	148.4	150.1	152.1	+0.9	+0.6	+1.2	+1.4
General government consumption	180.1	183.4	186.6	190.6	+1.9	+1.8	+1.8	+2.2
Gross fixed capital formation	136.5	137.2	139.0	140.8	+0.4	+0.5	+1.3	+1.3
Domestic demand	149.8	150.9	152.8	154.9	+0.9	+0.8	+1.2	+1.4
Exports (total)	112.3	113.1	114.4	115.6	+0.0	+0.8	+1.1	+1.1
Imports (total)	113.0	113.6	115.0	116.2	-0.7	+0.6	+1.2	+1.1
Gross domestic product	149.2	150.5	152.5	154.7	+1.0	+0.9	+1.3	+1.5

Source: OeNB.

Table 4

<b>Labor Market</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	number				Annual change in %			
<b>Labor supply</b>	3,684,359	3,695,859	3,710,942	3,725,343	+0.7	+0.3	+0.4	+0.4
Employment	3,446,565	3,455,600	3,473,715	3,493,705	+0.6	+0.3	+0.5	+0.6
Dependently employed	3,076,665	3,085,266	3,102,779	3,122,026	+0.7	+0.3	+0.6	+0.6
Self-employed	369,900	370,334	370,936	371,678	+0.3	+0.1	+0.2	+0.2
Unemployed	237,794	240,259	237,227	231,638	+1.9	+1.0	-1.3	-2.4
	%							
<b>Unemployment rate</b>								
National definition	7.2	7.2	7.1	6.9	x	x	x	x
OECD definition	6.5	6.5	6.4	6.2	x	x	x	x
	ATS							
<b>Gross wages per employee</b>	423,783	433,674	446,014	460,093	+2.7	+2.3	+2.8	+3.2
<b>Real unit labor costs<sup>1)</sup></b>	0.83	0.84	0.84	0.85	+0.1	+0.7	+0.8	+1.1

Source: OeNB.

<sup>1)</sup> Gross wages per employee divided by GDP per member of the labor force.

Table 5

<b>Current Account</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	ATS billion				% of GDP			
<b>Uses</b>								
Net exports	5,909	6,921	6,243	10,443	+0.2	+0.3	+0.2	+0.4
Net factor income	- 12,394	- 10,802	- 11,148	- 11,048	-0.5	-0.4	-0.4	-0.4
Transfers from abroad	- 31,358	- 33,760	- 32,307	- 32,190	-1.2	-1.3	-1.2	-1.1
Balance	- 37,843	- 37,641	- 37,212	- 32,795	-1.4	-1.4	-1.3	-1.1
<b>Net saving</b>								
Households	130,929	136,521	156,418	166,746	+5.0	+5.1	+5.6	+5.7
General government	- 55,420	- 58,526	- 74,829	- 66,541	-2.1	-2.2	-2.7	-2.3
Other sectors	-113,352	-115,636	-118,801	-133,001	-4.3	-4.3	-4.2	-4.6
Current account balance (ESA 95)	- 54,452	- 54,250	- 53,821	- 49,404	-2.1	-2.0	-1.9	-1.7

Source: OeNB.

Table 6

<b>National Income</b>								
	1998	1999	2000	2001	1998	1999	2000	2001
	ATS billion				Annual change in %			
Gross domestic product	2,622,572	2,697,308	2,800,683	2,917,904	+ 4.3	+2.8	+3.8	+4.2
Capital consumption	369,000	390,928	418,189	447,229	+ 7.2	+5.9	+7.0	+6.9
Indirect taxes	337,100	345,287	358,488	373,489	+ 7.7	+2.4	+3.8	+4.2
Net factor income	- 12,394	- 10,802	- 11,148	- 11,048	x	x	x	x
<b>National income</b> (excluding net transfers to the EU)	1,928,866	1,971,895	2,035,154	2,108,234	+ 3.1	+2.2	+3.2	+3.6
Disposable income								
Households	1,580,750	1,622,328	1,696,749	1,761,680	+ 3.6	+2.6	+4.6	+3.8
General government	578,000	597,932	601,323	632,907	+ 2.7	+3.4	+0.6	+5.3
Other sectors	138,575	130,682	127,877	119,326	+20.4	-5.7	-2.1	-6.7
<b>Disposable national income</b>	2,297,325	2,350,942	2,425,949	2,513,912	+ 4.3	+2.3	+3.2	+3.6

Source: OeNB.



Table 7

<b>Households</b>	1998	1999	2000	2001	1998	1999	2000	2001
	<i>ATS billion</i>				<i>Annual change in %</i>			
Gross compensation of employees	1,303,849	1,338,015	1,383,900	1,436,450	+ 3.4	+2.6	+ 3.4	+3.8
General government transfers	540,600	566,316	590,241	610,981	+ 3.1	+4.8	+ 4.2	+3.5
Other household income	432,176	438,570	449,534	466,149	+ 5.3	+1.5	+ 2.5	+3.7
Direct taxes on households	695,875	720,574	726,927	751,900	+ 3.9	+3.5	+ 0.9	+3.4
Disposable household income	1,580,750	1,622,328	1,696,749	1,761,680	+ 3.6	+2.6	+ 4.6	+3.8
Households' consumption	1,449,821	1,485,807	1,540,331	1,594,933	+ 2.6	+2.5	+ 3.7	+3.5
Households' saving	130,929	136,521	156,418	166,746	+16.5	+4.3	+14.6	+6.6
Households' saving ratio	8.3	8.4	9.2	9.5	x	x	x	x
Disposable income (at 1983 prices)	1,071,675	1,093,367	1,130,520	1,157,908	+ 2.7	+2.0	+ 3.4	+2.4

Source: OeNB.

# Economic Background

## Overview

In the second half of 1998, Austrian exports slid markedly due to the downturn in goods exports which, according to seasonally adjusted figures, posted negative growth rates in the fourth quarter of 1998. Against this background, manufacturing output growth decelerated in the predominantly export-oriented sectors of the economy.

This downward tendency is corroborated by the quarterly national accounts compiled by the Austrian Institute of Economic Research (WIFO). These data show GDP growth to have contracted to 2.7% in the third and 2.1% in the fourth quarter of 1998 year on year, down from the 4.2% growth rate of the first two quarters. The main factor underpinning output growth in the second half of 1998 was private consumption; its year-on-year rise of 1.7% indicates, by comparison with the first half (1.6%), a stable growth path. By contrast, export growth and capital spending slowed. Deliveries of goods abroad, having advanced by 12.1% in the first two quarters of 1998, augmented just 3.7% year on year from July to December. With import rates likewise contracting, if at a slower pace (from +10.7 to +3.0%), the contribution to annual growth from net exports was therefore slightly negative. The bleaker prospects for exports also fed through to capital spending: The growth rate of gross fixed investment slipped to 2.7% in the second half, from the first-half annual percentage change of 8.4%.

The setback in exports appears to have turned out somewhat stronger than expected. The impact of the deceleration was marginal on overall 1998 results, though. The slowdown, does, however, cause a negative base effect for 1999. Nevertheless, for the time being there is no case for abandoning the baseline projection of stable private consumption and a recovery of exports in the second half of 1999.<sup>1)</sup>

Private consumption was going strong in 1998 amid higher income levels and more optimistic consumer expectations; consumers continued to take a brighter view on their financial future and planned purchases into the first quarter of 1999. Demand discrepancies are also reflected in mounting divergences in industrial output growth and in services. While manufacturing output growth decelerated perceptibly recently, various indicators attest to a stable growth path in the services sector.

Having contracted in the fourth quarter of 1998 along with economic growth, employment rebounded in the first quarter of 1999, with payrolls swelling 1.2% year on year. New jobs were expansively added in business-related and partly public (health care, education, other personal and public) services, with part-time work apparently continuing to figure prominently.

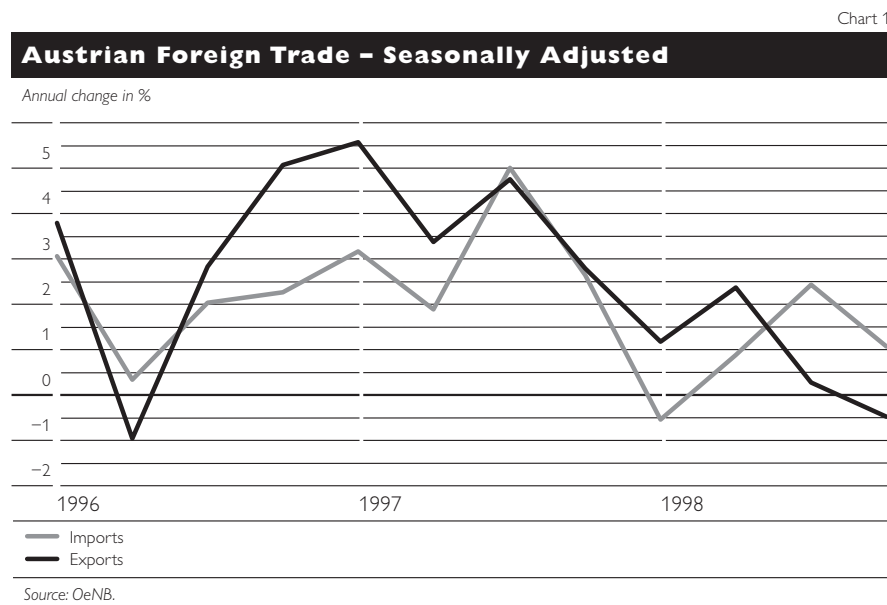
## Downturn in Foreign Trade

In 1998, exports and imports of goods suffered a severe setback in nominal terms according to the Austrian Central Statistical Office's foreign trade statistics, growing by 7.8 and 6.8%, respectively (1997: +16.8 and +10.9%). The trade deficit improved marginally by ATS 2 billion to -ATS 73.2 billion.

The robust 1997 figures are attributable to the dynamic growth rate of 7<sup>1</sup>/<sub>2</sub>% registered by Western European export markets and the marked

improvement of Austrian relative unit labor cost compared to trading partner countries. Moreover, the real effective exchange rate of the Austrian schilling had deteriorated 3.3% in 1997. In terms of industrial unit labor cost, Austria's price competitiveness in fact had augmented by no less than 5.4%. Last but not least, 1997 results had been boosted by the exceptionally buoyant expansion of exports to transition economies (+33.7%), which contributed 5.2 percentage points to export growth.

By contrast, export growth flagged in 1998. The aggregate growth rates obscure a significant cascading downtrend which is evidenced by a quarterly breakdown. Seasonally adjusted figures provide a more accurate picture. As is indicated in chart 1, which shows quarterly rates (percentage change over the previous quarter) on the basis of preliminary, seasonally adjusted data, the growth rate of goods exports continuously deteriorated over the course of 1998 and even turned notably negative in the fourth quarter.<sup>2)</sup>

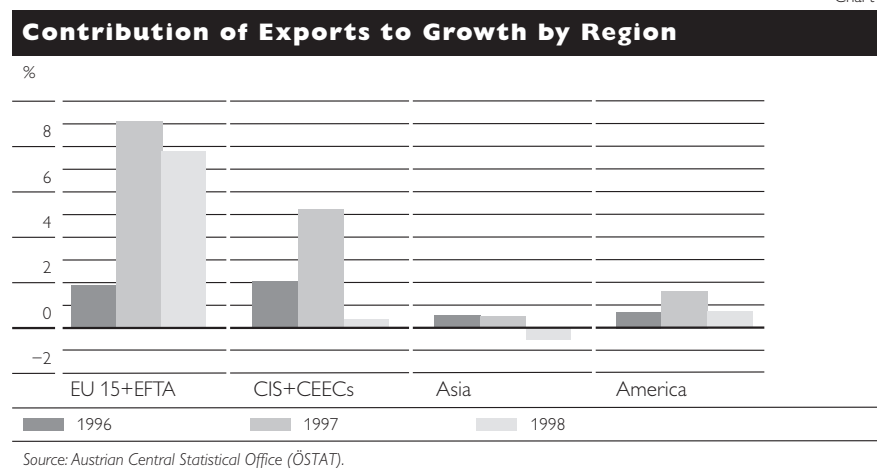


A regional breakdown bears testimony to the fact that the setback in goods exports is largely due to deliveries to non-EU regions (see chart 2) irrespective of their low volume. Exports to EU and EFTA countries rose steeply in 1997 on the back of a lively economy in Western Europe. In 1998, such exports contributed 7.3% to growth, down slightly from the year-earlier 9.1%, while the contribution of goods delivered to Asian countries shrank by 1% to -0.6%.

However, exports slowed most noticeably to Central and Eastern European countries (CEECs) and the Commonwealth of Independent States (CIS). In 1997, their contribution to export growth boasted a phenomenal 5.2%, contrasting with between 2 and 2½% the years previously. In 1998, this figure plummeted to 0.4% though, clearly underperforming the preceding annual averages. The CIS as such accounted for 0.9% of the contraction, the CEECs for 4.3%. The decline is, however, only partly traceable to the economic developments in the CEECs. In fact, the 1997

substantive contribution to growth was due to an exceptionally hefty jump in exports to Hungary (+43%), which stabilized again in 1998. Furthermore, the Czech Republic was in the grip of recession in 1998. Nevertheless the 1998 growth rate of the overall region trailed the figures of the previous years only minimally.

Chart 2

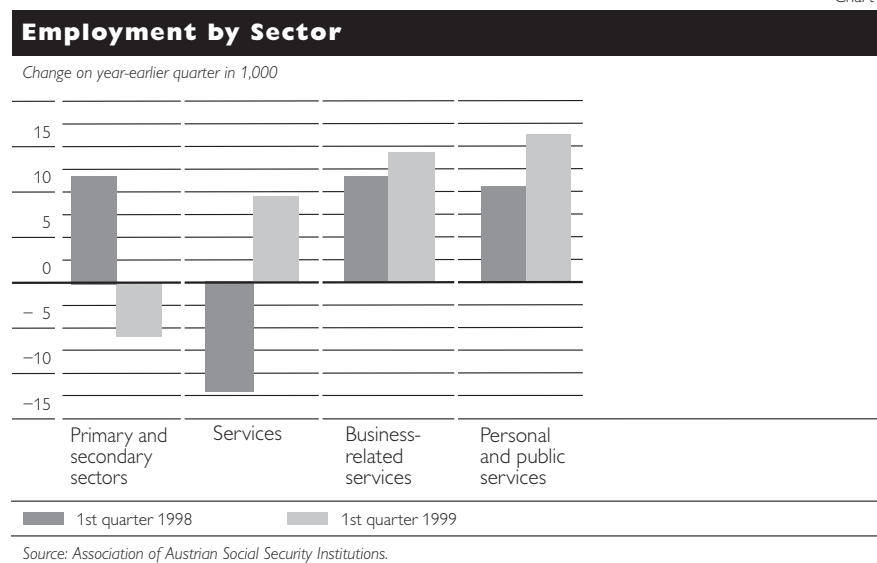


Austria's current account gap decreased by 6.9% to ATS 54.5 billion (2.1% of GDP) in 1998, with the narrowing exclusively attributable to a significant improvement of the services subaccount surplus from ATS 20.7 billion to ATS 33.5 billion. The latter was largely driven by the travel balance, which rose from ATS 9.9 billion to ATS 20.7 billion. 1998 also saw a structural deterioration in net factor incomes.

### Business and Consumer Confidence

According to a business survey conducted by the Austrian Central Statistical Office (ÖSTAT), manufacturing output growth tapered off in the last few

Chart 3



months of 1998. Consequently, by January 1999, the index exceeded the year-earlier figure by a mere 1.8%. This contraction is also reflected in business expectations; industrial confidence, which had been faltering since the second quarter of 1998, continued to sag in the first quarter of 1999. Raw materials and intermediate goods were hit hardest, while the outlook in the capital and consumer goods industries remained favorable.

Private consumption was somewhat more robust. Following two years of stagnation, in 1998, real disposable incomes progressed by 2.7%. Consumption growth, underpinned by consumer confidence, is anticipated to stay resilient also in 1999 thanks to the improved employment situation and the tax reform scheduled for 2000. The March 1999 Consumer Confidence Barometer points to sustained vigorous consumer confidence, even though consumers' ratings of the future economic situation deteriorated on the December sentiment. For a year consumers' outlook on their own financial situation in the upcoming 12 months as well as their propensity to spend have been trending slightly upward. All in all, the consumer sentiment index remained stable into the first quarter of 1999 (see chart 3).

In the third and fourth quarters of 1998, retail sales grew 2.5 and 2.1%, respectively, in real terms year on year. Sales of consumer durables, which are more sensitive to changes in personal incomes, advanced at a faster clip (+5.1 and +5.2%, respectively) than nondurable consumer goods (+2.4 and 0.3%). Evidently households made up for purchases of durable consumer goods put off during the two weaker-income years.

### **Mixed Labor Market Situation**

The situation on the labor market varied a lot in 1998, basically because labor supply was very high, while labor demand strengthened or slowed in close alignment with cyclical developments throughout the year.

At the beginning of the year the manufacturing industry was hiring on a large scale. But as exports weakened and output growth started to be led by domestic demand rather than exports, employment growth stagnated in the manufacturing industry, while it increased in the service sector. Whereas in the second quarter of 1998 employment growth in the manufacturing industry was 2.5% above the corresponding 1997 figure, it even contracted by 0.1% year on year in the fourth quarter. Meanwhile, payrolls in the service sector rose by 0.7% in the second quarter and by 1.9% in the fourth quarter year on year.

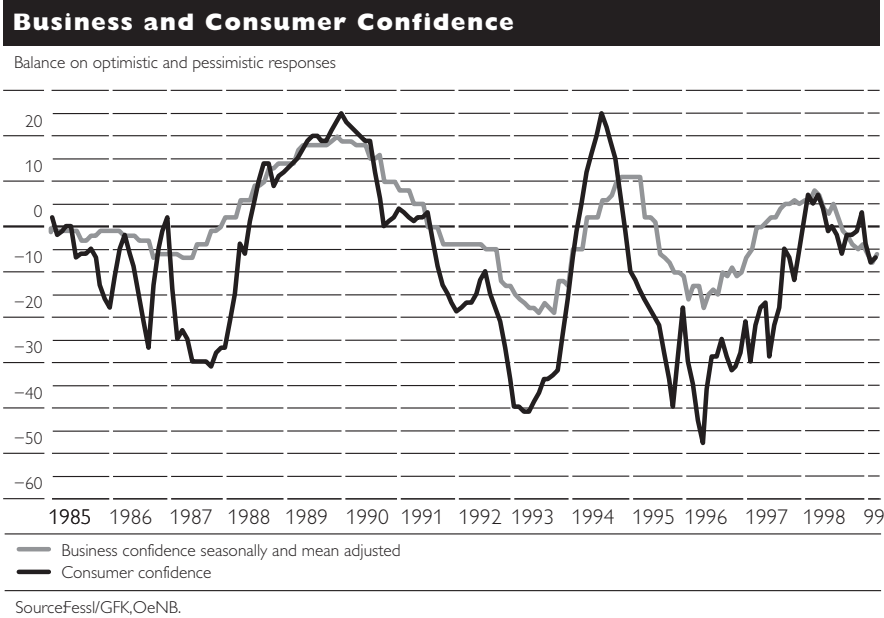
Average 1998 employment growth largely smooths the divergent developments apparent during the year: In terms of annual averages, payroll expansion was fairly balanced between the manufacturing industry (+1.1%) and the service sector (+1.3%). Total employment climbed 0.6% on average in 1998; when persons doing compulsory military service and persons on paid parental leave are factored out, the labor force actually expanded by 1.0%.

Net employment growth must be seen against the background of a significant expansion of labor supply exceeding the tendency of labor supply to react highly sensitively to cyclical movements. In the wake of various

legislative changes, certain groups that display a tendency to taking part-time jobs (younger women in particular) joined the work force in large numbers. Evidently they met adequate demand – in turn fueled by measures to make the labor market more flexible – with the result that the bulk of 1998 employment growth can be ascribed to part-time jobs (based on microcensus data compiled by the Austrian Central Statistical Office). The increased labor supply also triggered a 0.1% rise of the annual unemployment rate to 7.2%.

The first quarter of 1999 showed sustained employment growth. The year-on-year increase in the labor force amounted to 34,000 persons (+1.2%); that is more than was expected in economic projections. When analyzing employment gains by sector, it becomes clear that – the growth engine of business-related services (+14,400 persons or +6.9%) apart – the partly public services sectors (health care and education, other public services, administration) account for a major share of the gain. The private services sector excluding business-related services (trade, tourism, communications) added 9,400 persons (+1.0%) to the payrolls, while employment both in the manufacturing and construction industries fell (–0.2 and –1.4%, respectively). In the first quarter of 1999, total employment in the private sector (excluding the above-mentioned partly public services) was 0.8% above the corresponding 1998 figure.

Chart 4



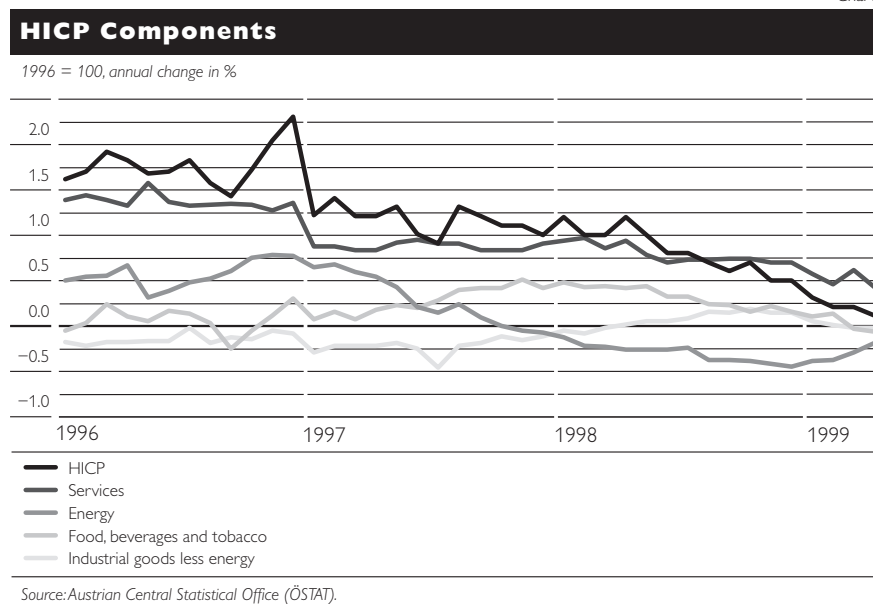
The sectoral breakdown indicates, above all, that employment growth continues to be based on part-time jobs (some of which are marked by lower productivity). Evidently the legislative changes of the past few years led to shifts in labor demand and supply, opening up new forms of employment. As the labor force adapts to a novel situation, it takes a while for new posts to be filled.

### Austria Remains a Price Stability Leader in the EU

Austria has been among the countries with the lowest inflation rates in the EU since 1997. The inflation rate according to the Harmonized Index of Consumer Prices (HICP) ran to 0.8% in 1998 (1997: 1.2%), and the CPI rate averaged 0.9%. As 1998 progressed, the uptick of prices diminished steadily, with the trend continuing into the first quarter of 1999. In April 1999, the HICP rate of inflation was a mere 0.1% year on year.

Several factors have coincided to produce this inflation result. To begin with, a moderate wage policy pursued since 1995 caused adjusted wages to drop 3 percentage points from 1995 to 1998. Moreover, world market prices for nonenergy raw materials sank some 10%, and oil prices even by roughly 30% in the first few months of 1998. The weakness in commodity prices drove energy prices at the consumer level down, translating into a 0.4% drop of the overall HICP. A reversal of that trend set off at the beginning of this year appears to be continuing considering the most recent movements of oil prices. The recent decline in food prices further lowered the rate of inflation. Last but not least, heightened competition in some services sectors might also dampen the uptick of prices.

Chart 5



The movements of the effective exchange rates ushered in a turnaround towards the middle of 1998. Following a two-year downward trend, the January 1999 index of nominal exchange rates stood 1.6% above the like 1998 value. Reaching 0.6%, the upward movement of the real effective exchange rate index was markedly slower, given the negative inflation differential.

1 See also "Economic Outlook for Austria from 1999 to 2001" in this issue.

2 As based on preliminary revised foreign trade data. As the final revised data tend to be somewhat higher than the preliminary revised figures, the decline shown in chart 1 could be somewhat exaggerated. The same holds even more true of the preliminary 1999 data due to the changes in data collection methods.

## Development of Selected Economic Indicators

	1997	1998	1999 <sup>1)</sup>	2000 <sup>1)</sup>	last recently available period	
	Annual change in %				1998	1999
<b>Economic output</b>						
Real GDP at 1983 prices	+ 2.5	+ 3.3	+ 2.2	+ 2.6	4th quarter 1997 + 3.6	4th quarter 1998 + 2.1
Gross fixed investment	+ 2.8	+ 4.9	+ 3.1	+ 3.6	+ 3.7	- 0.7
Private consumption	+ 0.7	+ 1.7	+ 2.0	+ 2.4	+ 1.6	+ 1.4
<b>Productivity</b>						
GDP per employee	+ 2.4	+ 2.3	+ 1.6	+ 1.7	January to February x	x
<b>Industrial output incl. construction</b>						
Productivity per hour	+ 6.5	+ 9.9	x	x	+ 8.0	+ 1.8
	+ 6.6	+ 4.5	+ 3.5	+ 4.5	x	x
<b>Labor market</b>						
Dependent employment	+ 0.3	+ 0.7	+ 0.5	+ 0.9	January to May + 0.7	+ 0.8
Registered unemployment	+ 1.2	+ 1.9	+ 0.0	- 3.3	+ 2.2	- 2.7
%						
<b>Unemployment rate</b>						
EU concept	4.4	4.7	4.4	4.2	4.4	4.5
National concept	7.1	7.2	7.1	6.9	8.0	7.8
Annual change in %						
<b>Prices</b>						
National CPI	+ 1.3	+ 0.9	+ 0.7	+ 1.3	January to April + 1.1	+ 0.4
HCPI	+ 1.2	+ 0.8	x	x	+ 1.1	+ 0.2
Wholesale price index	+ 0.4	- 0.5	x	x	+ 0.3	- 2.0
<b>Wages</b>						
Negotiated standard wage rate index	+ 1.8	+ 2.2	+ 2.8 <sup>2)</sup>	+ 2.8 <sup>2)</sup>	+ 2.4	+ 2.5
<b>Unit labor cost</b>						
General	- 1.3	+ 0.2	+ 1.2	+ 1.2	x	x
Manufacturing industry	- 5.0	- 3.5	- 1.0	- 1.4	x	x
<b>Relative unit labor cost<sup>3)</sup></b>						
Vis-à-vis major trading partners	- 4.9	- 1.4	- 1.2	- 1.0	x	x
Vis-à-vis Germany	- 0.6	+ 0.1	- 0.3	- 0.4	x	x
<b>Foreign trade (ÖSTAT)</b>						
Imports, in nominal terms	+10.9	+ 6.8	+ 4.5	+ 7.4	January to February + 8.3	+ 8.2
Exports, in nominal terms	+16.8	+ 7.8	+ 4.5	+ 7.4	+10.5	- 0.2
ATS billion						
<b>Balance of payments<sup>4)</sup></b>						
Current account balance	-61.4	-54.5	-47.0	-46.6	1st quarter - 4.1	- 8.4
Goods balance	-52.0	-50.8	x	x	-16.5	-21.7
Service balance	+12.7	+33.5	x	x	+23.4	+27.0
Travel balance <sup>5)</sup>	+10.8	+20.7	+36.8	+40.9	+19.4	+21.9
%						
<b>Interest rates</b>						
Eonia	x	x	x	x	May x	2.55
Secondary market yield (government bonds) <sup>6)</sup>	5.68	4.71	4.20	4.50	5.03	4.21
Annual change in %						
<b>Effective exchange rate of the euro</b>						
Nominal	- 8.0	+ 2.1	x	x	March x	x
Real	- 8.5	+ 1.5	x	x	x	x
Indicator of Austria's price competitiveness <sup>7)</sup>	- 3.3	- 0.1	- 1.5	- 0.4	- 1.2	- 0.0
% of GDP						
<b>Budget</b>						
Net central government debt	2.6 <sup>8)</sup>	2.5 <sup>8)</sup>	2.5 <sup>8)</sup>	2.9 <sup>9)</sup>	x	x
Net general government debt	1.9 <sup>8)</sup>	2.1 <sup>8)</sup>	2.0 <sup>8)</sup>	2.5 <sup>10)</sup>	x	x

Source: OeNB, ÖSTAT, WIFO, AMS, Association of Austrian Social Security Institutions.

<sup>1)</sup> WIFO forecast of March 1999.<sup>2)</sup> Change in gross earnings per employee.<sup>3)</sup> Manufacturing industry.<sup>4)</sup> Annual figures are based on transactions, January to March figures on cash balances.<sup>5)</sup> Forecast based on the old balance-of-payments scheme (including international passenger transport).<sup>6)</sup> Ten-year federal government bonds (benchmark).<sup>7)</sup> Until December 1998: real effective exchange rate of the Austrian schilling.<sup>8)</sup> Budget notification of March 1999.<sup>9)</sup> According to the Austrian Stability Program (baseline scenario): 2.2%.<sup>10)</sup> According to the Austrian Stability Program (baseline scenario): 1.7%.

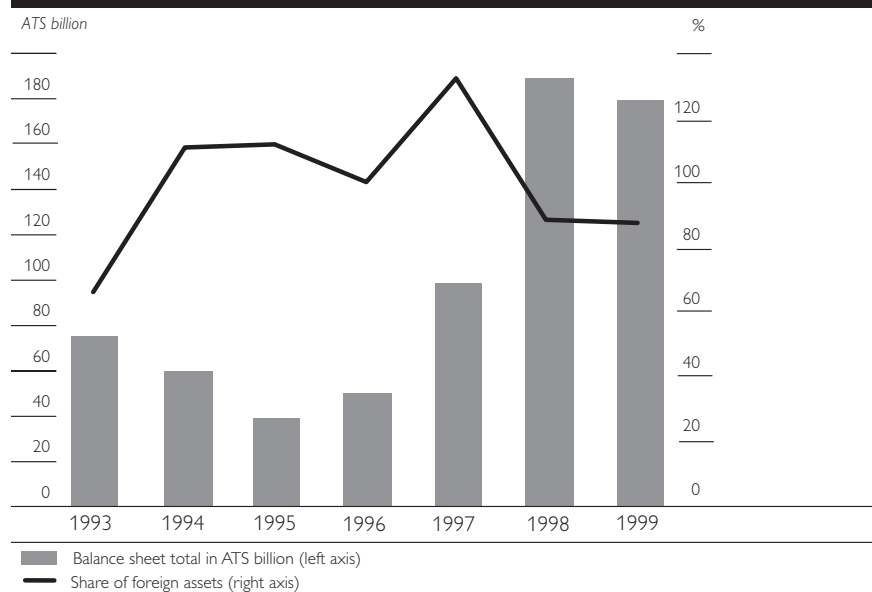


# Money and Credit in the First Quarter of 1999

## Balance Sheet Growth Slightly Dampened

In the first quarter of 1999, Austrian credit institutions' balance sheets grew by ATS 179 billion (+EUR 13 billion) or 2.7% to ATS 6,796 billion (EUR 494 billion), and thus lagged somewhat behind 1998 first-quarter growth. Domestic nonbank business picked up slightly in the first quarter of 1999, with the expansion of domestic nonbank assets (+ATS 31 billion or +EUR 2.3 billion; +0.8%) and liabilities (+ATS 96 billion or +EUR 7 billion; +2.7%), exceeding the previous years' analogous results. As demand for credits remained sluggish while deposits rose strongly by comparison, banks increasingly invested in securities and foreign assets. In the first quarter of 1999, lending to nonresidents once again became the main pillar of expansion, after banks had retracted somewhat from foreign business in the second half of 1998. The upward movement was, however, a little less pronounced than in the first quarter of 1998.

### Change in Balance Sheet Total in the 1st Quarter



Source: OeNB.

In the first quarter of 1999, the number of credit institutions' head offices remained constant at 971, while the number of branch offices rose by 1 to 4,577, as one office each was closed in the Raiffeisen and Volksbanken sectors (credit cooperatives) and three new branches were opened in the joint stock banks sector.

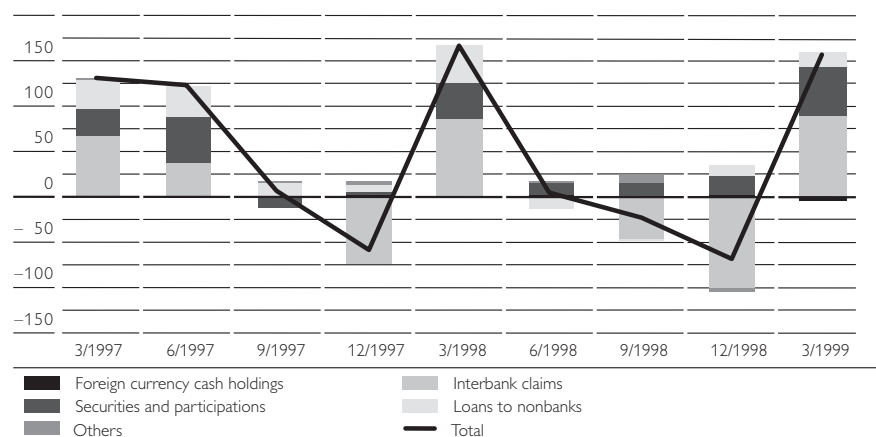
Due to the changeover from the schilling to the euro, all foreign currency accounts were below their end-1998 levels, as the euro's constituent currencies are no longer classified as foreign currencies. At the end of 1998, some 15% of all foreign currency liabilities of domestic households and businesses and some 70% of nonbanks' foreign currency deposits were denominated in euro area currencies. Consequently, a comparison of foreign currency assets and liabilities in 1998 and 1999 is not possible at present.

### International Business Back on the Rise

After Austrian credit institutions' appeared wary to raise their foreign exposure in the second half of 1998, they boosted their foreign assets in the first quarter of 1999, just as in the previous years' first quarters. More than 85% of total balance sheet growth can be attributed to the expansion of foreign assets. Foreign assets' share of the balance sheet total rose by 1.7 percentage points to 24.7%. Interbank loans, which had retracted markedly in the second half of 1998, accounted for more than half of this uptick; despite an ATS 89 billion (+EUR 6.5 billion; +12.9%) hike, however, they still remained well below the 1998 peak value. At ATS 55 billion (+EUR 4.0 billion; +14.5%), investment in foreign securities and participations remained unfalteringly vigorous. Only loans to nonresident nonbanks, advancing ATS 14 billion (+EUR 1.0 billion; +3.2%), proved rather inert.

#### Foreign Assets

Changes from the previous quarter in ATS billion



Source: OeNB.

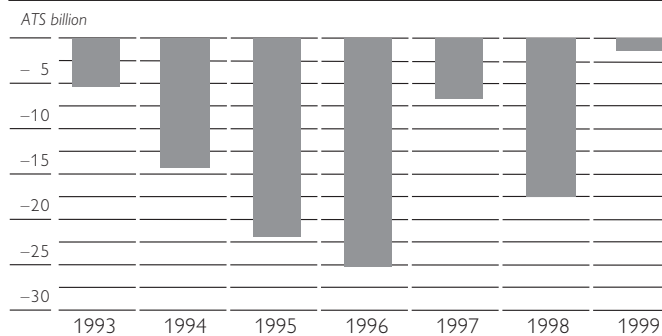
Austrian banks also boosted the liability side of their interbank positions abroad, by ATS 84 billion (+EUR 6.1 billion; +9.4%). Own issues in international capital markets, by contrast, dropped by ATS 36 billion (-EUR 2.6 billion; -7.2%), with short-term paper replacing long-term issues. Although, nonresidents withdrew some of their deposits in the review period. Overall, liabilities abroad augmented by ATS 47 billion (+EUR 3.4 billion; +2.7%), which corresponds to less than a third of foreign asset growth. Consequently, net foreign liabilities fell by ATS 109 billion (-EUR 7.9 billion) to -ATS 114 billion (-EUR 8.3 billion).

### Foreign Currency Loans Keep Going Strong

Decelerating on recent years' downward drive, direct credits declined by ATS 1 billion to ATS 2,755 billion (EUR 200 billion). Sharp falls were recorded above all in building societies' loans. Including securitized claims, credit institutions' claims on domestic nonbanks, after an ATS 2 billion rise in 1998, gained ATS 5 billion (+EUR 0.4 billion) to reach ATS 2,771 billion (EUR 201 billion). The public sector further diminished its liabilities to

banks, even if at a somewhat slower pace than in the analogous period of 1998. Credit institutions' claims on the general government shrank by ATS 7 billion (–EUR 0.5 billion; –1.6%) after an ATS 16 billion contraction in the first quarter of 1998. The federal government, above all, is increasingly turning to securitized forms of debt; the federal government's bank loans were cut by almost a third (–ATS 95 billion; –EUR 7 billion) since the end of 1996. In the first three months of 1999 alone, the share of nonsecuritized liabilities in the federal government's total euro debt moved from 21.1 to 20.3%. Meanwhile, the volume of government debt securities held by domestic banks also waned. The federal government increasingly turned to international investors to refinance relatively large redemption payments due in the first quarter of 1999.

### Changes in Direct Lending in the 1st Quarter



Source: OeNB.

Businesses also pruned their bank liabilities in the first quarter of 1999. Their production, price and sales expectations deteriorated according to the WIFO's business cycle survey. The generally less favorable sales and profit outlook dampened businesses' investment activities and financing needs. Furthermore, enterprises' own financing potential increased further in 1998. As a result, investment projects are more often financed using own funds. Consequently, banks' claims on businesses contracted by ATS 6 billion (EUR 0.4 billion) since the end of 1998; the annual growth rate slipped from 6.7% for the whole of 1998 to 5.0%.

Conversely, banks raised their purchases of debt securities issued by domestic enterprises, augmenting their stocks by ATS 2 billion (+EUR 0.1 billion; +13%) in the first quarter. Despite this expansion, debt securities' share in banks' total claims on enterprises stood at a less than 1% at the end of March 1999.

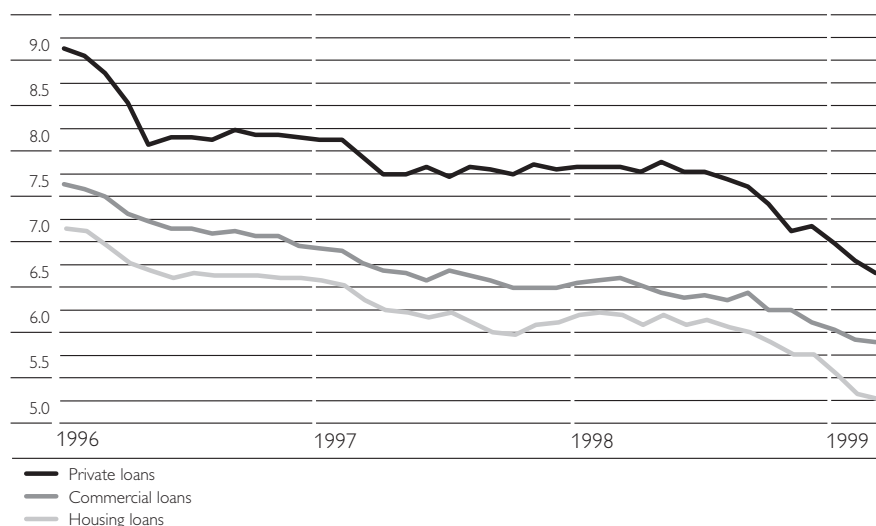
Unflinchingly high consumer confidence and the corresponding robust demand for durable consumer goods (vehicle sales, in particular, surged), drove claims on households up ATS 8 billion (+EUR 0.5 billion; +1.1%). By contrast, slack demand for housing was reflected in the weak performance of housing loans and home improvement loans, which contracted by ATS 2 billion (–EUR 0.1 billion; –0.4%) in the first quarter of 1999. This primarily concerned building societies, which, in addition, faced growing competitive pressure from other forms of loans, especially foreign currency loans.

Overall, building societies loans dropped by ATS 7 billion (EUR 0.5 billion). In the first quarter of 1999, construction funds were disbursed in only 6,479 cases, just slightly more than a third of the number recorded in the previous year's analogous period.

While interest rates for building societies' loans remained unchanged in the first quarter of 1999, banks further lowered rates for other forms of credit. The average rate receded from 6.12 to 5.89% for commercial loans and from 7.16 to 6.66% for private loans. Over the past four years, interest rates dropped more than 2½ percentage points for commercial loans and almost 3½ percentage points for private loans.

### Domestic Credit Institutions' Interest Rates for Loans

Average in %

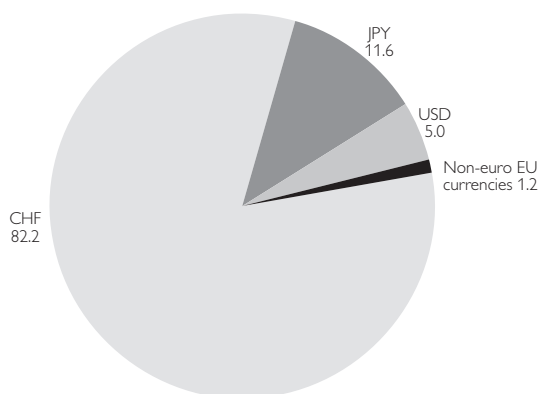


Source: OeNB.

Despite the low-interest environment, the shift to foreign currency loans continued unabated in the first quarter of 1999. Loans in Swiss francs, in particular, soared, gaining by ATS 31 billion (+EUR 2.2 billion; +13.5%).

### Foreign Currency Loans to Domestic Nonbanks

As of March 31, 1999; shares in %



Source: OeNB.

In terms of percentage rise, however, yen-denominated loans outperformed the Swiss franc loans by far, bounding up 60%. Overall, foreign currency loans amounted to ATS 332 billion (EUR 24 billion) at the end of March 1999, of which 82 and 12% were denominated in Swiss francs and Japanese yen, respectively.

Whereas an analysis of foreign currency loans is not possible beyond the changeover from the schilling to the euro as of the beginning of 1999, the figures for the period between January 31 and March 31 reveal a 16%-hike of foreign currency loans to households, paralleled by an 11%-expansion of commercial loans, whereas total credits denominated in euro lost ground in absolute terms. Foreign currency loans thus already account for more than 14% of claims on businesses and almost 12% of private loans. Even the public sector's foreign currency liabilities, which had narrowed in recent years, expanded in the period under review.

Structural shifts were reported from loans to floating-rate overdraft facilities. Cash advances continued their boisterous growth. Real estate loans, on the other hand, sagged, marking down ATS 14 billion (–EUR 1.0 billion; –5.8%). The drop in volume of discount credit illustrated how bills of exchange lost importance for banks refinancing. Since the end of 1998, the volume outstanding of discount loans plummeted by ATS 4 billion (–EUR 0.3 billion; –22.2%) to some ATS 14 billion (EUR 1.0 billion). Classified by maturity, loans with a maturity of more than five years recorded upward trends.

The volumes of domestic bank bonds, making up more than 80% of debt securities, advanced by just under 8% to ATS 124 billion (EUR 9.0 billion). Equity stocks climbed just slightly, whereas investment certificates surged by approximately a third, to ATS 134 billion (EUR 9.8 billion).

### **Hefty Rise in Deposits**

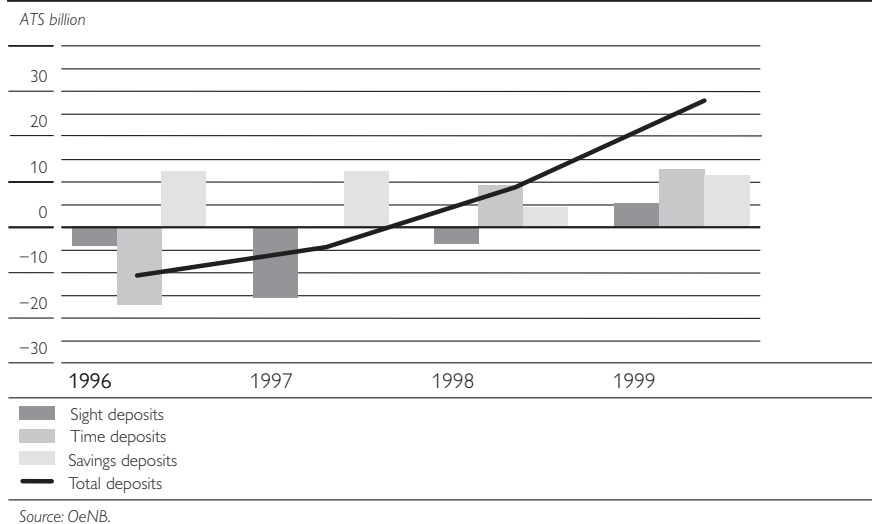
The volume of deposits held by credit institutions went up ATS 29 billion over the first three months of 1999, reaching ATS 2,323 billion (+EUR 2.1 billion to EUR 169 billion) and thus accelerated over the previous year's review period (+ATS 10 billion; +EUR 0.7 billion). This can be seen to reflect growing real income gains and a rise of the savings ratio.

In the wake of the changeover from the schilling to the euro, this increment cannot be recorded separately for the euro and foreign currencies up until the end of January 1999. In the period between January 31 and March 31, 1999, some three quarters of the deposit growth could be attributed to euro deposits.

The maturity structure of deposits shifted further towards the shorter end in the first months of 1999. Although sight deposits showed the lowest increment of the three categories, time and savings deposits enlarged mainly on the short end. Overall, the share of deposits with a maturity of less than twelve months expanded by  $1/2$  percentage point to 67.4%.

At +ATS 12 billion (+EUR 0.9 billion; +4.9%) time deposits, including both schilling/euro and foreign currency deposits, marked the strongest expansion. The federal government bolstered its holdings by approximately one fifth, whereas businesses and households withdrew funds from their accounts.

### Deposits in the 1st Quarter



Savings deposits augmented by ATS 11 billion (+EUR 0.8 billion; +0.7%). In addition, savings deposits held with building societies gained further on account of their relatively high interest yield – again, short-term deposits prevailed: Demand deposits held with building societies leapt up by three quarters of their volume at the end of 1998.

Interest rates for deposits with building societies remained unaltered at 4.50% throughout the first quarter, while the interest yields were lowered further for all other forms of deposits. Interest rate reductions were far more significant at the long end than at the shorter end.

Just as in the case of the application of funds, Austrian banks increasingly shifted to securities issues to raise funds in the first quarter of 1999. At ATS 60 billion (EUR 4 billion) sales of own domestic issues reached a level twice as high as the increment of deposits. The increased volume can be attributed mainly to – primarily floating rate – bonds. Mortgage bonds (Pfandbriefe) and municipal bonds (Kommunalbriefe) as well as medium-term fixed-rate notes (Kassenobligationen) contracted in the first quarter. As mentioned above, a predominant proportion of securities issued was purchased by domestic banks. The volume outstanding less securities sold to other banks rose by ATS 9 billion (+1.5%) to ATS 611 billion (EUR 44 billion).

### Equity Ratio Rises to 13.67%

In the first quarter of 1999, Austrian credit institutions augmented their own funds by ATS 16.1 billion (+EUR 1.1 billion; +3.5%) to ATS 473.2 billion (EUR 34.4 billion). The banks' equity ratio according to § 23 of the 1993 Austrian Banking Act improved from 14.25 to 14.55%. Approximately one half of the additions to own funds consisted of core capital (tier I capital), which expanded by 2.7%, while tier II and tier III capital each accounted for approximately a quarter.

# Austria's Major Loans Register in 1998

Austria's Major Loans Register, which monitors the loan exposures of major borrowers, is compiled on the basis of data submitted monthly to the OeNB by credit and financial institutions as well as contractual insurance companies. Credit amounts or credit lines in excess of ATS 5 million (some EUR 363,000) must be reported. Upon request, the collected data are made available to the institutions subject to the reporting requirement to facilitate their credit auditing; Major Loans Register data are also used for banking supervisory purposes.

## **Coverage: 57,000 Borrowers; Debt Volume: ATS 3,700 billion (EUR 269 billion)**

The number of registered borrowers rose by 6.2% to 57,205 billion in 1998 (domestic borrowers: +6.1%; foreign borrowers: +6.7%). The number of reporting institutions slipped by 11 to 1,576. A breakdown of this figure reveals a long-term trend contrasting a growing number of leasing companies among the lenders with a declining number of credit institutions.

By country, 87.3% of the registered borrowers were domiciled in Austria (1997: 87.4%). Roughly 60% of the non-Austrian borrowers were domiciled in the EU (1997: 56%). The largest proportion of schilling credits extended abroad (ATS 1,176 billion or EUR 85.5 billion) went to German borrowers (ATS 192 billion; this corresponds to a rise by ATS 64 billion or 49.6%, with most of the additional debt contracted by German banks). U.S. borrowers were the next-largest borrower category (ATS 116 billion; +ATS 10 billion or +9.5%), followed by the U.K. (ATS 97 billion; +ATS 25.5 billion or +35.7%). In a breakdown by the number of nondomestic borrowers, Germany also topped the list, followed by the U.K. and the U.S.A. The volume of lending to Hong Kong, Aruba and the Channel Island Jersey expanded most rapidly. Overall, volume of reported loans widened by 13% from ATS 3,288 billion to ATS 3,719 billion. Loans outstanding to foreign borrowers rose by ATS 193 billion or 19.6% to ATS 1,176, accounting for 31.6% of the total volume of major loans reported.

The total volume of debt outstanding to the ten main nonfinancial borrowers ran to ATS 200 billion (1997: ATS 219 billion). This corresponds to 5.4% of the total volume of major loans. At ATS 484 billion, the amount owed by the ten largest financial borrowers surpassed this figure by far. The largest nonresident, nonfinancial borrower had a level of debt outstanding of ATS 15 billion; the largest nonresident bank debtor held major loans totaling ATS 32.4 billion.

## **Changes in the Type of Lending**

By lending categories, loans (Einmalkredite; 1998: +18.7%; 1997: +25.8%) grew fastest, and bills of exchange decreased most (-30.2%; 1997: +8.9%). The volume drawn was largest in the category loans (ATS 2,192 billion), followed by revolving loans (ATS 719 billion) and securitized claims (ATS 465 billion).

**Types of Loans**

	Volume drawn		Annual change	
	1997	1998		
	ATS million		%	
Bills of exchange	19,362	13,512	- 5,850	-30.21
Revolving credits	663,465	718,542	+ 55,077	+ 8.30
Loans	1,852,949	2,191,523	+338,574	+18.27
Trustee loans	50,091	54,756	+ 4,665	+ 9.31
Assets from leasing operations	72,564	76,768	+ 4,204	+ 5.79
Other guarantees	205,289	198,118	- 7,171	- 3.49
Securitized claims	424,090	465,321	+ 41,231	+ 9.72
Total	3,287,810	3,718,540	+430,730	+13.10

Lending by housing construction savings and loan associations again rose most powerfully (by ATS 5.3 billion) to a record high of ATS 12.2 billion. This increase was triggered by a sharp expansion of the volume of loans reported. The apparent drop in lending by joint stock banks and bankers by ATS 180 billion may be explained by the shift in lending from this sector of the banking industry to savings banks. Savings banks' lending volume rose more than this shift alone accounted for. Savings banks were able to enhance their market share by a hefty 9.9 percentage points, bringing their share to 35.9% of the market. Raiffeisen banks lost market share (-0.6 percentage points), as did the special purpose banks (-0.5 percentage points). The other categories' market shares remained more or less unaltered.

**Major Loans by Lender**

	Volume drawn		Annual change		Market share
	1997	1998			
	ATS million		%		
Joint stock banks and bankers	1,106,635	926,826	-179,809	-16.25	24.92
Savings banks	851,268	1,333,349	+482,081	+56.63	35.86
State mortgage banks	168,866	186,076	+ 17,210	+10.19	5.00
Raiffeisen banks	495,605	539,592	+ 43,987	+ 8.88	14.51
Volksbanken	124,596	143,888	+ 19,292	+15.48	3.87
Housing construction savings and loan associations	6,891	12,238	+ 5,347	+77.59	0.33
Special purpose banks	320,458	345,157	+ 24,699	+ 7.71	9.28
Leasing companies	73,901	80,677	+ 6,776	+ 9.17	2.17
Contractual insurance companies	139,576	150,746	+ 11,170	+ 8.00	4.05
Total	3,287,796	3,718,549	+430,753	+13.10	100.00

**Credit and Financial Institutions are the Main Domestic Debtor**

In a breakdown of borrowing by economic sectors on the basis of the Austrian Statistical Classification of Economic Activities (ÖNACE), the strongest percentage growth in borrowing was in the category "mining and quarrying" (starting from a low figure, +53% to ATS 6.5 billion). The most pronounced relative decline in borrowing was recorded in "agriculture, hunting and forestry; fishing" (-16% to ATS 1.7 billion) and "publishing, printing and reproduction of recorded media" (-16% to ATS 9.7 billion).

The greatest rise in borrowing in terms of volume was again registered in the category "credit and financial institutions, contractual insurance



companies" (totaling ATS 155 billion). This sector accounted for ATS 800.7 billion of debt outstanding (21.5% of total borrowing, 31.5% of domestic borrowing). Among nonfinancial borrowers, the largest rise in the volume of debt outstanding in absolute figures occurred in the category "real estate activities" (+22.7% to ATS 239 billion). With a share of 6.4% of the total volume of debt outstanding, this category also accounted for the highest level of debt among nonfinancial borrowers.

### Regional Allocation of Debt Outstanding

Major borrowers located or domiciled in Vienna accounted for the largest volume by far of debt outstanding (ATS 643 billion), borrowers in Burgenland for the lowest volume (ATS 29.8 billion). This discrepancy is also reflected by the number of borrowers: 9,453 major debtors were located in Vienna, 1,089 in Burgenland. By comparison to borrowers in other Austrian states, major debtors in Vienna reduced their volume of borrowing (-3.3%), though they still accounted for the largest average debt, roughly ATS 68 billion. The lowest average volume of debt outstanding was calculated for borrowers in Tyrol (roughly ATS 24 billion).

#### Austrian States' Debt Outstanding<sup>1)</sup>

	Debt outstanding		Annual change		Share in 1998	Borrowers in 1998	Change in the number of borrowers
	1997	1998		%			
	ATS million			%		Number	%
Vienna	648,970	643,038	- 5,931	- 0.92	39.78	9,453	+3.24
Styria	130,423	141,047	+10,624	+ 7.53	8.72	5,532	+7.34
Upper Austria	205,629	218,517	+12,888	+ 5.90	13.52	6,448	+5.33
Salzburg	111,294	122,112	+10,818	+ 8.86	7.55	4,404	+3.16
Tyrol	135,440	147,099	+11,659	+ 7.93	9.10	6,056	+5.11
Carinthia	65,831	71,682	+ 5,851	+ 8.16	4.43	2,939	+7.68
Vorarlberg	63,802	71,475	+ 7,673	+10.73	4.42	2,865	+8.67
Burgenland	24,862	29,833	+ 4,971	+16.66	1.85	1,089	+8.82
Lower Austria	153,098	171,795	+18,696	+10.88	10.63	6,634	+6.12
Total	1,539,348	1,616,597	+77,249	+ 4.78	100.00	45,419	+5.43

<sup>1)</sup> These values do not include the debt outstanding of credit and financial institutions, insurance companies, or the public sector (central and state governments).

### Wholesalers Post Highest Default Rate

639 major borrowers became insolvent in 1998 (1997: 655). The 604 bankruptcies and 35 arrangements in bankruptcy accounted for a total of ATS 11.4 billion or 0.3% of the major loans reported as at December 31, 1998 (1997: ATS 12.7 billion). Most of the volume of defaults was in wholesale trade and commission trade (ATS 1.9 billion). Construction (ATS 1.6 billion) and retail trade (ATS 0.72 billion) followed. Sole proprietorships and individuals caused defaults on the order of ATS 0.55 billion.

### The Major Loans Register in an International Perspective

International efforts to standardize major loans registration systems in the EU were intensified within the framework of the Working Group on Credit Registers (an ECB working party of the Banking Supervisory Sub-Committee). From the Austrian point of view, the option under § 75 Austrian Banking Act to communicate information to authorities in other

Member States for banking supervisory purposes represents an approach to enhancing international co-operation. The legal prerequisites for a systematic, regular exchange of data between the supervisory authorities were laid down at the beginning of 1998. Currently, efforts to provide for data exchanges between European major loans registries to complement debt figures from national sources are under way.

### Classification of Major Loans by the Borrower's Economic Activity

	Dec. 31, 1997	Dec. 31, 1998	Change	%
	ATS billion			
Agriculture, hunting and forestry; fishing	2,061	1,729	- 332	-16.1
Mining and quarrying	4,251	6,524	+ 2,273	+53.5
Manufacture of food products; beverages and tobacco	30,918	31,390	+ 472	+ 1.5
Manufacture of textiles	12,527	12,060	- 467	- 3.7
Manufacture of wearing apparel; dressing and dyeing of fur	2,405	2,516	+ 111	+ 4.6
Manufacture of leather and leather products, manufacture of footwear	2,280	2,091	- 189	- 8.3
Manufacture of wood and wood products	18,178	18,756	+ 578	+ 3.2
Manufacture of pulp, paper and paper products	23,613	21,882	- 1,731	- 7.3
Publishing, printing and reproduction of recorded media	11,611	9,739	- 1,872	-16.1
Manufacture of coke, refined petroleum products and nuclear fuel	6,990	6,047	- 943	-13.5
Manufacture of chemicals, chemical products and man-made fibers	15,003	17,307	+ 2,304	+15.4
Manufacture of rubber and plastic products	10,920	13,457	+ 2,537	+23.2
Manufacture of other nonmetallic mineral products	21,586	23,251	+ 1,665	+ 7.7
Manufacture of basic metals and fabricated metal products	39,538	40,301	+ 763	+ 1.9
Manufacture of machinery and equipment n.e.c.	46,405	45,881	- 524	- 1.1
Manufacture of electrical and optical equipment	24,716	27,878	+ 3,162	+12.8
Manufacture of transport equipment	9,912	11,721	+ 1,809	+18.3
Manufacturing n.e.c.	11,452	11,310	- 142	- 1.2
Recycling	950	1,045	+ 95	+10.0
Electricity, gas and water supply	41,519	41,290	- 229	- 0.6
Construction	90,243	87,197	- 3,046	- 3.4
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel	27,200	30,500	+ 3,300	+12.1
Wholesale trade and commission trade, except of motor vehicles and motorcycles	126,189	135,585	+ 9,396	+ 7.4
Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	51,218	45,814	- 5,404	-10.6
Hotels and restaurants	35,083	36,660	+ 1,577	+ 4.5
Land transport; transport via pipelines; water transport; air transport; supporting and auxiliary transport activities; activities of travel agencies	73,409	87,419	+ 14,010	+19.1
Post and telecommunications	49,211	46,735	- 2,476	- 5.0
Real estate activities	216,183	238,913	+ 22,730	+10.5
Renting of machinery and equipment without operator and of personal and household goods	12,339	13,731	+ 1,392	+11.3
Holding companies	161,107	153,424	- 7,683	- 4.8
Computer and related activities; research and development; other business activities	50,819	53,396	+ 2,577	+ 5.1
Education	114	145	+ 31	+27.2
Health and social work	3,639	4,294	+ 655	+18.0
Other community, social and personal service activities	14,820	18,549	+ 3,729	+25.2
Borrowers with joint and several liability	25,895	29,773	+ 3,878	+15.0
Enterprises total (excl. sole proprietorships)	1,274,302	1,328,308	+ 54,006	+ 4.2
Sole proprietorships and individuals	265,061	288,289	+ 23,228	+ 8.8
Public sector (excl. central and state government)	119,503	124,874	+ 5,371	+ 4.5
Credit and financial institutions, insurance companies	645,346	800,672	+155,326	+24.1
Nonresident borrowers	983,582	1,176,406	+192,824	+19.6
Total	3,287,796	3,718,549	+430,753	+13.1

# Balance of Payments for the Year 1998<sup>1)</sup>

Austria's balance of payments accounts for the year 1998 indicate that the national economy continued to become more strongly integrated into the global web of interconnected markets in the report year, which was the fourth year of Austria's EU membership and also the final year before the changeover to the euro. Notwithstanding the unfavorable global economic conditions (financial turmoil in East Asia and Russia), Austria managed to push its export ratio and its direct and portfolio investment balances to historic highs. What is more, the travel surplus widened again in a reversal of the previous years' narrowing trend.

## **I Current Account<sup>2)3)</sup>**

The current account was in deficit by ATS 54<sup>1/2</sup> billion at the end of 1998 (see table 1a; –EUR 3.96 billion), down from a deficit of ATS 61<sup>1/2</sup> billion (–EUR 4.46 billion) in 1997. This translates into a GDP ratio of 2.1% for 1998, as opposed to 2.4% for 1997. The improvement hinged on the widening of the surplus on the service account by ATS 21 billion to ATS 33<sup>1/2</sup> billion, which was, however, partly canceled out by a deterioration of the income and current transfer balances.

### **1.1 Goods**

A comparison of growth rates shows the boom in Austrian exports that started in 1996 to have peaked around the end of 1997/beginning of 1998. Over the year 1998, goods exports expanded at a markedly lower rate (+8%) than in 1997 (+17%). The GDP ratio of exports, nevertheless, reached a historic high of 22.3%. Imports grew at roughly the same pace as exports, but the annual change in the import growth rate was less pronounced (+7% as opposed to +11% in 1997). The resulting *deficit on goods traded* narrowed by a good ATS 1 billion to approximately ATS 51 billion.

For a breakdown of foreign trade figures the OeNB refers to the merchandise statistics compiled by Austria's Central Statistical Office, ÖSTAT (see table 2). According to ÖSTAT figures, the balance of exports over imports totaled –ATS 73 billion in 1998, which is an improvement of almost ATS 2 billion year on year. While the current external trade cycle was initially carried by the particularly strong performance in merchandise trade with non-EU countries, in 1998 growth was mainly driven by trade with EU countries. Compared to 1997, Austria's structurally negative trade balances with both the euro area and the EU as a whole improved by about ATS 8<sup>1/2</sup> billion each. Broken down by individual EU countries, the biggest improvement was in trade with Italy (+ATS 5 billion), followed by Germany (Austria's most important trading partner; +ATS 4 billion) and Spain (+ATS 3 billion). Turning to trade with Central and Eastern European countries – where Austria registered considerable gains in 1997 – the balance on the CEEC merchandise account contracted by almost ATS 7<sup>1/2</sup> billion in 1998 from a year ago, while still remaining in surplus by ATS 31 billion. The drop can be traced primarily to the Russian financial crisis. Regarding overseas countries, the trade balance with the U.S.A. strengthened by some ATS 3 billion, while the balance with Japan weakened by ATS 4 billion.

By *major commodity groups* (see table 3), semimanufactured goods stood out on the exports side with an above-average rise in 1998. On the imports side, decreases were observed for raw materials and energy, and a significant increase for capital goods.

## 1.2 Services

The surplus on the service account surged by ATS 21 billion to ATS 33<sup>1/2</sup> billion, with travel accounting for the single largest contribution, namely some 50%, to this gain.

### 1.2.1 Travel<sup>4)</sup>

In 1998, the travel industry profited both from continued efforts to improve the sector's supply structure and from the stable price level prevalent in Austria. A marked rise in foreign exchange receipts by comparison with previous years, combined with a decrease in foreign exchange outlays, caused the travel surplus to expand by ATS 10 billion to ATS 21 billion.

*Spending by visitors* grew by 4% or ATS 5 billion to ATS 139 billion in 1998 (see receipts, table 4). Furthermore, the steady decline in the number of *overnight stays by foreign tourists* registered in the past five years reversed to a 1.6% increase (see table 5). This turnaround can be primarily attributed to more overnight stays by Central and Eastern European visitors (approximately +400,000 bednights), and also by Italian, U.K. and U.S. tourists (approximately +200,000 bednights each). Notwithstanding the ongoing boom in city breaks and the interrelated swift demand for up-scale accommodation (in particular four- and five-star hotels), the statistics on foreign summer vacationers continue to be a major blot on the picture of the Austrian travel account. While the number of foreigners' overnight stays did rise slightly in 1998, the result was the second worst since 1970.

*Austrian travelers spent less* on their holidays abroad, mainly because they imported fewer goods from abroad. Direct imports dropped by ATS 3 billion to ATS 19 billion year on year, to a level last registered before Austria joined the EU. This may be linked with the tightening of restrictions on goods imports as from mid-1997.

### 1.2.2 Other Service Items

The surplus on other services augmented by ATS 11 billion to ATS 13 billion in 1998. The key factor behind the improvement were the so-called unclassified transactions (basically the difference between recorded merchandise transactions and corresponding payments), which improved by almost ATS 7 billion. In 1997 the balance on unclassified transactions had swung into a deficit as merchandise payments fell markedly short of the flows of goods registered in the foreign trade statistics. In 1998, the balance of export proceeds over import outlays improved more rapidly than the balance of goods exports over imports according to the foreign trade statistics. The ensuing contraction of the deficit on unclassified transactions helped narrow the current account deficit.

Furthermore, the balance on the other business services account (including, for instance, technical consulting) improved by ATS 6 billion, and the balance on the transportation account by ATS 3 billion.

### 1.3 Income

The income account, under which compensation for employees and investment income are recorded, closed the year 1998 with a deficit of approximately ATS 13 billion. Income inflows totaled ATS 132 billion, the corresponding outflows ATS 145 billion.

Austria posted a positive net balance on *compensation for employees* on the order of roughly ATS 7 billion. On both the credit and the debit side there was a rise by about ATS  $1\frac{1}{2}$  billion from 1997.

The *investment income* account, by contrast, was in deficit by somewhat more than ATS 20 billion at the end of 1998, owing to Austria's net external liability position and its direct investment orientation as a net capital importer. Austrian investment income from abroad totaled around ATS 120 billion, whereas foreigners earned some ATS 140 billion on investments placed in Austria. The contribution of gross investment income to the current account balance is roughly 10%, which means that it is practically as significant as the travel account. This shows that both the structure and the balance of the Austrian current account are being influenced more and more strongly by international capital movements.

While Austria's net investment position and its investment income balance both deteriorated between 1992 and 1998, they did so at divergent paces; the investment income deficit grew at a markedly slower rate. A key factor behind this dichotomy is the downtrend in nominal interest rates, which has considerably reduced the price of new borrowing. Furthermore, the differences in maturity between external assets and external liabilities are a factor, given that higher-yield long-term investments account for increasingly higher shares of assets.

Broken down by major investment instruments, both direct investment and portfolio investment income posted a deficit (–ATS  $14\frac{1}{2}$  billion and –ATS 19 billion), while other investment income registered a surplus of ATS 14 billion. Those amounts add up to the afore-mentioned deficit on investment income of ATS 20 billion.

Austrian receipts of direct investment income abroad are estimated at almost ATS 11 billion for 1998, which is roughly ATS  $1\frac{1}{2}$  billion more than a year ago. By contrast, nonresidents earned ATS  $25\frac{1}{2}$  billion on their direct investments in Austria, up ATS 5 billion from 1997. This translates into a net negative balance of ATS  $14\frac{1}{2}$  billion.

Since Austrian liabilities arising from portfolio investment are bigger than the domestic assets, the interest payments of Austrian debtors to foreign investors (roughly ATS 61 billion) surpassed the interest income Austrians earned on foreign securities (roughly ATS 42 billion).

The bulk of the resulting deficit in portfolio investment income of ATS 19 billion can be traced to the high deficit on income from long-term debt securities.

### 1.4 Current Transfers<sup>5)</sup>

The current transfer deficit amounted to almost ATS 24 billion in 1998, up from ATS  $20\frac{1}{2}$  billion in 1997. This item includes the lion's share of transactions with the EU. In 1998, Austria's contribution to the EU budget

came to roughly ATS 29 billion, of which some ATS 17<sup>1/2</sup> billion were channeled back to Austria (including EU subsidies to infrastructure projects, which are posted under the capital account). Thus, Austria's net contribution to the EU budget in 1998 was approximately ATS 11<sup>1/2</sup> billion, same as in 1997.

## 2 Capital Account<sup>6)</sup>

The capital account showed a deficit of ATS 2 billion for 1998, after it had been in balance in 1997. Debt forgiveness by both general government institutions and banks accounted for this development. EU subsidies granted to infrastructure projects (see above) amounted to ATS 2 billion, as in 1997.

## 3 Financial Account

The financial account mirrors the growing international orientation of Austrian capital movements (see table 7). Capital inflows totaled approximately ATS 307 billion in 1998, pushing up Austria's total external liabilities as measured by the international investment position (IIP) by some 12%. Capital outflows came to ATS 252 billion, which caused total external assets according to the IIP to grow likewise by roughly 12%.

Cross-border capital flows (also taking into account the statistical discrepancies posted under "errors and omissions") led to similar amounts of *net capital imports* in both 1997 and 1998, namely ATS 61 billion and ATS 56 billion. For the individual sectors of the economy, above all for the general government sector and the banking sector, the picture was a lot more mixed, by contrast. In 1997, banks generated net capital inflows of ATS 75 billion (including errors and omissions), five times as much as general government institutions (ATS 15 billion net). In 1998, banks' net capital imports (including errors and omissions) dwindled to ATS 14 billion while general government capital imports surged to ATS 145 billion net. The capital transactions of the other sectors (primarily companies and investment funds) resulted in net capital exports in both years (1997: ATS 61 billion; 1998: ATS 53 billion). The central bank's transactions swung from net capital imports of roughly ATS 32 billion in 1997 to net capital exports of ATS 50 billion in 1998. This reversal hinged on the development of the official reserves, which expanded by ATS 40 billion in 1998 after having shrunk by some ATS 36 billion in 1997 through the Bank's transactions.

### Financial Account by Sectors

	Assets		Liabilities		Balance	
	1997	1998	1997	1998	1997	1998
	ATS billion					
OeNB	+ 32.4	- 50.4	+ 0.0	+ 0.0	+32.4	- 50.4
Banking sector	- 71.2	- 55.2	+139.5	+ 68.0	+68.3	+ 12.8
General government	- 9.5	- 9.5	+ 24.5	+154.9	+15.1	+145.4
Other sectors	-126.5	-136.9	+ 65.5	+ 84.2	-61.0	- 52.7
Financial account	-174.7	-251.9	+229.6	+307.0	+54.9	+ 55.1
Errors and omissions	x	x	x	x	+ 6.2	+ 1.3
Financing balance	x	x	x	x	+61.1	+ 56.4

Source: OeNB.

### 3.1 Direct Investment

Austria's attractiveness as a business location and increased economic liberalization propelled *direct investment by foreign companies in Austria* upward by ATS 73 billion net, driving inward direct investment to a historic high, a good 50% above the previous record high of 1996. The rise was composed largely of an increase in the net acquisitions by foreign companies of Austrian equity capital – inward acquisitions of ATS 65.3 billion minus inward disinvestment of ATS 9.5 billion – and of an estimated ATS 14.9 billion increase in the unremitted profits of Austrian direct investment subsidiaries. In addition, a rise in other claims of foreign investors on their Austrian affiliates caused inward direct investment to grow by roughly ATS 2.5 billion net. The liberalization of the telecoms and electricity markets acted as a crucial incentive for capital inflows in 1998. Since Austria's accession to the EU in 1995, nearly ATS 170 billion have been invested in Austria by foreign companies, 80% of which are established in EU countries.

At ATS 37 billion, *investments made abroad by Austrian companies* were just half as large as direct investment inflows from abroad, but all the same reached an historic high. Net outward acquisitions (including property) on the order of ATS 30.1 billion ensued from outward investment of ATS 42.0 billion and outward disinvestment of ATS 11.9 billion. In addition, earnings totaling almost ATS 7.1 billion were ploughed back into direct investment enterprises already in existence. Loans among affiliated enterprises remained practically unchanged. The recent buoyancy in outward direct investment ties in with a marked upward tendency that emerged from 1996 onward in a reversal of the downtrend that followed the boom of the early 1990s. This holds especially for Austrian direct investments in EU countries, which account for almost half of the investment total. A somewhat different pattern has emerged for Austrian equity holdings in Eastern Europe: between 1992 and 1996, the yearly investment volumes hovered around ATS 5 billion to ATS 6 billion; in 1997, this figure suddenly doubled. In 1998, the investment level stayed close to the 1997 record, namely at ATS 11.5 billion, even though the framework conditions were less favorable.

According to preliminary calculations, the *capital stock* of Austrian direct investments abroad has meanwhile reached close to ATS 200 billion, while nonresidents hold approximately ATS 300 billion worth of equity in Austria. By geographic area, the euro area and Central and Eastern Europe account for one third each of Austrian direct investments abroad. Two thirds of all inward direct investment can be traced to euro area investors.

### 3.2 Portfolio Investment

Regarding both net inflows<sup>7)</sup> from the sale of domestic securities and net outflows from the purchase of foreign securities, 1998 outperformed the record year 1997. Investments of Austrians into short- and long-term *foreign securities* totaled roughly ATS 147 billion, which is a 26% rise from the end of 1997. Over the same period nonresidents bought approximately ATS 205 billion worth of *domestic securities*, which is a 17% rise from an already high level. Net capital imports from portfolio investment, the balance of inflows over outflows, widened again (1997: ATS 13 billion; 1998: ATS 58 billion).

While in 1997 above all banks accounted for the net capital imports, in 1998, the general government sector, in particular the central government, generated the net capital imports.

Domestic investors bought roughly ATS 67 billion worth of *foreign equity securities*, which is more than in any single year between 1992 and 1997. Within this category, stocks were the top sellers, while shares of mutual funds were in much higher demand than in the past. Notwithstanding a slump in the third quarter and with the exception of Japan, the major equity indices continued to rise in 1998; the German DAX for instance climbed by 21% and the Dow Jones by 22%. Propelled by this positive sentiment, Austrians put some ATS 40 billion in foreign stocks in 1998, acquiring mostly euro area stocks (nearly ATS 20 billion) and U.S. stocks (ATS 10 billion). For the first time since 1992, Austrians bought significant amounts of Swiss stocks (ATS 4 billion). From the pattern of stock selection, a certain sector bias, i.e. a bias toward industries that goes across national borders, has become apparent. This sector bias is mirrored by the three major European stock indices (MSCI EMU, EURO STOXX und FT/S&P Europe). Some 20% of the euro area stocks bought by domestic investors are on the index lists.

At purchases worth ATS 83 billion, *long-term debt securities* were less in demand than in 1997, given shrinking yields. By currencies, bonds denominated in euro area currencies (61%) and in U.S. dollar (28%) attracted the largest share of investment. By geographic area, Austrian investors went above all for long-term debt securities issued in the euro area (54%), the U.S.A. (17%), offshore financial centers and Central and Eastern Europe (17% for both).

*Foreign money market instruments* sold on the order of ATS 3 billion. This result is slightly below the 1997 figure, but in keeping with the general trend for 1997.

A sectoral analysis of purchases of foreign securities shows that all domestic sectors were buyers, with investment funds and banks accounting for the lion's share; they more than doubled their purchases by comparison with 1997.

*Domestic equity securities* worth slightly more than ATS 12 billion changed into nonresidents' hands in 1998, which is the second-lowest figure in the period 1992 to 1998. While foreigners bought roughly the same amount of shares of mutual funds as in 1997 (ATS 14 billion) they pulled out of domestic stocks. This development can most likely be explained with the high stock market volatility in the second half of the year and the Russian financial crisis.

At no time since 1992 did nonresidents invest as much in *domestic long-term debt securities* as in 1998 (about ATS 190 billion). A breakdown by currency shows that securities denominated in euro area currencies (82%) were highest in demand, followed by Swiss franc issues (12%).

Domestic money market instruments sold abroad for ATS 3 billion in 1998. This low level is a result of transactions that canceled each other out. USD-denominated short-term bank bonds sold in 1997 came up for redemption in 1998, which offset much of the gain from the new issuance of DEM-denominated federal Treasury certificates.



A sectoral analysis of 1997 and 1998 results shows that foreigners mostly went for securities issued by public authorities. Securities issued by banks or the other sectors lost some favor with investors compared to 1997.

Foreign investors put some ATS 148 billion into public sector securities in 1998, which is a big jump from just ATS 28 billion in 1997. Most of this money, namely ATS 130 billion, went into long-term domestic securities (with government bonds auctioned in 1998 accounting for ATS 50 billion thereof). The high net sale in the second half of the year was fueled by investors' flight to safety triggered by the financial crises in Russia and Asia. Placed eighth in the credit risk rankings of Euromoney and Institutional Investor, Austria was a prime choice for investors. Furthermore, the rising number of foreign tender banks and the prospect of parallel bond mergers supplementing benchmark-bond liquidity added to the positive investor sentiment. The importance of foreign demand for Austrian securities is evidenced by the fact that, at end-1997, 36% of all Austrian government bonds outstanding were in the hands of foreigners. While this ratio is below Germany's share of foreign investors (46%), it is well above the percentages compiled for Italy or Spain (23% each).

Judging from the first tender results and the first issues of syndicated bonds and non-euro securities at the beginning of 1999, domestic government bonds will most likely continue to be sought after by foreigners in 1999.

### 3.3 Other Investment

Transactions in deposits and loans resulted in *net capital imports* of a good ATS 8 billion, with both assets (+ATS 22 billion) and liabilities (+ATS 30 billion) having risen from 1997. This result is much below the average of the years 1992 to 1997, however, and accounts for a mere 10% of the rise in the financial account balance on both the assets and the liabilities side.

The bulk of other investment (72%) was generated by the so-called other sectors<sup>8</sup>). Within this group, trade credits contracted by more than ATS 6 billion and deposits by more than ATS 2 billion, while loans expanded by almost ATS 25 billion, which adds up to a transaction value of almost ATS 16 billion. Slightly more than half of the loans taken out by the other sectors were short-term. Roughly 85% of the borrowers were companies (above all in the industrial sector) and the remaining 15% other financial institutions (conducting capital transactions under leasing operations). Some 30% of the capital transactions made by domestic companies were made within the framework of multilateral group transactions. A regional loan analysis shows a high concentration for Belgium, the Netherlands and the U.S.A.

Contrary to the past years when *banks* dominated the other investment item, in 1998 they even cut their cross-border assets by ATS 2 billion while expanding their liabilities by a mere ATS 28 billion. In 1997, by comparison, they had considerably augmented both their assets (+ATS 47 billion) and liabilities (+ATS 66 billion). In 1998, loans granted to foreigners did increase by roughly ATS 45 billion, but at the same time banks reduced their sight and time deposits abroad by roughly the same amount. In other words,

banks apparently modified the pattern of their external exposure – by comparison with 1997 – by putting a stronger emphasis on long-term investment in securities and on long-term lending and by slightly scaling back asset-increasing transactions abroad in general.

The expansion of loans by ATS 45 billion came above all on the back of a sizeable rise in long-term loans, mostly to foreign nonbanks. The transaction value of long-term loans was slightly below ATS 42 billion in 1998, which is more or less twice the average of the previous three years. The share of borrowers from Central and Eastern European countries dropped markedly; at 32%, it was well below the 1995 to 1997 average of 50%. As before, the bulk of credit was extended to Croatia, Poland, Slovenia and the Czech Republic. The reduction in claims on Russia can be attributed to a reassessment of the accounting value of outstanding claims rather than to transactions.<sup>9)</sup> The shares of loans to the euro area (Germany, Ireland, and Belgium) and to the countries grouped under the “rest of Europe” (above all Switzerland, Liechtenstein, and Turkey) expanded strongly and reached 25% each.

### Long-term Bank Loans

	1995		1996		1997		1998	
	ATS million	Share in %	ATS million	Share in %	ATS million	Share in %	ATS million	Share in %
Euro area	- 6,871	31.0	- 4,265	24.8	- 1,877	7.4	-10,218	24.5
Other EU countries	+ 584	- 2.6	- 577	3.4	+ 51	- 0.2	+ 1,405	- 3.4
EU 15	- 6,287	28.4	- 4,842	28.2	- 1,826	7.2	- 8,813	21.1
Rest of Europe incl. Turkey	- 526	2.4	- 1,116	6.5	- 3,568	14.0	-10,364	24.8
Central and Eastern Europe	- 7,602	34.3	- 6,912	40.3	-17,958	70.5	-13,474	32.3
U.S.A. and Canada	+ 91	- 0.4	+ 315	- 1.8	- 1,244	4.9	- 3,755	9.0
Central and South America	- 446	2.0	- 279	1.6	- 1,262	5.0	- 1,537	3.7
Asia incl. Australia, New Zealand	- 3,738	16.9	- 1,423	8.3	- 3,579	14.1	- 4,166	10.0
Africa and rest of the world	- 3,662	16.5	- 2,910	17.0	+ 3,967	- 15.6	+ 390	- 0.9
Total	-22,170	100.0	-17,167	100.0	-25,470	100.0	-41,719	100.0
Thereof OECD	- 7,836	35.3	- 7,340	42.8	- 9,336	36.7	-20,187	48.4

Source: OeNB.

On the liabilities side, *banks* added a mere ATS 28 billion to their position (1997: +ATS 66 billion). Since their liabilities arising from portfolio investment transactions also rose at a slower pace than in 1997, the growth rate of banks' external liabilities practically halved from 1997.

### 3.4 Financial Derivatives

Financial derivatives, which used to be a standard component of the portfolio investment account, have been recorded as a separate item in the financial account since January 1999, in line with international reporting requirements. In 1998, *financial derivatives* accounted for net capital exports of ATS 7 billion, in a reversal of net capital imports of ATS <sup>1</sup>/<sub>2</sub> billion in 1997.

### 3.5 Official Reserves

Through transactions, official reserves increased by ATS 40 billion in 1998. The last weekly statement of the reporting year, on the eve of Stage Three of European Monetary Union, showed the OeNB's official reserves to stand at ATS 298<sup>1</sup>/<sub>2</sub> billion.

1 Based on transactions.

2 As of the review period of January 1998, the Oesterreichische Nationalbank has been compiling Austria's balance of payments according to a new concept. For a detailed overview of the new concept and definitions, see "Conceptual Changes in the Austrian Balance of Payments" in "Focus on Austria" issue 2/1998.

In its statistical periodical "Statistisches Monatsheft," the OeNB provides both a series of monthly b.o.p. statistics (which are published six weeks after the close of the respective observation period and, thus, offer timely information) and a series of quarterly b.o.p. statistics (which are published with a time lag of three months but feature a more detailed breakdown).

The differences in breakdown apart, the quarterly and annual series also adhere more strictly to the b.o.p. reporting requirement of measuring economic transactions rather than payments. Note: Given the conceptual differences between the two presentation schemes, the sum of the twelve individual months does not match the corresponding full-year total.

3 As this report refers to an observation period before the introduction of the euro, figures are still presented in Austrian schillings. However, to take account of the new framework conditions which have been in place since January 1, 1999, the key items of the Balance of Payments Summary are given both in schillings (table 1a), as usual, and in euros (table 1b). The values shown in the euro table are based on the conversion rate of December 31, 1998: EUR 1 = ATS 13.7603.

4 Note that the new concept defines travel in more restrictive terms, limited to the use of one's own car or use of means of transportation within the country of destination. International passenger transport, which above all concerns air traffic, is now recorded as a separate item.

5 Under the new definition of this current account component, current transfers encompass only those transfers which impact the respective economy's income and consumption. Capital transfers, which were previously covered by the transfers account, have now been excluded.

6 Capital transfers initially affect the respective countries' wealth "only;" in other words, they have no impact on income and consumption. For transfers to be classified under capital transfers, it suffices for the transaction to be considered "unilateral" by one of the two parties concerned.

7 Also taking into account accrued investment income since recording is governed by the accrual principle.

8 Other sectors, as defined in the IMF Balance of Payments manual, 5th edition, comprise all domestic sectors other than monetary authorities, banks and general government institutions.

9 According to information provided by the BIS in the March 1999 issue of its Quarterly Review on recent banking developments, banks across the world resorted to such a reassessment.

Table 1a

<b>Balance of Payments Summary</b>			
	1997 <sup>1)</sup>	1998 <sup>2)</sup>	Annual change
	<i>balances in ATS million</i>		
<b>Current account</b>	-61,400	-54,452	+ 6,948
<b>Goods, services and income</b>	-40,669	-30,449	+10,220
<b>Goods and services</b>	-39,232	-17,315	+21,917
<b>Goods</b>	-51,977	-50,806	+ 1,171
<b>Services</b>	+12,745	+33,491	+20,746
<i>thereof:</i>			
Travel	+10,847	+20,693	+ 9,846
Construction services	+ 3,328	+ 2,999	- 329
Financial services	+ 131	+ 638	+ 507
Royalties and license fees	- 6,124	- 8,661	- 2,537
Other business services	+13,863	+16,138	+ 2,275
Government services, n.i.e.	+ 3,021	+ 4,913	+ 1,892
Unclassified transactions	-22,415	-15,711	+ 6,704
<b>Income</b>	- 1,437	-13,134	-11,697
Compensation of employees	+ 6,985	+ 6,958	- 27
Investment income	- 8,422	-20,092	-11,670
<b>Current transfers</b>	-20,731	-24,003	- 3,272
General government	-18,847	-18,558	+ 289
Private sector	- 1,884	- 5,445	- 3,561
<b>Capital and financial account</b>	+55,156	+53,144	- 2,012
<b>Capital account</b>	+ 293	- 1,994	- 2,287
<i>thereof:</i>			
General government	+ 2,510	+ 1,496	- 1,014
Private sector	- 2,418	- 3,334	- 916
Acquisition/disposal of nonproduced, nonfinancial assets	+ 201	- 156	- 357
<b>Financial account</b>	+54,863	+55,138	+ 275
Direct investment	+ 5,334	+35,920	+30,586
Portfolio investment	+13,431	+57,848	+44,417
Other investment	- 252	+ 8,236	+ 8,488
Financial derivatives	+ 465	- 6,764	- 7,229
Official reserves <sup>3)</sup>	+35,885	-40,102	-75,987
<b>Errors and omissions</b>	+ 6,244	+ 1,307	- 4,937

Source: OeNB.

<sup>1)</sup> Revised figures.<sup>2)</sup> Provisional figures.<sup>3)</sup> OeNB: Gold and foreign exchange, Reserve Position in the Fund, SDRs, etc.; increase: - / decrease: +.

Table 1b

<b>Balance of Payments Summary</b>			
	1997 <sup>1)</sup>	1998 <sup>2)</sup>	Annual change
	balances in EUR million <sup>3)</sup>		
<b>Current account</b>	-4,462	-3,957	+ 505
<b>Goods, services and income</b>	-2,956	-2,213	+ 743
<b>Goods and services</b>	-2,851	-1,258	+1,593
<b>Goods</b>	-3,777	-3,692	+ 85
<b>Services</b>	+ 926	+2,434	+1,508
thereof:			
Travel	+ 788	+1,504	+ 716
Construction services	+ 242	+ 218	- 24
Financial services	+ 10	+ 46	+ 37
Royalties and license fees	- 445	- 629	- 184
Other business services	+1,007	+1,173	+ 165
Government services, n.i.e.	+ 220	+ 357	+ 137
Unclassified transactions	-1,629	-1,142	+ 487
<b>Income</b>	- 104	- 954	- 850
Compensation of employees	+ 508	+ 506	- 2
Investment income	- 612	-1,460	- 848
<b>Current transfers</b>	-1,507	-1,744	- 238
General government	-1,370	-1,349	+ 21
Private sector	- 137	- 396	- 259
<b>Capital and financial account</b>	+4,008	+3,862	- 146
<b>Capital account</b>	+ 21	- 145	- 166
thereof:			
General government	+ 182	+ 109	- 74
Private sector	- 176	- 242	- 67
Acquisition/disposal of nonproduced, nonfinancial assets	+ 15	- 11	- 26
<b>Financial account</b>	+3,987	+4,007	+ 20
Direct investment	+ 388	+2,610	+2,223
Portfolio investment	+ 976	+4,204	+3,228
Other investment	- 18	+ 599	+ 617
Financial derivatives	+ 34	- 492	- 525
Official reserves <sup>4)</sup>	+2,608	-2,914	-5,522
<b>Errors and omissions</b>	+ 454	+ 95	- 359

Source: OeNB.

<sup>1)</sup> Revised figures.<sup>2)</sup> Provisional figures.<sup>3)</sup> Irrevocable euro conversion rate: EUR 1 = ATS 13.7603. Discrepancies may arise from rounding.<sup>4)</sup> OeNB: Gold and foreign exchange, Reserve Position in the Fund, SDRs, etc.; increase: - / decrease: +.

Table 2

**Merchandise Exports and Imports as Recorded  
in the Foreign Trade Statistics  
Goods by geographic area**

	1998					
	Exports			Imports		Balance
	Annual change	Share of total exports	Annual change	Share of total imports	Annual change	
	%				ATS million	
OECD	+18.4	86.7	+12.8	88.8	-81,279	+18,796
EU	+10.7	63.8	+ 7.1	69.2	-92,733	+ 8,677
EMU	+11.0	57.1	+ 7.0	63.8	-98,515	+ 8,431
thereof:						
Germany	+10.2	35.9	+ 6.6	41.6	-74,590	+ 3,878
Italy	+11.8	8.6	+ 2.9	8.1	- 2,366	+ 5,120
France	+15.1	4.4	+ 7.3	4.7	- 5,755	+ 1,745
CEECs <sup>1)</sup>	+ 2.0	16.7	+11.5	11.5	+31,250	- 7,528
U.S.A.	+19.7	4.1	+ 4.2	5.2	-12,710	+ 3,388
Japan	-20.5	0.9	+14.0	2.3	-12,632	- 4,263
Total	+ 7.8	100.0	+ 6.8	100.0	-73,237	+ 1,998

Source: ÖSTAT.

<sup>1)</sup> Central and Eastern European countries: Albania, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia, Ukraine, Yugoslavia.

Table 3

**Merchandise Exports and Imports as Recorded  
in the Foreign Trade Statistics  
Goods by commodity category**

	Exports			Imports			Balance	
	1998	Annual change		1998	Annual change		1998	Annual change
	ATS million	%		ATS million	%		ATS million	
Foodstuffs	33,356	+ 2,423	+ 7.8	47,984	+ 1,886	+ 4.1	-14,628	+ 537
Raw materials	32,628	- 1,325	- 3.9	66,814	- 6,496	- 8.9	-34,186	+5,172
thereof: energy (SITC 3)	6,812	- 1,760	-20.5	34,234	- 7,457	-17.9	-27,422	+5,697
Semimanufactured goods	123,160	+14,795	+13.7	114,832	+ 7,738	+ 7.2	+ 8,327	+7,057
Manufactured goods	579,381	+37,722	+ 7.0	609,992	+46,710	+ 8.3	-30,611	-8,988
Capital goods	201,552	+14,179	+ 7.6	204,809	+21,137	+11.5	- 3,256	-6,959
Consumer goods	377,829	+23,544	+ 6.6	405,183	+25,573	+ 6.7	-27,354	-2,029
Miscellaneous manufactured articles	1,958	x	x	4,098	x	x	- 2,140	x
Total	770,483	+55,467	+ 7.8	843,720	+53,469	+ 6.8	-73,237	+1,998

Source: ÖSTAT.

Table 4

<b>Travel and International Passenger Transport</b>				
	1997 <sup>1)</sup>	1998 <sup>2)</sup>	Annual change	
	ATS million		%	
<b>Travel</b>				
Receipts	134,086	139,167	+5,081	+ 3.8
Expenses	123,239	118,473	-4,766	- 3.9
Balance	10,847	20,693	+9,846	+90.8
<b>International passenger transport</b>				
Receipts	15,396	17,874	+2,478	+16.1
Expenses	7,479	10,182	+2,703	+36.1
Balance	7,917	7,693	- 224	- 2.8
	in 1,000		%	
Foreign tourist bednights	80,570	81,853	+1,283	+ 1.6

Source: ÖSTAT, OeNB.  
<sup>1)</sup> Revised figures.  
<sup>2)</sup> Provisional figures.

Table 5

<b>Foreign Tourist Bednights by Country of Origin</b>				
	1998			
	Overnight stays	Annual change	Share	
	in 1,000		%	
Germany	52,783	- 44	- 0.1	64.5
Netherlands	6,787	+ 58	+ 0.9	8.3
United Kingdom	2,673	+ 195	+ 7.9	3.3
Belgium, Luxembourg	2,254	- 174	- 7.2	2.8
Switzerland, Liechtenstein	280	+ 20	+ 7.7	0.3
Sweden	625	+ 11	+ 1.9	0.8
France	1,890	+ 39	+ 2.1	2.3
Italy	2,606	+ 228	+ 9.6	3.2
Spain	486	+ 47	+10.6	0.6
Finland	165	+ 25	+18.0	0.2
U.S.A.	1,595	+ 185	+13.1	1.9
Japan	563	+ 5	+ 0.9	0.7
Hungary	648	+ 47	+ 7.9	0.8
Slovakia	133	+ 29	+28.4	0.2
Czech Republic	646	+ 101	+18.4	0.8
Poland	697	+ 110	+18.7	0.9
Commonwealth of Independent States	388	+ 65	+20.2	0.5
Slovenia	204	+ 13	+ 6.8	0.2
Croatia	228	+ 26	+12.8	0.3
Other countries	6,202	+ 298	+ 5.0	7.6
Total	81,853	+1,283	+ 1.6	100.0
Memorandum item: Austrian tourists	29,278	+ 767	+2.7	x

Source: ÖSTAT.

Table 6

<b>Investment Income</b>	1997 <sup>1)</sup>	1998 <sup>2)</sup>	Annual change
	<i>ATS million</i>		
Investment income receipts	+114,506	+120,405	+ 5,899
Investment income payments	+122,928	+140,498	+17,570
Net investment income <sup>3)</sup>	- 8,422	- 20,093	-11,671
Net direct investment income <sup>3)</sup>	- 11,097	- 14,537	- 3,440
Income on direct investment abroad	+ 9,568	+ 10,951	+ 1,383
Income on direct investment in Austria	+ 20,665	+ 25,489	+ 4,824
Net portfolio investment income <sup>3)</sup>	- 12,469	- 19,170	- 6,701
Income on foreign equity securities	+ 2,483	+ 2,725	+ 242
Income on domestic equity securities	+ 3,055	+ 3,565	+ 510
Income on foreign debt securities	+ 23,769	+ 30,114	+ 6,345
Income on domestic debt securities	+ 46,599	+ 55,480	+ 8,881
Income on foreign money market instruments	+ 240	+ 214	- 26
Income on domestic money market instruments	+ 232	+ 1,846	+ 1,614
Financial derivatives on interest contracts, net	+ 10,925	+ 8,666	- 2,259
Net other investment income <sup>3)</sup>	+ 15,144	+ 13,615	- 1,529
Income on other investment, assets <sup>4)</sup>	+ 67,521	+ 67,734	+ 213
Income on other investment, liabilities	+ 52,377	+ 54,119	+ 1,742

Source: OeNB.

<sup>1)</sup> Revised figures.<sup>2)</sup> Provisional figures.<sup>3)</sup> Income on outward foreign investment less income on inward foreign investment.<sup>4)</sup> Income on deposits, credits and official reserves.



Table 7

<b>Financial Account</b>		
(including change in official reserves)	1997 <sup>1)</sup>	1998 <sup>2)</sup>
	ATS million, net	
<b>Financial account</b>	+ 54,863	+ 55,139
<b>Assets</b>	-174,727	-251,906
<b>Liabilities</b>	+229,590	+307,045
<b>Direct investment</b>	+ 5,334	+ 35,920
Direct investment abroad	- 23,758	- 37,300
Equity capital	- 21,118	- 30,127
Reinvested earnings	- 4,867	- 7,080
Other capital	+ 2,227	- 94
Direct investment in Austria	+ 29,092	+ 73,221
Equity capital	+ 20,869	+ 55,809
Reinvested earnings	+ 9,547	+ 14,941
Other capital	- 1,324	+ 2,471
<b>Portfolio investment</b>	+ 13,431	+ 57,848
Portfolio investment in foreign securities	-121,198	-146,749
Equity securities	- 30,070	- 66,566
Long-term debt securities	- 95,106	- 82,955
Money market instruments	+ 3,978	+ 2,771
Portfolio investment in domestic securities	+134,629	+204,597
Equity securities	+ 32,027	+ 12,489
Long-term debt securities	+ 87,112	+189,285
Money market instruments	+ 15,490	+ 2,823
<b>Other investment</b>	- 252	+ 8,236
<b>Assets</b>	- 63,312	- 22,127
Trade credits	+ 2,904	+ 6,467
Loans	- 52,133	- 69,470
Sight and time deposits	+ 12,667	+ 41,881
Other assets	- 26,750	- 1,005
<b>Liabilities</b>	+ 63,060	+ 30,363
Trade credits	+ 4,887	- 2,339
Loans	- 5,104	+ 5,613
Sight and time deposits	+ 66,165	+ 23,106
Other liabilities	- 2,888	+ 3,983
<b>Financial derivatives</b>	+ 465	- 6,764
<b>Assets</b>	- 2,344	- 5,628
<b>Liabilities</b>	+ 2,809	- 1,136
<b>Official reserves<sup>3)</sup></b>	+ 35,885	- 40,102

Source: OeNB.

<sup>1)</sup> Revised figures.<sup>2)</sup> Provisional figures.<sup>3)</sup> OeNB: Gold and foreign exchange, Reserve Position in the Fund, SDRs, etc.; increase: - / decrease: +.

# New Concept of the Austrian Balance of Portfolio Investment

## I Introduction

As of the January 1998 reporting period, the OeNB has relied on a new balance-of-payments system. Since then, a monthly balance of payments (cash balance) has been released with a view to providing concise and timely information on current trends six months after the end of the reporting period. Moreover, January 1, 1999, marked the beginning of Stage Three of EMU, which entailed a number of changes to the framework of capital markets. In order to take account, inter alia, of these innovations, the balance of portfolio investment (Tables 7.0.2.0 and 7.0.2.1 in the OeNB's "Statistisches Monatsheft") has been revised and adapted. For the purpose of analyzing the capital market of the euro area, a cross classification of issuing currency and issuing country is being made available with regard to the purchase and sale of foreign money market instruments and foreign bonds and notes by Austrian investors.

The redesigned balance of portfolio investment has been first published in issue 5/1999 of the "Statistisches Monatsheft" and may also be accessed on the OeNB's Internet homepage ([http://www.oenb.at/stat-monatsheft/statab7\\_p.htm](http://www.oenb.at/stat-monatsheft/statab7_p.htm)). Figures in the tables are expressed in both EUR million and ATS million in order to facilitate the conversion from ATS to EUR (and vice versa) for the reader.

The balance of portfolio investment is a specific subbalance of the monthly balance of payments. It is designed to provide data on domestic creditors' cross-border investment decisions and moreover to make available information on Austrian debtors' tapping of the international capital markets. The new balance of portfolio investment gives a more detailed account of the balance-of-payments items equity securities, bonds and notes, and money market instruments. The figures, which will *no longer be subject to revision*, will continue to reflect the market value (= purchase/sale price including accrued interest paid) of securities. The transaction-related changes in the stock of securities will be shown in the statistic Austria's Portfolio Position, to be published in a modified form in the course of 1999.

## 2 Securities Covered by the Balance of Portfolio Investment

The balance of portfolio investment covers both the purchase/sale of foreign securities by residents (assets side) and the purchase/sale of domestic securities by nonresidents (liabilities side) for purposes of portfolio investment. The statistic does not encompass securities-based swaps, repos, securities lending transactions, financial derivatives, direct investment and transactions in official reserves.

The term domestic securities denotes securities floated by issuers domiciled in Austria, while foreign securities are launched by issuers domiciled abroad. This classification does not take account of the ownership of the issuer (e.g. in the case of subsidiaries), nor of the currency in which the paper is denominated, which means that the category domestic securities includes, for instance, Austrian federal government bonds denominated in Swiss francs. Net acquisitions of securities carry a positive sign, while net sales carry a negative sign.

### **3 Changes in the New Balance of Portfolio Investment**

#### **3.1 Breakdown by Financial Instruments**

The breakdown of financial instruments mirrors that of the monthly balance of payments, since the balance of portfolio investment constitutes an in-depth presentation of the balance of payments. Due to the growing importance of shares and mutual funds shares from both the investor's and analyst's standpoint, the classification of these two securities categories was refined:

1. Money market instruments<sup>1</sup>);
2. Bonds and notes<sup>1</sup>);
3. Equity securities – shares  
subclassification: quoted shares<sup>2</sup>),  
other equity securities<sup>3</sup>) (excl. mutual funds shares);
4. Equity securities – mutual funds shares  
subclassification: bond funds<sup>4</sup>),  
share funds<sup>5</sup>),  
mixed funds<sup>6</sup>),  
money market funds<sup>7</sup>).

#### **3.2 Regional Breakdown (on Assets Side Only)**

With the exception of mutual funds shares, all financial instruments are classified in terms of the following issuing countries or issuing country groups: euro area<sup>8</sup>), other EU countries<sup>9</sup>), Switzerland, Japan, U.S.A., and other countries. Mutual funds shares (total) are broken down into two subitems (euro area, Luxembourg). For the different mutual funds categories, only one subitem (euro area) is indicated. This regional classification aims at facilitating the analysis of the new European monetary framework.

#### **3.3 Breakdown by Currency of Money Market Instruments and Bonds and Notes**

In response to the new monetary situation, the breakdown by issuing currency has also been adapted. The classification is now based on the nominal currency of the securities. Money market instruments and bonds and notes are subdivided into issues denominated in euro<sup>10</sup>), other EU currencies<sup>11</sup>), Swiss franc, Japanese yen, U.S. dollar, and other currencies.

#### **3.4 Cross Classification of Issuing Currency and Issuing Country with Regard to Money Market Instruments and Bonds and Notes (on Assets Side Only)**

To illustrate the role of the euro, a cross classification is carried out with regard to money market instruments and bonds and notes. The data are broken down as follows:

Securities issued in euro

- by the issuing country group euro area and
- by the issuing country group other countries

Securities issued in foreign currency (i.e. all currencies excluding euro)

- by the issuing country group euro area and
- by the issuing country group other countries

### 3.5 Breakdown by Primary and Secondary Market of Bonds and Notes

The data input used for the balance of portfolio investment provides for a breakdown of securities flows by primary and secondary market. The primary market is subdivided into new issues and redemptions. The term new issues denotes all transactions effected during the period ranging from immediately before the issuing date up to 10 days after. Increases of existing securities issues are treated like new issues. Redemptions comprise all transactions effected during the period ranging from up to 10 days prior to the redemption date to immediately afterwards. Premature repurchases by the issuer are also reported as redemptions. All other transactions fall under the heading secondary market (trading). Moreover, the new issues, redemptions and secondary market items are subdivided by the issuing currency (euro or foreign currency). The classification in terms of primary market and secondary market provides for the following differentiation: Activities on the primary market may be seen in the context of an increase of the volume of securities outstanding (i.e. capital increase); the purchase or sale of securities on the secondary market indicates a capital transfer between Austria and abroad.

### 3.6 Time Axis

The table contains the annual figures of the past 3 years and the monthly data of the preceding year and the current year. As opposed to previous publications, the statistics under the new concept *no longer* provide *quarterly values* owing to the lack of comparability with the quarterly balance of payments. 3-, 6- and 12-month averages are included with a view to highlighting trends.

### 3.7 Back Calculations

All data, except for those used in the classification of equity securities by securities types, have been subject to back calculation up to and including 1996. The breakdown of equity securities by securities types could only be carried out for the period up to and including 1997.

The new balance of portfolio investment (Tables 7.0.2.0 and 7.0.2.1 in “Statistisches Monatsheft”) can be outlined as follows:

*1 Debt securities: bonds, subscription rights related to convertible bonds and bonds with equity warrants, commercial paper, certificates of deposit, treasury bills, registered bonds, bond warrants, mortgage bonds, promissory notes, treasury certificates, convertible debentures, zero-coupon bonds.*

*Money market instruments: debt securities featuring an original maturity of up to and including 1 year.*

*Bonds and notes: debt securities featuring an original maturity of more than 1 year.*

*2 Quoted shares: shares quoted on a stock exchange.*

*3 Other equity securities: shares not quoted on a stock exchange, subscription rights to shares, participation capital issues, profit participation certificates under the Stock Corporation Act, property funds and other securities (residual item).*

*4 Bond funds: funds investing primarily or exclusively in debt securities.*

*5 Share funds: funds investing primarily or exclusively in shares.*

*6 Mixed funds: funds investing in both shares and debt securities, for which usually, however, ceilings are in place.*

*7 Money market funds: funds investing in money market instruments, bank deposits or securities with short residual maturities or regular interest rate adjustments.*

- 8 Euro area: countries that introduced the euro as their common currency as of January 1, 1999 (Belgium, Germany, Finland, France, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Austria), incl. ECB.  
9 Other EU countries: Denmark, Greece, Sweden, United Kingdom (incl. European institutions; excl. ECB).  
10 Euro: currencies that were replaced by the euro as of January 1, 1999 (Belgian/Luxembourg franc, Deutsche mark, Finnish markka, French franc, Dutch guilder, Irish pound, Italian lira, Austrian schilling, Portuguese escudo, Spanish peseta and ECU).  
11 Other EU currencies: Danish krone, Greek drachma, pound sterling, Swedish krona.

## Annex

Balance of Portfolio Investment		
Financial instrument	Classification type	Features
<b>Foreign securities (assets side)</b>		
Money market instruments	Nominal currency	Euro, other EU currencies, Swiss franc, Japanese yen, U.S. dollar; other currencies
	Countries or country groups	Euro area, other EU countries, Switzerland, Japan, U.S.A., other countries
	Cross classification of issuing currency and issuing country	Issued in euro and issuing country (euro area and other countries) Issued in foreign currency and issuing country (euro area and other countries)
Bonds and notes	Primary market/secondary market	New issues, redemptions and trading in euro and foreign currency
	Nominal currency	Euro, other EU currencies, Swiss franc, Japanese yen, U.S. dollar; other currencies
	Countries or country groups	Euro area, other EU countries, Switzerland, Japan, U.S.A., other countries
Equity securities – mutual funds shares	Cross classification of issuing currency and issuing country	Issued in euro and issuing country (euro area and other countries) Issued in foreign currency and issuing country (euro area and other countries)
	Countries or country groups Securities type	Euro area, Luxembourg Bond funds, share funds, mixed funds, money market funds – each in total and thereof from the euro area
Equity securities – shares	Securities type Countries or country groups	Quoted shares, other equity securities Euro area, other EU countries, Switzerland, Japan, U.S.A., other countries
<b>Domestic securities (liabilities side)</b>		
Money market instruments	Nominal currency	Euro, other EU currencies, Swiss franc, Japanese yen, U.S. dollar; other currencies
Bonds and notes	Primary market/secondary market	New issues, redemptions and trading in euro and foreign currency
	Nominal currency	Euro, other EU currencies, Swiss franc, Japanese yen, U.S. dollar; other currencies
Equity securities – mutual funds shares	Securities type	Bond funds, share funds, mixed funds, money market funds
Equity securities – shares	Securities type	Quoted shares, other equity securities

S T U D I E S

# Harmonized Indices of Consumer Prices – Progress and Unresolved Problems in Measuring Inflation

Manfred Fluch

## **I Why Harmonize Consumer Price Indices?**

For some time, the issue of the accuracy with which inflation is measured has once again been attracting increased interest in Europe. Some of this interest is certainly attributable to the fact that price stability today enjoys a greater priority among central banks than in the past, and inflation rates have come rather close to zero. The lower the rates of inflation, the more urgent is the question of how to measure price rises accurately for the purposes of monetary policy management. Beyond that, American as well as a number of European studies<sup>1)</sup> have shown that the methods used in estimating inflation may produce a distorted picture, most frequently a – sometimes even substantial – overstatement of price rises, which in turn may have far-reaching economic policy implications for the real economy, taxation, (real) wages, and monetary policy.

Particular interest in the problem was aroused world-wide, also in Europe, by the so-called Boskin Report (Boskin et al., 1997).<sup>2)</sup> According to this report, the inflation rates recorded for consumer prices in the U.S.A. are overstated by 1.1 percentage points per year.<sup>3)</sup> Even though the results of the Boskin Report have been disputed by experts and cannot be applied to other countries without qualifications<sup>4)</sup> (as their measures of inflation are based on different concepts), they have prompted an intensive reconsideration of the methods used in measuring inflation.

Differences in the rates of inflation are very much the result of differences in general economic framework conditions. These include divergent income and consumption patterns, differences in price levels, competition and pricing practices as well as the openness of a country's economy. Where the measurement of inflation itself is concerned, differences exist with regard to the baskets of goods and services used, underlying concepts and procedures, adjustment and revision practices to account for changing markets and products and, finally, the techniques and levels of detail used in processing price information statistically, which make valid comparisons more or less impossible.

Differences are also attributable to the fact that the rules used in measuring inflation are derived from different schools of thought. Basically, two models are used today: the cost of living concept and the consumer price index principle. To date, economists have been unable to identify the best approach and exact methods for price data collection, the measurement of price changes and the frequency with which weights should be updated. Both types of inflation measures have their strengths but also their weaknesses as well as potential (mostly technical) biases that may result in a misrepresentation of the rate of inflation.<sup>5)</sup> Given existing advantages and disadvantages and, most importantly, the ease of calculating and interpreting the rate of inflation, the large majority of countries has adopted the "pure price concept." Use of this concept guarantees that any change in the index reflects only price changes. A drawback of this method is, however, that Laspeyres price indices are subject to several biases:

- inadequate accounting for changes in product quality (according to scientific research done to date, this is the factor with the greatest quantitative impact);
- inadequate accounting for new products;

- inability to reflect product substitution by households (who switch from more expensive to less expensive products or shopping outlets);
- inadequate reflection of better price-benefit ratios resulting from changes in the types of outlets used by consumers (inadequate coverage of supermarkets, overrepresentation of small shops in the outlet sample) and
- other sources of bias present even in field work or in the process of combining the prices gathered into an index.

This study provides a summary of the harmonization work done to date, makes comparisons with earlier index concepts, evaluates the impact of the Harmonized Index of Consumer Prices (HICP)<sup>6</sup> on economic policy in general and monetary policy in particular and, finally, outlines the remaining unresolved problems in estimating inflation.

## **2 The Harmonized Index of Consumer Prices as an EU-Wide Inflation Indicator**

The HICP is a major innovation as a comparative measure of inflation in Europe. This indicator was developed by the European Commission and the European Monetary Institute (EMI), and has already established itself as the central price indicator within the ESCB. Based on a European Council regulation and subsequent European Commission regulations (see summary below), minimum standards were defined for the key components making up the index.<sup>7</sup>) The aim in constructing the HICP was to create uniform procedures free from methodological weaknesses, to improve comparability and to help establish a harmonized, reliable and widely accepted basis for monetary policy decisions.

### **EU Regulations Relating to the HICP**

- *Council Regulation (EC) No 2494/95 of 23 October 1995 concerning harmonised indices of consumer prices*
- *Commission Regulation (EC) No 1749/96 of 9 September 1996 on initial implementing measures for Council Regulation (EC) No 2494/95 concerning harmonised indices of consumer prices*
- *Commission Regulation (EC) No 2214/96 of 20 November 1996 concerning harmonised indices of consumer prices: transmission and dissemination of sub-indices of the HICP*
- *Commission Regulation (EC) No 2454/97 of 10 December 1997 laying down detailed rules for the implementation of Council Regulation (EC) No 2494/95 as regards minimum standards for the quality of HICP weightings*
- *Council Regulation (EC) No 1687/98 of 20 July 1998 amending Commission Regulation (EC) No 1749/96 concerning the coverage of goods and services of the harmonised index of consumer prices*
- *Council Regulation (EC) No 1688/98 of 20 July 1998 amending Commission Regulation (EC) No 1749/96 concerning the geographic and population coverage of the harmonised index of consumer prices*
- *Commission Regulation (EC) No 2646/98 of 9 December 1998 laying down detailed rules for the implementation of Council Regulation (EC) No 2494/95 as regards minimum standards for the treatment of tariffs in the Harmonised Index of Consumer Prices.*



The focus in harmonization was primarily on the comparability of different countries' HICPs and the inflation rates calculated on this basis. The criteria to be applied in assessing comparability were defined as follows (EU Commission, 1998):

- HICPs are comparable if they reflect only differences in price changes or consumption patterns between countries.
- HICPs diverging from each other due to different concepts, methods or procedures are not comparable.
- The quantitative threshold for compliance with the comparability criterion was fixed at one tenth of a percentage point.

Implementation of the findings of the Boskin Report in the current project is only a secondary objective of the project group. Activities pursued in this regard involve analyses of the effects of different types of measuring methods. The objective is to identify those methods that are least affected by any bias.

### **3 The Project**

The project for the harmonization of consumer price indices was started by EUROSTAT in 1993 after first studies had already been conducted in the 1970s.<sup>8)</sup> To exclude methodological bias and any problems in interpretation caused by such bias, the need for harmonization of consumer price indices was laid down in the Maastricht Treaty. Harmonized consumer price indices were named as an important instrument to be used in assessing convergence in the field of price stability.

On account of its complexity, the HICP project carried out under the direction of EUROSTAT in collaboration with the national statistical institutes, representatives of the EMI/the ECB, national central banks and experts from numerous international organizations had a slow start, but then proceeded swiftly under the pressure of imminent Monetary Union and was finally completed in a staged process<sup>9)</sup> in a systematic and timely manner.

A derived harmonized inflation indicator was first published in 1996. It was a derived indicator as it was still based on national consumer price indices (CPIs) and had only partly been harmonized. As areas not yet harmonized were excluded from its basket of goods and services, it represented a "slimmed-down" version of the national CPIs. In 1997, the real new-type HICP was finally compiled, with largely harmonized methodology and coverage.

The new index was readily accepted by all important users even though, because of the continued unavailability of time series and detail, it was only of limited usefulness as a tool for economic analysis. Initially, its most important application was as an indicator of "price stability" in the convergence reports issued by the European Commission and the EMI. In addition, the European Index of Consumer Prices (EICP) was compiled, which represents the weighted aggregate of the HICPs of the 15 EU countries (also see 3.1). In May 1998, following the decision on the participants in Economic and Monetary Union (EMU), an HICP was calculated for the euro area for the first time and finally promoted to become the central inflation indicator in the ESCB's monetary policy strategy. The

HICP has been implemented by all EU countries, plus Iceland and Norway. Switzerland and, more recently, the aspirants for EU membership enjoy observer status on the current EU project entitled “Harmonisation of Consumer Price Indices.”

In Austria, most of the work involved in implementing the guidelines issued at EU level is done by ÖSTAT, the Austrian Central Statistical Office. The harmonized guidelines designed to cover a wide scope of detail required frequent amendments<sup>10)</sup>, most of which, however, were implemented without any major problems and received the necessary support from principal users. By early 1999, a largely harmonized basis was available and a conceptual framework in place to enable a high degree of comparability in inflation measurement and analysis in the EU area. The data available and their quality already allow very detailed analyses, which are further facilitated by backdating of the HICP (see below).

### 3.1 The HICP for the Euro Area<sup>11)</sup> and the European Union

The HICP for the euro area is based on the weighted average of the HICPs of the 11 EMU participating Member States. Each country’s weighting is updated every year<sup>12)</sup> based on its share in the EMU aggregate “domestic private final consumption expenditure” (which does not include consumer spending incurred in other (euro) countries) as calculated from the countries’ national accounts. The country weights for the euro area HICP are listed in table 1. Of all the countries, Germany has the largest share (about one third), followed by France (with about one fifth of the total weight). Together, these two countries account for more than 50% of the euro area HICP. With Italy added (which has the third-largest weight at 19%), almost 75% of the “euro inflation rate” is contributed by these three countries. Austria’s share is about 3%.

The EICP is made up of the weighted, annually updated averages of the 15 EU Member States. It differs from the euro area HICP in that its weighting is based on consumer spending as reflected in the national accounts of the individual EU countries. Because of the differences in the definitions of the aggregates used as a weighting basis, the country ranking also differs from that of the euro area. While Germany still has the highest

Table 1a

<b>Country Weights in the HICP for the Euro Area</b>					
	1995	1996	1997	1998	1999
	%				
Belgium	38.3	38.2	38.2	38.0	39.9
Germany	347.4	346.5	345.5	345.2	345.2
Spain	87.8	88.2	88.7	89.0	91.5
France	219.5	219.5	219.3	218.7	210.5
Ireland	9.0	9.0	9.1	9.0	9.6
Italy	179.9	180.5	181.2	181.7	188.1
Luxembourg	2.2	2.2	2.2	2.2	2.0
Netherlands	53.1	53.2	53.1	53.5	51.3
Austria	30.6	30.5	30.5	30.4	28.9
Portugal	16.6	16.7	16.7	16.8	18.2
Finland	15.6	15.6	15.5	15.5	14.8
<b>EU 11</b>	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0

Source: EUROSTAT.

Table 1b

<b>Country Weights in the HICP for the European Union (EICP)</b>					
	1995	1996	1997	1998	1999
	‰				
<b>Euro area</b>	793.2	792.3	791.3	788.4	781.7
Belgium	29.4	29.3	29.3	30.8	31.1
Germany	259.5	258.3	257.2	260.9	246.7
Spain	81.2	81.4	81.7	81.9	89.1
France	159.2	159.0	158.6	155.0	147.2
Ireland	7.8	7.9	7.9	6.3	7.9
Italy	163.2	163.5	163.9	157.3	167.3
Luxembourg	1.7	1.7	1.7	1.7	1.6
Netherlands	42.1	42.1	42.0	43.3	39.8
Austria	21.1	21.0	21.0	22.3	21.2
Portugal	17.5	17.6	17.6	18.0	19.8
Finland	10.5	10.5	10.4	10.9	10.1
Denmark	13.3	13.3	13.3	13.6	13.5
Greece	21.5	22.1	22.7	23.0	23.5
Sweden	19.4	19.3	19.2	19.7	17.6
United Kingdom	152.6	153.0	153.4	155.2	163.6
<b>EU 15</b>	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0

Quelle: EUROSTAT.

weight, it is then followed by Italy and the United Kingdom, with France only in the fourth place. More than three fourths of the EU-15 inflation rate is accounted for by the euro area countries.

The table in the Annex shows country weights for the euro area and the EU area based on consumer expenditure data reflecting national consumption patterns.

## 4 Comparison of CPI and HICP Concepts

### 4.1 Differences in Theory

The traditional CPIs of the individual EU Member States were constructed to meet each country's specific needs and have a wide range of applications. They are used in macroeconomics (e.g. as a measure of inflation, as a deflator for real aggregates) as well as in microeconomics (e.g. as indicators for wage, pension and social transfer adjustments) and for indexing under contractual arrangements. The theoretical concept underlying the index is almost always the pure price index principle. Some countries update CPI weights annually (e.g. France, Sweden, United Kingdom) and calculate a chain index (see below).

The HICP is employed primarily at the macroeconomic level, mostly for international comparisons. According to the EU Commission, the HICP is based on the prices of goods and services offered for sale on a Member State's territory for the direct satisfaction of consumer needs. The HICP is also a "pure" price index, the aim of which – under the EU Treaty – is to measure consumer price inflation. It is not intended to replace the national CPIs (the countries' national legislation allows the computation of several indices), but its "improved" methods have been incorporated to a large extent into the countries' traditional CPIs.<sup>13)</sup>

In Austria, some of the HICP concepts were implemented in the national CPI when the latter's index basis was revised in 1996. On the other hand, HICP figures are based on CPI price data. In terms of methodology, the principal differences between the two indices are the following:

- 678 index items in the HICP as compared to 710 in the CPI: A number of services items (in the fields of education, health and social services<sup>14)</sup> and some housing expenses) are currently still excluded from the HICP on account of their high complexity and the resulting difficulty in formulating comparable rules. From the year 2000, these items will also be covered (with just a few exceptions), which will mark the final stage of CPI development as far as the basket of goods and services is concerned.
- At the lowest commodity level, the HICP uses the geometric mean for price averaging, whereas the CPI employs an average of price relatives method that is not accepted under EU rules.<sup>15)</sup>
- In the CPI, weighting of insurance expenditure follows the gross concept; in the HICP, the net concept. The difference is that under the net concept, benefits paid by insurance companies to households (“claim settlements”) are deducted from the total volume of premium expenditure.
- Index population: Prior to 1996, the CPI followed the “residents concept”<sup>16)</sup> (spending by residents at home and abroad). The CPI 96 is based on spending by residents in Austria. The HICP follows the “domestic concept” and reflects all consumer spending within the national boundaries (spending by foreign tourists in Austria is therefore included but spending by Austrians abroad is excluded; the former type of spending is, by definition, not covered by the CPI). Depending on the concept used, the rates of inflation measured may differ substantially, as will be explained in more detail below.
- Different market basket classifications: The HICP uses the international COICOP classification<sup>17)</sup>, while the CPI is based on the traditional breakdown into ten commodity groups. On account of great divergence in the classification of goods and services, it is difficult to make direct comparisons between key commodity classes in the two indices. For this reason, this study does not include a description of the different weighting patterns employed.
- Updating of weights: Annual revision of HICP weights compared with CPI revision at five-year intervals.<sup>18)</sup> Annual revisions, which are required whenever individual weights have changed to such an extent that their impact on the rate of inflation is in excess of one tenth of a percentage point<sup>19)</sup>, may be effected by means of a chain index.<sup>20)</sup>

## **4.2 The Impact of Conceptual Differences between the HICP and the CPI on the Rate of Inflation**

### **4.2.1 Backdating of the HICP**

When the HICP was first published in 1997, backdata were available only from 1995. However, for forecasting in the context of its monetary policy strategies, the Eurosystem needs the longest possible time series. The task of providing these was taken over by national agencies (central banks and/or national statistical institutes) which had the necessary resources at their disposal. In Austria, backdating – a time-consuming procedure involving considerable methodological problems – was carried out by ÖSTAT<sup>21)</sup>

in collaboration with OeNB. The data were then used as input in the OeNB's forecasting system<sup>22</sup>). Now, HICP data are available on a monthly basis back to 1986. In a further step, the HICP is to be linked to the CPI 76 and the CPI 66. Eurosystem forecasting of the inflation rate as measured by the HICP is, however, not confined exclusively to the "headline inflation" but also covers price changes in sectoral groups and is of central importance in compiling derived inflation indicators. These special subindices, defined by the ECB and national central banks, have also been backdated along with 77 different subcomponents of the HICP.

#### **4.2.2 HICP Inflation is Lower than CPI Inflation**

For Austria, the HICP was backdated for the period 1986 to 1995. Inflation as measured by the HICP was found to be markedly lower than CPI inflation. During the 1987 to 1998 period, the difference was, on average, 0.4 percentage points (see table 2). This substantial divergence can be explained as follows:

- Part of the difference (about one tenth of a percentage point) is attributable to different methods used in price averaging (geometric mean as opposed to arithmetic mean) at the lowest commodity level.
- Another portion of the difference is accounted for by products and services not covered by the HICP. Overall, some 30 items are excluded from the basket of the backdated HICP but included in the CPI 86 basket, the standard to which the HICP was rebased. As the excluded products posted above-average price rises (the prices of services rose more during recent years than the prices of tradable goods), the gap between CPI and (backdated) HICP inflation became even wider.
- Different concepts regarding product coverage also play an important role. During the 1987 to 1995 period, insurance contributed an average of 0.17 percentage points to the rate of inflation as measured by the CPI (gross concept) but only 0.03 percentage points to HICP inflation (net concept and therefore much lower weighting).
- Close to half of the difference in HICP and CPI inflation is explained by different weighting patterns and the type of index used. In backdating the HICP, weightings derived from the CPI 96 were used, while the CPI 86 was based on the original weightings of the year 1986 (to be precise, on the 1984 consumer survey – this means that, for HICP backdating, an index was used that was similar to the Paasche index<sup>23</sup>). The HICP therefore reflects the shifts in consumption patterns that occurred during the decade over which it was backdated, while the CPI 86 based on the Laspeyres concept (with unchanged weightings from the base period) does not.
- Since 1997, the CPI and the HICP have been following similar spending concepts. As the HICP basket covers about 96% of the CPI, differences in the recorded rates of inflation have gone down noticeably (down to one tenth of a percentage point between 1996 and March 1999).

Table 2

<b>HICP and CPI from 1986 to 1998</b>		
	HICP	CPI
	change in %	
1986/98	+28.1	+33.7
1986/98 p. a.	+ 2.09	+ 2.45
1996/99 <sup>1)</sup>	+ 2.3	+ 2.6
1996/99 <sup>1)</sup> p. a.	+ 0.8	+ 0.9

Source: OeNB.  
<sup>1)</sup> March 1999.

Backdating of the CPI and the HICP and a comparison of national and international practices show that even the use of different mathematical operations in price averaging at the commodities level and in combining prices into an index may produce a difference in inflation rates. Important factors are the conceptual definition of aggregate expenditure but also of consumer spending on goods and services (insurance, tourism). Finally, the type of index used (Laspeyres or Paasche) also plays an important role. The cumulative impact of these factors – even though they can be interpreted and compared only with some limitations because of differently defined expenditure baskets – explains a divergence of about 0.4 percentage points p.a.

This comparison does not take into account “traditional” sources of bias (changes in shopping outlets, quality changes, new products) highlighted in the Boskin Report and in the study by the Deutsche Bundesbank. Marked conceptual improvements in the national CPI 96 and, particularly, in the HICP should, however, help to achieve greater accuracy in measuring the rate of inflation and keep the “error” in Austrian price level data much lower than suggested in the studies mentioned above.<sup>24)</sup>

## **5 The HICP in Economic and Monetary Policies**

### **5.1 Monetary Policy**

The HICP gained importance in the run-up to and at the start of Stage Three of EMU.<sup>25)</sup> For monetary policy purposes, the Eurosystem relies on the HICP. The monetary strategy of the Eurosystem defines price stability as a year-on-year increase in the HICP of below 2% across the entire euro area. According to the ECB, it is the only index that fulfills a number of crucial statistical requirements: a high degree of harmonization, sufficient coverage, and timely availability. Unlike prices of investment goods, which are regarded as “intermediate-type” prices, consumer prices represent the price level at the very end of the production process in the economy and may therefore be considered to sum up all inflationary and deflationary price developments in the economy.

Use of the HICP is also consistent with the general observation that the public assesses changes in the price level primarily in terms of consumer prices (ECB, 1999). This effect is reinforced by the fact that the ECB makes reference to this indicator in its monthly analyses of economic and price developments in justifying its monetary policy. It is therefore expected that it will replace the national indices, particularly as conceptual differences appear to be diminishing.

### 5.1.1 Derived Inflation Indicators Based on the HICP (Core Inflation)

Gaps in inflation measurement and, even more importantly, price changes that were frequently volatile and affected by changes in taxation but immune to monetary measures, led to the construction of adjusted or derived inflation indicators<sup>26</sup>). In connection with the quantitative definition of the price stability target by the Eurosystem, the calculation of “core” or “underlying inflation” has once again commanded increased attention. Another reason is that in a number of countries of the euro area and of the remaining EU inflation rates are close to zero.

Especially central banks with a direct inflation target have intensified monitoring the so-called core inflation ( $C_i$ ), and have adjusted national consumer price indices in different ways. They have excluded those factors and items from the expenditure baskets whose prices were outside the influence and control of central banks. They also removed components that can be influenced by the central bank at least indirectly but would give a wrong signal. Adjustments include, for example, indirect taxes and subsidies but also goods and services with particularly erratic price movements, and interest. The impact of interest rates cannot be eliminated from the Austrian CPI.

The basic idea of core inflation is thus to determine the underlying inflation path, not price changes at a specific point in time, which may be distorted by a range of transient effects including volatile crude oil prices, changes in taxation, etc.

Despite the central role of the core inflation concept in monetary analysis, there is no consensus on the exact definition of this indicator.<sup>27</sup>) This study, however, does not aim to discuss the benefits and drawbacks of the method but to apply the concept of core inflation indicators calculated by the ECB for the euro area for internal purposes (but not covered by the study by Gartner and Wehinger, 1998) to Austria on the basis of HICP data.

While Gartner and Wehinger (1998) calculated core inflation data for Austria and selected European countries using a structural and VAR (vector autoregressive) procedure, this study presents the simpler structural procedures routinely used in analyses applied to an Austrian context and compares the results obtained with the inflation rate (“headline inflation”).

Overall, three core inflation rates ( $C_{i_1}$ ,  $C_{i_2}$ ,  $C_{i_3}$ ) used for current analyses internationally<sup>28</sup>) are to be calculated for Austria:

- $C_{i_1}$ : Using the zero-weighting technique (certain items are not included and their weights are therefore zero), the HICP is calculated for all items except energy prices and prices of unprocessed food. In the case of Austria, this removes 15.2% from the basket of goods and services, leaving 84.8% for the computation of core inflation.
- $C_{i_2}$  – trimmed-mean method<sup>29</sup>): This method excludes a certain percentage – according to Ceccetti, 15% yields the best results for the U.S.A.; the ECB uses 10% (this percentage was also used for Austria) – of the goods and services with the smallest price rises (or even price declines) and the highest price rises and then calculates a weighted average for the remaining basket items.

- $Ci_3$ : The extreme variant of a trimmed mean 50% is equivalent to the weighted median inflation, which is calculated by the EU Commission (1999). Inflation rates are arranged in ascending order (from the greatest decline to the strongest rise in single commodities). Then the remaining items are weighted and the median (price change) is determined.

The philosophy of methods  $Ci_2$  and  $Ci_3$  is similar to the zero-weighting technique but differs in that those items are excluded that show the “most extreme” price changes. This allows, for example, elimination of the effects

Table 3

	HICP	Core inflation indicators			Deviation of core inflation indicators from HICP		
		$Ci_1$	$Ci_2$	$Ci_3$	HICP- $Ci_1$	HICP- $Ci_2$	HICP- $Ci_3$
<i>Annual change in %</i>							
1988	1.4	2.1	1.4	2.2	-0.68	0.03	-0.71
1989	2.2	2.3	1.7	2.3	-0.09	0.42	-0.10
1990	2.8	2.4	2.7	3.2	0.44	0.10	-0.43
1991	3.1	3.1	2.8	4.0	0.02	0.28	-0.86
1992	3.5	3.8	3.5	3.6	-0.30	-0.02	-0.17
1993	3.2	3.8	2.9	3.4	-0.56	0.28	-0.25
1994	2.7	3.0	2.1	3.1	-0.28	0.63	-0.40
1995	1.6	1.6	1.2	1.7	0.04	0.37	-0.13
1996	1.8	1.5	1.1	2.0	0.30	0.63	-0.20
1997	1.2	0.9	1.1	1.5	0.24	0.08	-0.30
1998	0.8	1.2	1.0	1.3	-0.34	-0.18	-0.47
<i>Ø inflation rate in %</i>							
1988–1998	2.06	2.11	1.83	2.36			
<i>Standard deviation</i>							
1988–1998	0.90	0.99	0.88	0.93	<i>Mean deviation</i>		
					-0.11	0.24	-0.37

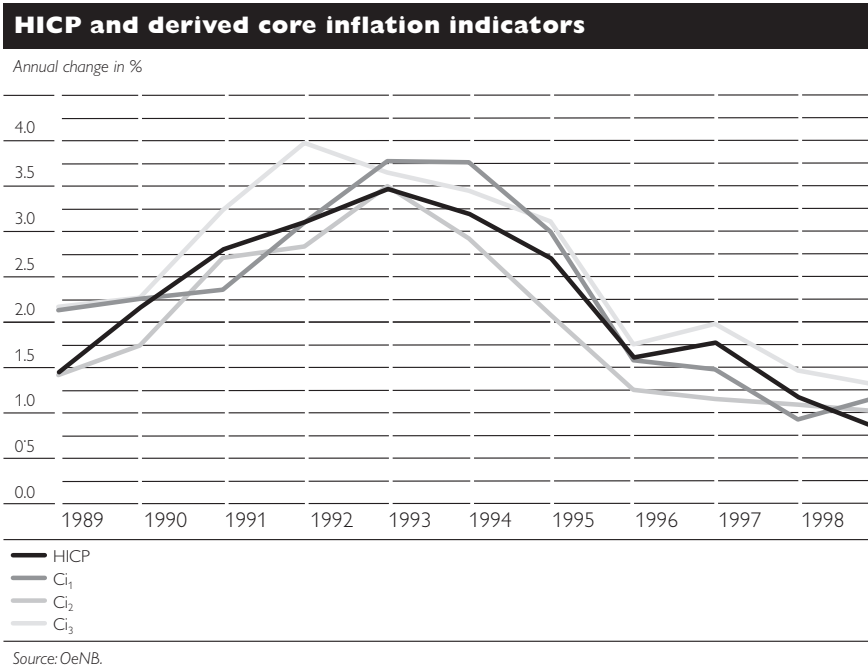
Source: ÖSTAT, OeNB.

$Ci_1$ : HICP excluding unprocessed food and energy.

$Ci_2$ : trimmed mean 10%.

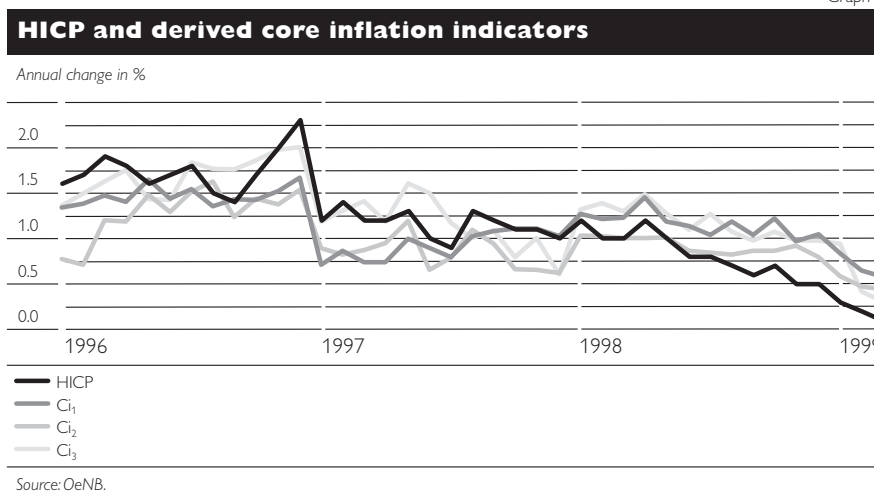
$Ci_3$ : weighted median (trimmed mean 50%).

Graph 1





Graph 2



of upward pressure on prices coming from fiscal measures. The basket of goods used is that underlying the Austrian HICP, classified according to COICOP (at three-digit level).

The results show that in the long run, the core inflation indicators do not deviate significantly from the all-items HICP. Ci<sub>2</sub> (trimmed mean 10%) is slightly lower, Ci<sub>3</sub> (trimmed mean 50%) noticeably higher. Dispersion is similar with all indicators but lowest with Ci<sub>2</sub>.

## 5.2 Wage Policy

Within monetary union, wage policy is a key competitive element. As wage policy is commonly guided by the relevant inflation indicator, this is another area where the HICP will acquire key significance. Collective bargaining will increasingly rely on the HICP as a reference. While national inflation rates may be criticized for being biased, a measure of price change recognized across the entire euro area would be immune to dispute.

## 5.3 Other Areas

Similar considerations apply to the public sector, which is likely to use the HICP as guidance in adjusting rates and charges. In the financial markets it is already being regarded as the principal measure of euro inflation.

The HICP will also gain increasing importance as a deflator (as well as an inflator) within the system of national accounts, particularly in consumption-based GDP calculation. Under the Pact for Stability and Growth, the determination of real growth rates is of special political concern and must therefore be done on a comparable basis.

The harmonized price index will also gain growing acceptance as a reference for indexing purposes and in international agreements.

## 5.4 The HICP and Other Inflation Indicators in Austria

The price indices used in Austria in assessing price movements diverge considerably in design. They are, in general, consistent and informative measures of price changes. While the wholesale price index (WPI), the CPI,

and the GDP and consumption deflators have a long tradition as tools in economic analysis, the HICP is a relatively new instrument. As backdata are, however, available for earlier years, comparisons against the other indicators mentioned can be made – albeit to a limited extent – over the past 10 years. Even though the said indexes follow different formulas (the GDP and consumption deflators are Paasche price indices) and differ also in terms of coverage, they show only slight divergence in the long run. Graph 3 shows

Graph 3

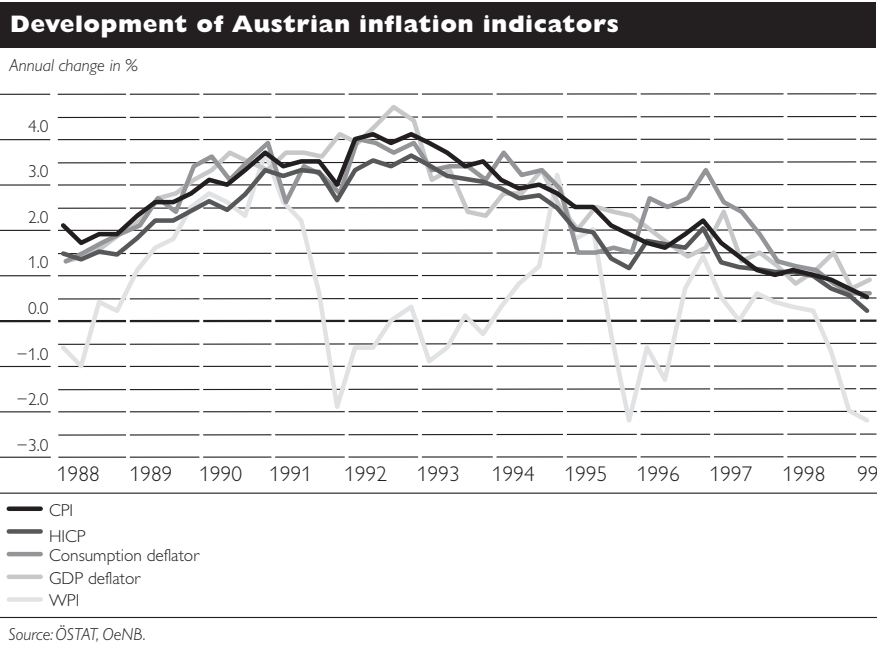


Table 4

**The HICP and Other Inflation Indicators in Austria**

	HICP	CPI	Consumption deflator	GDP deflator	WPI	Deviation of inflation indicators from HICP			
						HICP-CPI	HICP-consumption deflator	HICP-GDP-deflator	HICP-WPI
Annual change in %									
1988	1.4	1.9	1.6	1.6	-0.2	-0.46	-0.16	-0.16	1.64
1989	2.2	2.6	2.7	2.7	1.8	-0.44	-0.54	-0.54	0.36
1990	2.8	3.3	3.5	3.5	2.9	-0.51	-0.71	-0.71	-0.11
1991	3.1	3.3	3.0	3.7	0.9	-0.20	0.10	-0.60	2.20
1992	3.5	4.0	3.9	4.3	-0.2	-0.54	-0.44	-0.84	3.66
1993	3.2	3.6	3.3	2.8	-0.4	-0.41	-0.11	0.39	3.59
1994	2.7	3.0	3.3	2.9	1.3	-0.30	-0.60	-0.20	1.40
1995	1.6	2.2	1.5	2.3	0.3	-0.59	0.11	-0.69	1.31
1996	1.8	1.9	2.8	1.7	0.0	-0.13	-1.03	0.07	1.77
1997	1.2	1.3	2.1	1.6	0.4	-0.14	-0.94	-0.44	0.76
1998	0.8	0.9	0.9	1.0	-0.5	-0.08	-0.08	-0.18	1.32
Ø Inflation rate in %									
1988-1998	2.06	2.36	2.44	2.40	0.58				
1988-1992	2.29	2.62	2.60	2.83	1.05				
1993-1998	2.02	2.34	2.64	2.38	0.38				
Standard deviation									
1988-1998	0.90	0.99	0.95	1.02	1.06	-0.35	-0.40	-0.35	1.63
1988-1992	0.80	0.80	0.88	1.04	1.34	-0.43	-0.35	-0.57	1.55
1993-1998	0.91	1.02	0.99	0.74	0.66	-0.28	-0.44	-0.18	1.69
Mean deviation									
1988-1998						-0.35	-0.40	-0.35	1.63
1988-1992						-0.43	-0.35	-0.57	1.55
1993-1998						-0.28	-0.44	-0.18	1.69

Source: ÖSTAT, OeNB.

quite clearly that the HICP (for conceptual reasons) was below the CPI over almost the entire period, but since 1997 has been almost identical (following adjustments of contents and methods). The GDP deflator (including foreign trade and capital goods prices) is subject to more substantial fluctuations (greatest standard deviation). The WPI is different in that it fluctuates much more dramatically even though its trend, overall, is similar. This is explained by the fact that the WPI is heavily influenced by changes in the prices of raw materials and other intermediaries (which together account for 40% of the index and thus are almost equal in weight to consumer goods), which are highly sensitive to cyclical effects. The index is thus more susceptible to external influences than the other inflation indicators. Beyond that, its expenditure basket does not include any services and therefore reflects the least inflationary rise during the observation period but the greatest dispersion.

## **6 Measurement Problems Still Unresolved at the Present State of Harmonization**

Before going into any detail, it must be pointed out that measurement of inflation by means of the HICP and the traditional CPI has already reached a very good and, compared with other (price) indicators, even an excellent standard. Nevertheless there are still a number of gaps in price statistics that have yet to be closed. These are, from the Austrian perspective, primarily the producer price index, which is not expected to be implemented in Austria before 2001, and a foreign trade price index.

Apart from issues concerning index design and survey methods (size of sample, price definition, rebates), there is still controversy regarding the problem of quality adjustments, for which minimum standards were defined in connection with the HICP and in respect of which EUROSTAT is currently developing further harmonization guidelines.<sup>30)</sup> Countries such as Germany and Austria employ (utility-based) methods which have provided useful input for harmonization at the European level.<sup>31)</sup>

In any case, consistent rules and methods are needed to enable dynamic and flexible adaptation of indices to quickly changing products, markets and consumer habits. Hedonic techniques<sup>32)</sup> have been suggested for this purpose but have proved to be of only limited usefulness in practical index compilation. Therefore, it will surely be useful and indispensable even in the future to discuss the relevance of each item to inflation measurement in expert committees prior to making any qualitative changes.<sup>33)</sup> This applies specifically to the utility approach being championed at the European level, whereby it is assumed that, in determining quality changes, the consumers' subjective assessments of changes in utility are to be taken into account above and beyond objective criteria (which are often difficult enough to measure). The difficulty here is again how to measure utility. Even if, in the future, quality changes relevant or irrelevant to inflation can be defined only in terms of utility to the consumer and this approach is supported by statistical procedures including hedonic methods, inflation measurement should nevertheless continue to rely on clearly defined units (price representatives, reporting bodies) and observable characteristics (market price) as this makes

the information provided by an index easier to understand, more transparent and economically interpretable.

Research into biases in the measurement of inflation rates is important from a monetary policy perspective as it provides some guidance with regard to price movements that cannot practically be controlled. On the other hand, such research is meaningful on a pan-European basis only if it covers basically similar methods and commodities. The best approach would therefore be to undertake such research as a concerted European effort. This would produce not only information about biases that may exist at the national level but, beyond that, provide the ECB with an “adjusted” inflation rate determined on a uniform basis, which would allow conclusions to be drawn regarding EMU-wide bias in estimating inflation. In this context, shortcomings at the product level should be investigated as well as weaknesses at the price survey stage.

## 7 Summary and Outlook

Different concepts in index design may result in substantial divergence in the rates of inflation measured. With the HICP, an inflation indicator is now available that meets important fundamental requirements for inflation measurement, including conceptual harmonization and timely availability. Nevertheless, a number of questions still remain unresolved. The basket of goods and services will not be completed until January 2000 (a few services will be integrated even later). Particularly difficult aspects of the underlying methodology – such as the measurement of quality changes and special services in the housing sector – also require further discussion and decisions. Ongoing changes in the quality of products and services call for permanent adjustments to new methods of price measurement. Harmonization is also needed in respect of the core inflation indicators, which are important in monetary policy but, for the time being, are used only to a limited extent because of insufficient consistency. Research into the bias in inflation measurement on a common basis might finally help in determining the “true” rate of inflation.

## Bibliography

- Boskin, J. M., Dulberger, E. R., Gordon, R. J., Griliches, Z. and Jorgenson, D. W., 1997.** The CPI Commission: Findings and Recommendations. The American Economic Review, May.
- Brachinger, W., Schips, B. and Stier, W., 1999.** Expertise zur Relevanz des Boskin-Reports für den schweizerischen Landesindex für Konsumentenpreise. Bundesamt für Statistik.
- Bryan, M. F. and Ceccetti, S., 1994.** Measuring Core Inflation. In: N.G. Mankiw, Monetary Policy, Chicago.
- EU Commission, 1998.** Report from the Commission to the Council on Harmonization of Consumer Price Indices in the European Union.
- EU Commission, 1999.** Inflation watch, March.
- EUROSTAT.** Various documents drawn up by the working group on “Harmonization of Consumer Price Indices.”

- EMI, 1995.** The Role of Underlying inflation in the Framework for Monetary Policy in EU Countries, October.
- ECB, 1999.** The Role of Short-Term Economic Indicators in the Analysis of Price Developments in the Euro Area. Monthly Bulletin April.
- ECB, 1998.** Annual Report.
- Fluch, M., 1998.** Der Boskin-Report im Lichte der Messung der österreichischen Inflationsrate. In: Finanznachrichten, Issue 12.
- Gartner, C. and Wehinger, G., 1998.** Einflussfaktoren der Inflation – Kerninflation in ausgewählten europäischen Ländern. In: Berichte und Studien der OeNB, Issue 3.
- Hackenberg-Vögel, I., 1999.** Der Harmonisierte Verbraucherpreisindex als neuer Indikator für die Geldpolitik des Europäischen Systems der Zentralbanken in der 3. Stufe der Wirtschafts- und Währungsunion. Vienna University of Economics, February.
- Haschka, P., 1998 a.** Gewichts-Aktualisierung im HVPI: Kettenindex oder Revision? In: Statistische Nachrichten, Issue 6.
- Haschka, P., 1998 b.** HVPI: Rückrechnung 1987 bis 1995. In: Statistische Nachrichten, Issue 9.
- Hoffmann, J., 1998.** Probleme der Inflationsmessung in Deutschland. Discussion Paper 1, Volkswirtschaftliche Forschungsgruppe der Deutschen Bundesbank.
- Von der Lippe, P., 1998 a.** Kritik internationaler Empfehlungen zur Indexformel für Preisindizes in der amtlichen Statistik. In: Jahrbücher für Nationalökonomie und Statistik, Volume 218, Issue 3–4.
- Von der Lippe, P., 1998 b.** Ziele und Möglichkeiten von Qualitätsanpassungen. Essen University, mimeo.
- OECD, 1997.** Shortcomings of the Consumer Price Index Measure of Inflation for Economic Policy Purposes. In: Discussion paper for the Economic Policy Committee, October.
- OECD.** Main Economic Indicators, current issues.
- OeNB, 1998.** Gesamtwirtschaftliche Prognose für Österreich 1998 bis 2000. In: Berichte und Studien der OeNB, Issue 4.
- ÖSTAT, 1998.** Indextage '98. Working Meeting on the Consumer Price Index, September.
- ÖSTAT, 1999.** EU-Verordnungen zum HVPI, as of March.
- Peach, R. W. and Alvarez, K., 1996.** Core CPI: Excluding food, energy... and used cars? Current issues in Economics and Finance. Federal Reserve Bank of New York, April.
- Stadlbauer, J., 1976.** Consumer Price Indices in the European Community, Comparison of Existing Indices and their Approaches to Harmonisation. EUROSTAT. Luxembourg.
- Szenzenstein, J., 1998.** Price Indices in Official German Statistics. TES-Course, Düsseldorf, May.
- Teeskens, R., 1989.** Verbraucherpreisindizes in der Europäischen Gemeinschaft, Ähnlichkeiten, Unterschiede und die Notwendigkeit einer Harmonisierung. Published by EUROSTAT.
- Wehinger, G., 1998.** Stellungnahme zur Arbeit von J. Hoffmann. In: Report on working meeting "Indextage 1998".

- 1 Detailed listings of studies dealing with an estimation of the “error” in measuring inflation are given in Hoffmann (1998) and Wehinger (1998).
- 2 The report entitled “Toward a More Accurate Measure of The Cost of Living” was presented to the Senate Finance Committee by a scientific commission headed by M.J. Boskin and dealt with the bias in the CPI used in the U.S.A. In May 1997, a shortened version of the study was published in “The American Economic Review.” Based on this report, the OECD (1997) resolved to conduct a “survey” on the accuracy of inflation measurement, potential biases inherent in the system, and the consequences for the economic policies of the individual countries. The bias was generally considered to be small but comprehensive empirical studies were available only from the U.S.A., the United Kingdom, Canada, and France. There was agreement that of all conceivable biases, quality changes had the most significant impact on inflation estimates.
- 3 A study by the Deutsche Bundesbank (Hoffmann, 1998) concluded that the German CPI overstated price inflation by about  $3/4$  percentage point, again due to a quality change bias. An analogous study for Switzerland (Brachinger et al., 1999) came up with a bias of 0.6 percentage point.
- 4 EUROSTAT highlighted the impossibility of applying the findings to a European environment in a statement to the OECD issued in the course of project work for the Harmonized Index of Consumer Prices (HICP). So did the ECB (1999), if in a more moderate manner.
- 5 The key difference between the two concepts: With the cost of living index (COLI), both index components (price  $p$  and quantity  $q$ ) change in the periods being compared. This is therefore a comparison of expenditures during different periods which, however, cannot identify whether an index change was caused by a change in prices and/or a change in consumption. The pure price index (also called “direct index” in the literature) keeps the quantity  $q$  constant and monitors only changes in price  $p$ . It is therefore not only more transparent and easier to interpret but also more easily applicable in practice (for the COLI one would have to gather data not only on price changes but also on changes in consumption by month, which would require tremendous resources). For a detailed discussion of the construction of different index types, their advantages and disadvantages see Hoffmann (1998) and von der Lippe (1998 a).
- 6 In Austria, work has already been published on isolated aspects of the HICP (see especially Haschka, 1998 a and 1998 b). The present study seeks to present a complete picture of this indicator.
- 7 These include geographic and population coverage, newly significant goods and services, quality adjustments, weight adjustments, price surveys, price indices for elementary aggregates, sampling, and reference periods. This was followed by fine-tuning of the minimum standards and amendment of existing as well as issuance of new regulations as required.
- 8 See Stadlbauer (1976) and Teeskens (1989).
- 9 See Council Regulation No 2494/95 of 23 October 1995.
- 10 As mentioned above, the HICP is based on an extensive legal framework. In Austria, there had been no legal basis in the past for calculation of the CPI. In addition to the binding EU regulations, work on a national CPI regulation is currently in progress.
- 11 See also Section 5.
- 12 The basis for the current year are national accounts data (consumer expenditure figures) of the last year but one at the previous year’s prices (1999 weights are thus based on 1997 consumer expenditure stated at 1998 prices).
- 13 Luxembourg now computes only the HICP while all other EU countries are continuing both the CPI and the HICP.
- 14 The items currently still excluded because of the difficulty of a comparative assessment will be covered from the year 2000 (a few services even at a later date). An EU regulation with harmonization guidelines has already been prepared and is expected to become effective in the near future.
- 15 For details see Haschka (1998 a).
- 16 This concept had met with some criticism from a monetary policy perspective as it included, for example, an item like “overnight stays abroad” which – though important from an Austrian standpoint – was subject to great price volatility and at the same time insensitive to domestic monetary policy.
- 17 COICOP: Classification of individual consumption by purpose.
- 18 In the past, revisions were carried out only every ten years, which exposed the Laspeyres concept to substantial criticism.
- 19 Calculations (Haschka, 1998 a) show that – given the commodities-specific inflation rates of the year 1997 and assuming a weight shift by 10% – practically no single item or group of items would have reached the threshold of one tenth of a percentage point impact. Ongoing monitoring of weighting is to be done on the basis of national accounts data, which in view of the revisions carried out is not entirely unproblematic.

- 20 See Haschka (1998 b) and, regarding the problems associated with chain indices, von der Lippe (1998 a). With a chain index, periods 0 and 1 are not compared directly, but indirectly, by applying a factor (multiplication) linking different series of observations. The formula used is:

$$\frac{\sum p_1 q_0}{\sum p_0 q_0} \frac{\sum p_2 q_1}{\sum p_1 q_1} \dots \frac{\sum p_t q_{t-1}}{\sum p_{t-1} q_{t-1}},$$

where  $p$  is the price and  $q$  is the quantity (weight) of commodities in different reporting periods. This index therefore has not just one market basket but  $t$  different baskets and requires one linking month. For the HICP, December has been specified as the linking month.

- 21 See Haschka (1998 b).
- 22 Every spring and autumn, OeNB issues macroeconomic forecasts for Austria covering the next two years (see OeNB, 1998). For internal purposes, HICP inflation forecasts are prepared quarterly for a maximum period of 24 months, with monthly adjustments inbetween.
- 23 Similar because, with a Paasche index, weightings would have to change in each period and current settings would not be backdated over ten years.
- 24 A discussion of this problem with reference to the Austrian situation is found in Fluch (1998). Unlike a number of other European countries, Austria still does not have any empirical study on inflation bias. According to conservative estimates based on ÖSTAT data, it is assumed to lie between 0.1 and 0.3 percentage point p.a.
- 25 As EUROSTAT publishes the HICP for all EU countries simultaneously and, currently, with some time lag after the publication of national CPIs (and the national HICPs published by the countries themselves), media interest still focuses primarily on national CPIs. Over the medium term it is planned, however, to not only harmonize publication dates across the EU – as has already been done – but to also make the harmonized index available at an earlier date. It is expected that both CPI and HICP inflation rates will be issued simultaneously for the entire EU area two or three weeks after the respective month.
- 26 The initial impulse seems to have come from the U.S.A., where the “underlying inflation rate” is a traditional key indicator of inflation, recognized by economic and financial policymakers. Until recently, this price parameter was based on the same classification that is used by the OECD in its monthly Main Economic Indicators Reports and inflation analyses. Since 1995, the U.S.A. has excluded, apart from food and energy, the price development of used cars (see Peach and Alvarez, 1996).
- 27 See Gartner and Wehinger (1998) and EMI (1995). In calculating these indicators one differentiates basically between pure filter techniques and structural (both simple and more complex) procedures.
- 28 See, for example, OECD (Main Economic Indicators, current expenditure).
- 29 Regarding the theoretical background of this method, see Bryan and Ceccetti (1994). One of the findings based on U.S. data was that the weighted average is a better indicator for inflation forecasts than conventional core inflation indicators (excluding energy and food).
- 30 As uniform EU regulations appear impractical given the complexity of quality adjustments, rules are to be issued in the form of guidelines. This approach will leave Member States some freedom in implementation which of course should not be excessive in order to maintain comparability.
- 31 Also see ÖSTAT (1998) for Austria and Szenzenstein (1998) for Germany. Extensive documentation on additional countries is included in the proceedings of “Indextage im September 1998” published by ÖSTAT (1998). Von der Lippe (1998 b) also discussed potential theoretical approaches to this problem, which has proved the most difficult in index construction.
- 32 Hedonic regression analysis is a useful technique in solving the quality problem. Using multiple regression, quality changes in complex goods are accounted for by determining implicit prices for single quality characteristics of a product. Practice (Szenzenstein, 1998) shows, however, that the problem of gathering data, the costs incurred and the need for up-to-date information frequently render use of this tool impractical.
- 33 As this is done successfully in Austria by the “Central Advisory Committee for the CPI” (set up at ÖSTAT).

Annex

**Sub-index Weights of the HICP as Part per 1000 (Annual 1999) in the EU Countries**

COICOP- Index position No.	EU 15	EU 11	BE	DK	DE	GR	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
<b>0 HICP (all-items index)</b>	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>1 Food and non-alcoholic beverages</b>	178.1	181.1	204.3	172.7	152.5	224.6	275.4	182.9	216.3	181.6	158.1	166.8	144.0	248.4	189.4	176.5	141.0
1.1 Food	162.5	164.8	184.4	153.6	131.3	214.8	262.3	168.8	199.7	169.9	144.4	151.1	130.0	240.0	169.7	160.3	127.0
1.1.1 Bread and cereals	28.2	28.9	35.7	20.7	25.9	29.3	36.3	26.5	39.9	31.0	25.0	28.5	23.0	40.3	33.6	27.5	23.0
1.1.2 Meat	44.2	46.5	58.6	44.5	34.5	53.9	75.4	54.7	53.7	45.9	46.8	35.7	38.4	63.7	35.7	34.2	28.0
1.1.3 Fish	12.2	12.5	13.2	5.1	6.5	17.3	35.2	13.7	5.2	12.4	8.6	4.0	3.1	47.7	6.3	10.3	6.0
1.1.4 Milk, cheese and eggs	24.0	24.6	24.4	26.1	19.4	35.2	35.6	26.2	30.2	25.6	20.2	25.7	21.8	30.5	33.9	27.5	17.0
1.1.5 Oils and fats	6.6	6.7	5.6	5.2	4.2	13.2	17.6	5.1	8.0	8.4	6.2	4.4	5.7	13.2	5.7	5.4	3.0
1.1.6 Fruit	12.8	13.1	12.9	8.7	11.1	18.6	26.4	11.0	10.3	12.9	11.3	12.5	9.9	20.9	11.4	11.8	9.0
1.1.7 Vegetables including potatoes and other tubers	18.4	17.6	17.0	15.5	13.8	25.7	24.8	17.5	27.2	21.0	12.4	20.5	12.1	15.0	18.7	19.5	20.0
1.1.8 Sugar, jam, honey, syrups, chocolate and confectionery	12.0	11.2	13.2	19.2	11.1	14.6	8.1	11.2	15.3	12.3	9.7	10.6	11.6	6.8	18.9	20.6	14.0
1.1.9 Food products n.e.c.	4.2	3.6	3.8	8.8	4.9	6.9	2.9	2.9	10.2	0.5	4.2	9.2	4.5	1.9	5.5	3.4	7.0
1.2 Non-alcoholic beverages	15.6	16.3	19.9	19.2	21.1	9.9	13.1	14.1	16.6	11.8	13.7	15.7	14.0	8.4	19.7	16.2	14.0
1.2.1 Coffee, tea and cocoa	5.6	6.1	5.1	6.2	8.0	3.9	6.5	5.7	5.8	3.1	5.1	6.4	6.0	3.3	7.3	6.2	4.0
1.2.2 Mineral waters, soft drinks and juices	10.0	10.2	14.8	13.0	13.1	6.0	6.6	8.4	10.8	8.7	8.6	9.3	8.0	5.1	12.4	10.0	10.0
<b>2 Alcoholic beverages and tobacco</b>	45.8	42.9	37.8	59.7	50.0	40.8	31.8	43.0	89.7	29.8	46.8	52.1	39.6	36.0	78.4	50.7	63.0
2.1 Alcoholic beverages	21.0	19.9	23.8	29.7	24.9	6.6	11.5	21.0	31.3	9.3	29.1	23.4	19.7	13.5	49.7	31.7	30.0
2.1.1 Spirits	4.5	3.9	3.4	3.1	3.2	2.7	2.1	6.2	12.3	1.7	5.0	7.4	3.5	1.4	16.2	9.7	8.0
2.1.2 Wine	9.2	8.5	13.8	10.1	7.4	1.8	6.2	12.2	9.1	6.2	13.9	7.2	8.3	9.7	11.5	12.5	14.0
2.1.3 Beer	7.3	7.5	6.6	16.4	14.3	2.2	3.2	2.6	9.9	1.5	10.2	8.8	8.0	2.3	22.0	9.5	8.0
2.2 Tobacco	24.9	23.1	14.1	30.1	25.1	34.2	20.3	22.0	58.4	20.5	17.7	28.7	19.8	22.5	28.7	19.0	33.0
<b>3 Clothing and footwear</b>	83.8	84.6	87.2	56.3	79.8	128.9	114.4	64.4	63.0	107.4	91.9	76.1	81.5	79.6	55.9	74.2	68.0
3.1 Clothing	67.5	68.1	71.7	48.0	66.7	100.6	92.3	49.9	48.2	83.4	74.3	62.1	69.5	59.3	45.4	61.6	56.0
3.1.1 Clothing materials	0.7	0.8	1.1	0.7	0.5	1.4	3.3	0.2	0.5	0.1	0.3	1.3	1.5	0.6	2.7	1.4	..
3.1.2 Garments	62.1	62.7	66.5	43.5	63.1	90.6	84.2	43.9	44.1	76.9	70.5	57.3	61.9	55.4	40.0	56.2	51.0
3.1.3 Other articles of clothing and clothing accessories	2.9	2.6	2.6	2.3	2.1	5.7	3.6	3.7	0.7	2.1	0.9	2.5	3.4	2.4	2.0	3.5	4.0
3.1.4 Dry-cleaning, repair and hire of clothing	1.8	2.0	1.5	1.5	1.1	2.8	1.2	2.1	2.9	4.2	2.6	1.0	2.7	0.8	0.7	0.4	1.0
3.2 Footwear, including repairs	16.3	16.5	15.6	8.3	13.1	28.4	22.1	14.5	14.7	24.0	17.6	14.0	12.0	20.3	10.5	12.6	12.0
<b>4 Housing, water, electricity, gas and other fuels</b>	155.1	162.9	157.1	200.6	215.6	129.4	112.0	153.5	75.8	105.8	139.9	198.3	140.9	108.9	169.7	206.0	133.0
4.1 Actual rentals for housing	63.0	66.2	60.3	93.6	94.2	45.2	14.5	72.0	21.4	30.9	64.5	111.6	60.1	19.3	56.8	124.7	57.0
4.3 Regular maintenance and repair of the dwelling	20.3	20.0	19.2	23.5	17.4	24.7	40.5	17.8	0.5	17.7	21.6	21.0	20.9	26.9	15.7	0.4	20.0
4.3.1 Products for the regular maintenance and repair of the dwelling	9.2	9.2	13.8	12.1	9.7	9.4	27.3	3.0	0.5	4.2	13.7	14.5	10.4	10.5	6.9	0.4	8.0
4.3.2 Services for the regular maintenance and repair of the dwelling	11.1	10.9	5.4	11.4	7.7	15.3	13.3	14.8	..	13.6	7.9	6.5	10.5	16.5	8.8	..	12.0
4.4 Other services relating to the dwelling	23.4	26.1	11.5	14.8	42.4	19.1	24.9	17.6	0.8	17.2	11.3	11.1	10.9	16.2	40.8	13.0	16.0
4.5 Electricity, gas and other fuels	48.4	50.6	66.2	68.8	61.6	40.3	32.0	46.1	53.2	40.1	42.5	54.6	49.0	46.5	56.5	67.8	40.0
4.5.1 Electricity	23.8	24.5	43.5	28.3	28.2	23.2	20.1	25.9	22.9	14.3	22.2	20.4	23.2	33.5	32.8	45.1	20.0
4.5.2 Gas	13.6	13.6	10.7	7.5	12.5	2.2	7.7	11.5	4.9	18.4	10.8	34.2	6.9	10.5	0.2	0.5	17.0
4.5.3 Liquid fuels	5.2	5.8	10.6	14.3	6.0	11.1	4.2	5.8	6.8	7.4	9.0	..	5.5	0.0	5.5	5.8	1.0
4.5.4 Solid fuels	1.4	1.4	1.4	0.0	1.8	3.7	0.0	1.0	18.6	..	..	..	8.0	2.4	1.3	..	2.0
4.5.5 Hot water, steam and ice	4.3	5.3	0.0	18.7	13.0	0.0	0.0	1.9	..	..	..	..	5.3	0.0	16.7	16.4	..

Source: EUROSTAT, Cronos Data bank.



HARMONIZED INDICES OF CONSUMER PRICES –  
PROGRESS AND UNRESOLVED PROBLEMS  
IN MEASURING INFLATION

**Sub-index Weights of the HICP as Part per 1 000 (Annual 1999) in the EU Countries – cont.**

COICOP- Index position No.	EU 15	EU 11	BE	DK	DE	GR	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
<b>5</b>																	
<b>Furnishings, household equipment and routine maintenance of the house</b>	85.6	84.4	91.6	65.7	81.8	90.5	64.7	73.2	55.9	107.0	130.2	98.4	97.3	86.9	56.9	64.1	92.0
5.1 Furniture, furnishings and decorations, carpets and other floor coverings and repairs	35.3	35.0	30.2	23.6	44.2	16.7	16.9	21.0	10.4	42.5	56.6	42.1	43.3	33.7	19.8	29.7	42.0
5.1.1 Furniture and furnishings	30.3	30.7	27.6	19.5	38.0	14.6	15.2	19.1	7.2	39.2	52.9	31.4	40.0	28.7	16.8	26.7	32.0
5.1.2 Carpets and other floor coverings	4.3	3.3	2.5	3.3	6.1	2.1	0.4	0.8	3.3	1.1	3.7	9.8	3.3	3.4	1.6	3.0	10.0
5.1.3 Repair of furniture, furnishings and floor coverings	0.8	0.9	0.0	0.9	0.1	0.0	1.4	1.1	..	2.2	..	0.9	..	1.6	1.5	..	..
5.2 Household textiles	7.0	6.7	8.5	6.6	5.7	15.6	5.6	7.7	4.5	5.9	10.2	11.6	10.1	9.4	5.8	6.4	7.0
5.3 Heating and cooking appliances, refrigerators, washing machines and similar major household appliances, including fittings and repairs	12.8	12.7	17.1	11.8	11.9	10.6	10.8	12.6	9.2	13.8	15.8	10.4	19.5	14.1	11.3	9.1	14.0
5.3.1/2 Major household appliances whether electric or not and small electric household appliances	11.4	11.5	14.4	9.9	11.6	9.4	9.4	11.6	8.7	11.7	15.4	9.8	17.1	10.6	9.9	8.2	12.0
5.3.3 Repair of household appliances	1.4	1.2	2.7	1.9	0.3	1.2	1.5	1.0	0.5	2.2	0.4	0.6	2.4	3.5	1.4	0.9	2.0
5.4 Glassware, tableware and household utensils	6.1	5.8	5.4	6.7	4.2	9.3	3.9	6.8	4.6	8.9	4.3	5.8	6.5	4.3	3.4	5.0	7.0
5.5 Tools and equipment for house and garden	5.2	4.9	6.0	3.9	7.2	2.0	2.0	3.5	5.5	4.0	7.2	5.2	3.9	1.1	3.9	4.4	8.0
5.6 Goods and services for routine household maintenance	19.2	19.4	24.5	13.0	8.7	36.4	25.4	21.6	21.6	31.8	36.1	23.4	14.1	24.3	12.7	9.5	14.0
5.6.1 Non-durable household goods	11.0	10.9	13.6	8.9	7.4	25.3	16.0	9.3	14.5	15.9	16.5	10.5	10.0	12.5	10.4	9.5	8.0
5.6.2 Domestic services and home care services	8.2	8.5	10.9	4.1	1.3	11.1	9.4	12.3	7.1	16.0	19.6	12.9	4.0	11.8	2.3	..	6.0
<b>6</b>	8.3	8.2	8.7	7.3	3.7	8.7	8.4	5.9	6.9	19.8	3.5	6.7	4.0	3.4	16.1	3.8	7.0
<b>Health:</b> Medical and pharmaceutical products and therapeutic appliances and equipment – paid by the consumer and not reimbursed																	

Source: EUROSTAT, Cronos Data bank.

HARMONIZED INDICES OF CONSUMER PRICES –  
PROGRESS AND UNRESOLVED PROBLEMS  
IN MEASURING INFLATION

**Sub-index Weights of the HICP as Part per 1000 (Annual 1999) in the EU Countries – cont.**

COICOP- Index position No.		EU 15	EU 11	BE	DK	DE	GR	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
<b>7</b>	<b>Transport</b>	160.1	159.6	137.2	179.1	155.9	115.7	145.6	180.7	124.3	157.2	165.1	137.8	145.0	228.5	163.1	176.5	167.0
7.1	Purchase of vehicles	53.7	50.6	58.9	64.7	49.0	35.9	57.5	47.1	45.6	46.7	84.5	49.4	50.0	109.0	55.5	49.4	68.0
7.1.1	New and second-hand motor cars	49.4	45.8	54.5	59.4	42.9	34.3	54.0	43.2	43.8	42.9	82.3	42.4	44.6	105.3	53.2	47.7	65.0
7.1.2/3	Motor cycles and bicycles	4.3	4.8	4.3	5.3	6.1	1.6	3.5	3.9	1.8	3.8	2.2	7.0	5.4	3.8	2.3	1.8	3.0
7.2	Operation of personal transport equipment	84.3	86.7	68.2	82.0	83.1	61.6	72.1	107.1	60.5	88.5	66.6	66.8	80.5	103.9	73.2	93.9	78.0
7.2.1	Spares parts and accessories	9.9	10.3	5.4	11.4	4.0	11.5	4.5	31.9	5.7	4.2	7.3	5.1	4.6	11.0	10.6	19.2	9.0
7.2.2	Fuels and lubricants	38.3	37.5	40.6	29.8	37.0	32.8	44.5	40.8	45.4	29.7	24.2	34.0	35.9	45.9	51.0	45.1	43.0
7.2.3	Maintenance and repairs	25.9	27.2	19.7	37.3	25.6	11.3	17.5	24.1	7.6	41.3	30.7	22.1	32.5	43.1	10.2	24.0	19.0
7.2.4	Other services in respect of personal transport equipment	10.4	11.7	2.6	3.4	16.6	6.0	5.6	10.3	1.8	13.3	4.4	5.7	7.6	3.9	1.4	5.6	7.0
7.3	Transport services	22.0	22.3	10.2	32.4	23.8	18.2	16.0	26.5	18.2	21.9	14.0	21.6	14.5	15.6	34.4	33.1	21.0
7.3.1	Passenger transport by railway	5.0	5.1	4.1	3.1	6.7	0.2	2.1	5.8	2.1	3.6	2.2	6.5	3.4	1.1	4.8	4.2	6.0
7.3.2	Passenger transport by road	5.4	4.2	2.5	9.8	1.1	7.4	12.3	5.7	11.9	3.3	2.6	1.8	6.3	4.0	18.8	3.3	10.0
7.3.3	Passenger transport by air	4.0	3.9	2.3	5.4	1.6	2.8	1.4	6.8	1.9	6.4	1.6	6.1	..	1.7	5.1	8.0	4.0
7.3.4	Passenger transport by sea and inland waterway	1.1	1.0	0.0	3.5	1.4	2.1	0.2	0.7	0.2	1.3	..	0.8	..	0.0	5.1	3.8	1.0
7.3.5	Other purchased transport services	0.7	0.9	0.0	1.8	1.0	0.8	0.0	0.8	0.3	1.6	0.5	0.4	0.1	1.2	0.1	0.4	..
7.3.6	Combined tickets	5.9	7.3	1.3	8.8	12.0	4.9	0.0	6.7	1.8	5.6	7.1	6.1	4.7	7.6	0.5	13.5	..
<b>8</b>	<b>Communications</b>	23.9	23.7	23.7	21.3	24.8	32.1	15.8	22.8	19.2	26.7	16.1	24.3	21.5	24.2	25.3	37.8	23.0
8.1	Communications	23.9	23.7	23.7	21.3	24.8	32.1	15.8	22.8	19.2	26.7	16.1	24.3	21.5	24.2	25.3	37.8	23.0
8.1.1	Postal services	2.4	2.7	1.2	1.9	4.3	0.4	0.4	2.6	1.5	2.0	1.5	1.7	2.0	0.1	2.3	5.3	2.0
8.1.2/3	Telephone and telefax equipment and services	21.5	21.0	22.5	19.5	20.6	31.8	15.5	20.2	17.8	24.7	14.6	22.6	19.6	24.1	23.0	32.6	21.0
<b>9</b>	<b>Recreation and culture</b>	104.1	101.8	122.4	98.2	121.2	51.3	69.3	97.1	122.5	75.7	114.4	134.7	111.4	41.5	121.8	116.0	133.0
9.1	Equipment and accessories, including repairs	39.0	39.5	43.5	43.2	45.2	14.9	24.1	42.4	29.3	29.3	54.1	53.4	45.7	18.9	46.4	54.1	43.0
9.1.1	Equipment for the reception, recording and reproduction of sound and pictures	6.5	7.0	6.8	9.3	7.8	1.0	6.4	8.5	8.2	4.3	7.7	7.3	7.9	4.9	5.8	7.6	5.0
9.1.2	Photographic and cinematographic equipment and optical instruments	1.8	1.4	1.2	0.5	2.0	2.2	0.9	1.4	0.5	0.5	2.4	1.9	1.5	0.5	1.5	1.9	4.0
9.1.3	Data processing equipment	3.2	3.5	4.9	2.3	6.0	0.4	1.2	2.7	0.4	1.4	5.3	2.5	1.7	1.9	3.9	3.2	3.0
9.1.4	Other major durables for recreation and culture	1.8	2.0	2.7	2.5	1.1	0.2	0.0	1.2	1.6	5.0	5.5	3.2	2.0	0.2	5.1	6.7	..
9.1.5	Games, toys and hobbies, equipment for sport, camping and open-air recreation	8.8	8.8	6.5	9.9	9.9	5.1	5.8	10.4	5.6	7.1	8.3	10.0	10.5	1.5	10.0	10.6	10.0
9.1.6	Recording media for pictures and sound	4.3	4.4	6.0	4.9	3.5	1.7	5.3	6.9	3.1	2.5	3.7	6.5	4.1	3.8	3.8	7.4	4.0
9.1.7	Gardening	7.0	7.4	8.1	7.3	9.9	2.8	1.2	6.0	6.2	5.9	9.3	13.0	10.1	1.8	9.3	11.2	6.0
9.1.8	Pets	4.4	3.7	6.0	5.2	4.0	0.8	1.0	3.7	3.8	2.5	9.5	7.1	5.9	2.0	6.2	2.2	9.0
9.1.9	Repair of equipment and accessories for recreation and culture	1.4	1.2	1.3	1.5	1.0	0.8	2.5	1.6	..	0.3	2.4	2.1	2.0	2.4	0.7	3.4	2.0
9.2	Recreational and cultural services	27.9	27.0	27.7	25.4	29.8	13.3	17.5	33.5	32.8	18.2	29.5	35.0	30.0	6.2	24.7	30.6	38.0
9.3	Newspaper, books and stationery	22.3	23.3	22.1	17.0	25.9	20.3	19.9	18.2	26.6	25.4	20.3	29.7	18.7	12.4	29.8	19.2	19.0
9.4	Package holidays	15.0	12.1	29.1	12.6	20.2	2.8	7.8	3.0	33.8	2.8	10.5	16.6	17.1	4.1	21.0	12.2	33.0
<b>10</b>	<b>Education – commonly paid by consumers in Member States</b>	5.1	3.8	0.0	3.4	2.5	14.2	1.2	3.1	7.0	8.8	1.6	4.9	4.2	1.1	2.0	1.6	10.0
<b>11</b>	<b>Hotels, cafés and restaurants</b>	89.6	82.9	70.5	68.4	54.1	96.5	117.8	86.8	176.6	107.1	73.0	52.5	160.8	100.7	83.3	56.4	115.0
11.1	Catering	77.3	69.1	65.3	60.5	45.4	90.1	111.9	70.8	172.6	80.9	71.3	46.8	116.8	93.5	79.1	51.5	109.0
11.1.1	Restaurants and cafés	69.9	61.1	61.1	60.5	40.5	86.2	109.1	55.3	162.8	73.0	67.1	39.3	109.8	83.6	62.8	45.1	102.0
11.1.2	Canteens	7.5	8.0	4.3	0.0	4.9	3.9	2.8	15.5	9.8	8.0	4.2	7.5	7.0	9.9	16.3	6.4	7.0
11.2	Accommodation services	12.3	13.8	5.2	7.9	8.7	6.4	5.9	16.0	4.0	26.1	1.7	5.7	44.0	7.3	4.2	5.0	6.0

Source: EUROSTAT, Cronos Data bank.

HARMONIZED INDICES OF CONSUMER PRICES –  
PROGRESS AND UNRESOLVED PROBLEMS  
IN MEASURING INFLATION

**Sub-index Weights of the HICP as Part per 1000 (Annual 1999) in the EU Countries – cont.**

COICOP- Index position No.	EU 15	EU 11	BE	DK	DE	GR	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
<b>12</b>	<b>Miscellaneous goods and services</b>																
12.1	60.6	64.1	59.4	67.3	58.2	67.3	43.5	86.6	42.8	73.1	59.4	47.4	49.9	40.8	38.1	36.3	48.0
12.1.1	28.9	30.2	29.4	20.7	31.3	25.6	25.7	33.7	29.7	29.4	31.1	25.1	27.6	26.4	23.4	17.7	26.0
12.1.2	11.6	13.0	13.1	8.5	14.7	5.0	9.7	12.0	14.0	14.4	13.8	9.0	10.7	11.4	8.0	6.9	7.0
12.2	17.3	17.3	16.3	12.2	16.7	20.6	16.0	21.7	15.7	15.1	17.3	16.1	16.9	15.0	15.4	10.8	19.0
12.4	10.7	11.3	6.9	8.4	8.3	10.2	5.7	14.3	5.4	18.4	11.4	10.5	12.2	5.0	6.7	9.3	8.0
12.4.2	8.1	8.8	8.7	3.6	10.6	12.7	4.0	11.7	2.8	5.9	10.4	7.4	6.7	7.7	6.4	4.6	6.0
12.4.4	2.4	2.6	1.2	1.3	2.6	0.5	0.5	5.9	0.7	..	0.8	3.6	2.7	1.2	1.7	2.2	3.0
12.5	5.7	6.3	7.6	2.3	8.0	12.2	3.4	5.8	2.1	5.9	9.6	3.7	4.1	6.4	4.7	2.4	3.0
12.6	4.4	5.2	3.5	20.9	3.4	0.0	0.1	11.0	1.2	7.5	0.4	0.4	2.2	0.1	1.0	1.6	1.0
	8.6	8.6	11.0	13.8	4.5	18.8	8.1	15.9	3.7	11.9	6.1	4.1	1.1	1.7	0.7	3.1	7.0
	<b>Sectoral breakdown</b>																
A	87.6	89.7	101.7	73.7	65.8	115.5	161.9	96.9	96.3	92.1	79.1	72.7	63.4	147.3	72.1	75.8	63.0
B+C																	
D	136.3	134.3	140.5	158.8	136.7	149.9	145.4	129.0	209.7	119.4	125.8	146.2	120.1	137.1	195.7	151.3	141.0
E	326.1	324.9	337.9	288.4	320.3	335.0	326.5	304.0	244.1	352.6	409.2	342.4	330.1	331.5	293.7	299.8	330.0
F	86.7	88.0	106.7	98.6	98.5	73.1	76.5	86.9	98.6	69.8	66.7	88.6	84.8	92.4	107.5	112.9	83.0
G	363.3	363.1	313.3	380.5	378.7	326.4	289.7	383.2	351.3	366.2	319.2	350.1	401.6	291.8	331.1	360.2	383.0
H	223.9	224.0	242.1	232.4	202.5	265.5	307.2	225.9	306.1	211.5	204.9	218.9	183.5	284.4	267.8	227.1	204.0
I	412.8	412.9	444.6	387.1	418.8	408.1	403.0	390.9	342.7	422.3	475.9	431.0	414.9	423.8	401.2	412.7	413.0
	636.7	636.9	686.7	619.5	621.3	673.6	710.2	616.8	648.7	633.8	680.8	649.9	598.4	708.2	668.9	639.9	617.0
	913.4	912.0	893.3	901.4	901.5	926.9	923.5	913.1	901.4	930.2	933.3	911.5	915.2	907.7	892.5	887.2	917.0
	43.4	43.2	43.1	29.2	31.4	61.7	86.5	42.2	42.6	46.2	32.3	37.0	25.0	83.6	36.4	41.6	35.0
	956.6	956.8	956.9	970.8	968.6	938.4	913.5	957.8	957.4	953.8	967.7	963.0	975.0	916.4	963.6	958.5	965.0

Source: EUROSTAT, Cronos Data bank.

# Economic Policy Cooperation in EMU: European Economic Policy Challenges

## I Introduction

Peter Mooslechner  
and Martin Schürz<sup>1)</sup>

How to achieve a favorable policy mix in the euro area represents one of the main economic policy challenges EMU faces. The specific policy mix in the euro area is the outcome of a political decision-making process at various levels. An independent institution, the European System of Central Banks (ESCB), formulates the monetary policy for the entire euro area, but the individual EU Member States retain responsibility for most of the other economic policy domains. While fiscal policy principally remains within the purview of the Member States, it is limited by the provisions of the Treaty on European Union (TEU) and the Stability and Growth Pact. Structural policy is formulated at the national level and assessed at the EU level. The social partners, the main income policymakers, will keep the position in the wagesetting process at the national, regional or sectoral level that is in line with the tradition of the specific country.<sup>2)</sup>

The ESCB may well be the only European institution for a long time which has at its disposal and is responsible for macroeconomic instruments for the entire euro area. This has certainly not made economic policy decision making in the EU any easier. A presentation of the legal framework defining responsibilities in the various policymaking areas can provide only theoretical insights. In practice, the competences are interrelated and cannot always be cleanly separated. Therefore, economic policymakers' steps in EMU are marked by a complex interdependency. An interdisciplinary approach must be chosen to gain an insight into this new form of policymaking, that is, an approach which analyzes the specific responsibilities, the incentive structures and the view the different economic actors have of their roles.

Economic policy cooperation is a topic extending beyond the reaches of pure economics and embracing disparate but interrelated elements of politics and economics. Policymaking at several levels raises a number of interesting economic and institutional issues:<sup>3)</sup>

- How much economic policy cooperation is required to produce a suitable policy mix in EMU?
- What economic policy issues are decisive considering the conflicting prerequisites of institutional independence for the ESCB and of political demands for explicit coordination of overall economic policy?
- Is it possible for asymmetric institutional interaction in EMU to proceed smoothly?
- What contribution can the current theoretical and empirical literature on coordination make to the provision of problem-solving options for EMU?

In practice, a wide variety of cooperative policymaking options are available that range between the two extremes of a completely autonomous approach and explicit economic policy coordination. The international workshop on this topic aimed primarily at processing the economic and policy-oriented analyses available and at expanding on them, taking into account standards of problem solving in economic policymaking. The ability to cope with the problems involved in economic policymaking in EMU is tantamount to providing for the conditions needed to obtain a suitable policy

mix, that is, inflation-free, sustainable and strong economic growth and the highest possible level of employment. This capability calls not only for adequate incentives to prevent all economic policymakers from exhibiting unsuitable behavior, but also above all for an appropriate interaction between the single monetary policy and structural, fiscal and incomes policies.

## **2 Definition of Coordination and Cooperation**

In the literature on game theory, cooperation implies the existence of an externally binding agreement. In the economics literature, cooperation is a kind of general category including coordination as one specific form of cooperation. According to the definition posited by Ralph C. Bryant, international economic policy coordination refers to “situations characterized by explicit bargaining and explicitly agreed mutual adjustment of ongoing decisions about policy instruments” (1995 b, p. 406). Thus coordination extends beyond an exchange of information or the ritual of an institutionalized dialogue without any consequences. It is the most extensive form of cooperation and brings about an adjustment of economic policies. Both terms describe conflict resolution strategies.

The theoretical reasoning for economic policy cooperation is mainly based on the growing international interlinkage of economies, with national economic policies expected to have cross-border repercussions. Under the condition of economic interdependence, externalities and spillovers of national economic policies are inevitable.<sup>4)</sup> Taking these effects into account in the economic policy decision-making process calls for cooperation. A cooperative approach may increase welfare both at the national and international level, depending on whether cooperation applies to national economic policies or to various policy areas within a country. Without cooperation, economic policymakers hardly have sufficient incentive to consistently gear their goals toward attaining a favorable policy mix despite the fact that they are interdependent.

## **3 Economic Policy Cooperation – The Rules in EMU**

The legal framework and the scope for economic policy cooperation in EMU it affords was outlined by Alexander Italianer of the European Commission. The Treaty on European Union, the TEU, contains a variety of mechanisms for economic policy cooperation, which, contrary to the use of the term in the literature, are sometimes called coordination instruments, leading to confusion. Pursuant to Article 99, the Member States regard their economic policies as a matter of common concern and coordinate them within the Council.

The following key provisions pertain to economic policy cooperation:<sup>5)</sup>

- broad guidelines of the economic policies of the Member States and of the Community (Article 99 [2]);
- multilateral surveillance of economic developments in each of the Member States and in the Community and overall assessments (Article 99 [3]);
- the option for the Council to make recommendations to the Member State whose policies are not consistent with the broad guidelines and to make public this recommendation (Article 99 [4]);

**Forms of Cooperation / Economic Policymakers in the EU<sup>1)</sup>**

Policy makers	ECB/ESCB <sup>2)</sup>	Council (ECOFIN, labor ministers, ministers of social affairs, industry ministers) <sup>3)</sup>	Euro-11 <sup>4)</sup>	Sozial partners <sup>5)</sup>
<b>Form of cooperation/ instruments</b>				
<b>Loose cooperation:</b> exchange of information, exchange of views, statements instruments: conferences, meetings, policy programs				
	fiscal policy, macroeconomic dialogue	monetary policy (Article 113) macroeconomic dialogue research and technological development (Articles 163 to 173) development cooperation (Articles 177 to 181) environmental policy (Articles 174 to 176)	policy mix	policy mix macroeconomic dialogue incomes policy
<b>Close cooperation:</b> institutional mechanisms to change conduct instruments: directives, rules, multilateral surveillance procedures, sanctioning mechanisms				
		economic policy (Article 99) <sup>6)</sup> fiscal policy (Article 104) exchange rate policy (Article 111) employment policy (Articles 125 to 130) industrial policy (Article 157) trans-European networks (Article 155)	fiscal policy  exchange rate policy  employment policy  industrial policy  trans-European networks	
<b>Uniform policy</b>				
	monetary policy (Article 105)	agricultural policy (Articles 32 to 38) transport policy (Articles 70 to 80) competition policy (Articles 81 to 89) commercial policy (Article 131)		

<sup>1)</sup> The Articles are cited from the TEU as amended by the Amsterdam Treaty.

<sup>2)</sup> The European System of Central Banks (ESCB) is independent in fulfilling the duties incumbent on it.

<sup>3)</sup> EU body; the Economic and Financial Committee has replaced the Monetary Committee as a body which prepares a broad range of issues for discussion and adoption by the EU Council, specifically the ECOFIN, whose members are the ministers of economics and of finance. The Economic and Financial Committee is a high-level body whose members are representatives of the EU Ministries of Finance, central banks and the European Commission.

<sup>4)</sup> Informal body of 11 EU Member States. The Euro-11 group, which brings together the Economics and Finance Ministers of the 11 euro area Member States and serves as a forum for the coordination of the economic policy of the respective countries. No TEU Articles are quoted because of the informal nature of cooperation, but the effect of coordination makes this one of the closer forms of cooperation.

<sup>5)</sup> Pursuant to Article 139 a dialogue between the social partners at the Community level has also been provided for. Additional cooperative bodies at the EU level are the Economic and Social Committee, which consists of representatives of the various categories of economic and social activity. It has an advisory status (Articles 257 to 262); the Committee of the Regions, which consists of representatives of regional and local bodies within the EU. It also has advisory status (Articles 263 to 265).

<sup>6)</sup> Article 99 is of outstanding importance for economic policy cooperation within EU: "Member States shall regard their economic policies as a matter of common concern and shall coordinate them within the Council."

- the obligation to avoid excessive government deficits, which applies to all Member States except the U.K. (Article 104). Details on these provisions were added by the Stability and Growth Pact and by the resolution on growth and employment of Amsterdam (Council Regulation No 1467/97 of 7 July 1997 on speeding up and clarifying the implementation of the excessive deficit procedure);
- exchange rate agreements (Article 111, Council Resolution about the introduction of an exchange rate mechanism in stage three of EMU of Amsterdam on 16 July 1997, Convergence Programs);
- dialogue between the ECB and the Council (Article 113);

- dialogue between the social partners at the Community level (Article 139);
- employment policy, Employment Pact (Articles 125 to 130).

The following areas are key areas of economic policy cooperation in European Union:

- regular monitoring of macroeconomic developments in the Member States to ensure sustainable convergence;
- regular monitoring of the developments of the euro's exchange rate;
- enhanced surveillance of budgetary positions and policies;
- detailed reviews of National Action Plans and exchange of best practice;
- monitoring of the structural policies of the Member States for the labor, goods and services markets as well as of cost and price developments, above all of the structural policies which contribute to attaining sustainable noninflationary growth and to creating employment.

A number of technical and political cooperation bodies have been established at the Community level. The main bodies are the ECOFIN (the Council in the composition of the finance and economics ministers of the EU Member States), the Euro-11 group (an informal ECOFIN subgroup) and the EU Council's Economic and Financial Committee. The table shows the degree to which cooperation is practiced in the different economic policies.

#### **4 Cooperation in the Economics and Political Science Literature**

At the beginning of the workshop, Peter Mooslechner and Martin Schürz (OeNB) presented an overview of the economics and political science literature on coordination.<sup>6)</sup> The analysis of economic policy cooperation in the literature uses divergent and frequently contradictory approaches. Three such divergent analytical approaches can be distinguished:

##### **4.1 Optimization Approach**

What economic result does the effort of national governments to optimize their economic policy goals have under the condition of a specific regime?<sup>7)</sup> Economic studies based on the policy optimization approach sought to answer this question first and foremost to operationalize the concept of interdependence. To this end, economic policy decisions were modeled in cooperative and noncooperative games. These studies have a specific basic structure in common: Politics is analytically treated as an optimization process. The national governments are unitary agents whose exogenously determined preferences are given in the form of a loss function.<sup>8)</sup> The interdependence of policies and economic shocks as well as the economic policy alternatives available are also exogenously determined. By virtue of their methodical approach, such models of course do not do justice to the complex reality of politics and the economy. For instance, the analysis leaves out of account a number of domestic actors whose interests are potentially contradictory.<sup>9)</sup>

Empirical studies compared the result of a national maximization of welfare, a noncooperative Nash solution, with the result of a joint maximization of welfare.<sup>10)</sup> In a static game, noncoordinated macro-

economic policies proved inefficient, because the choice of policies results in a prisoner's dilemma.<sup>11)</sup> Conversely, the use of an optimally cooperative strategy exhibited welfare gains. The quantitative amount of potential cooperation gains for the G3 – the U.S.A., Germany and Japan – in the mid-1970s was estimated to have come to 0.5 percentage point of GDP for each of the regions.<sup>12)</sup>

Competing economic models draw divergent conclusions for economic policy. In a static model theory analysis, Frankel and Rockett (1988) examined the advantages of economic policy cooperation assuming that policymakers exhibit uncertainty. If decision makers cannot agree on the model to be used to analyze the world economy, cooperation will have fewer advantages. If the plausible consideration that decision makers learn from their mistakes (Bayesian learning) is taken into account, uncertainty may, however, present an additional incentive to cooperate (Ghosh and Masson, 1994).

#### **4.2 Regime Analysis**

Optimization approaches take specific variables (such as monetary aggregates) into account, while a regime analysis goes into the game rules. What kind of regime is in operation when national governments make their economic policy decisions independently – for instance, what exchange rate regime is best suited to producing an efficient overall result?<sup>13)</sup> For the analysis of the policymaking process, answering this question implies a different analytical focus, namely what rules are chosen and how they are obeyed. Using a regime analysis approach to analyze the cooperation in international forums such as the IMF, the OECD or the G8, groups which serve to exchange information and to negotiate rules, more accurately reflects reality than an optimization approach.

#### **4.3 International Relations Approaches<sup>14)</sup>**

The analysis of economic policy coordination using more broadly based social science approaches clearly differs from that using economic approaches. While both approaches are based on game theory models, the social science approaches are targeted far more at the practical problems involved in the cooperation process.<sup>15)</sup> Social science approaches are used to analyze actors' interests, power distribution issues, and the importance of institutions (e.g. science).<sup>16)</sup>

### **5 Cooperation from the Scientific and Economic Policy Perspectives**

Andrew Hughes-Hallett (University of Strathclyde), a key influence on the coordination literature since the 1980s, linked the two issues of an appropriate policy mix in EMU and a balanced mix of institutional independence and accountability. According to Hughes-Hallett, accountability includes not only the ex-post obligation of the agent to report to the principal<sup>17)</sup>, but is above determined by how well the divergent economic policy preferences are represented in the agent's target function. As an example, accountability is given when the target function of the monetary policymaking institution is in line with what monetary policy can



achieve. This relationship can be represented in the form of a standard loss function of monetary policy:

$$L = (\Pi - \Pi^*)^2 + b_1(y - y^*)^2,$$

with  $\Pi$  as the inflation rate and  $\Pi^*$  as the inflation target;  $y$  represents output and  $y^*$  the targeted production level. Welfare losses result from deviations of the inflation rate from target – insufficient price stability – and deviations of real activity from target. Parameter  $b_1$  specifies the relative weight of the output target compared to the inflation target.

Preferences for specific inflation rates will differ across society. Property owners, e.g., will exhibit a strong aversion to inflation and will accord the goal of price stability more weight than will unemployed persons, for example, who may consider reentering the workforce more important. The government and the central bank will also give different weights to output and inflation depending on their own target functions.

The problems involved in Hughes-Hallett's game simulation are caused by the heterogeneous preferences of economic policy actors in weighting price and output stability (see also Muscatelli, 1996). Considering the ESCB's single objective, namely its price stability orientation, and economic policy actors' heterogeneous preferences in weighting price and output stability conflicts between actors in EMU are structured by the degree of divergence of preferences.

Hughes-Hallett differentiates between three possible forms of interaction between fiscal and monetary policy in EMU, namely a coordination of fiscal and monetary policy, the failure of one of the two policies, or absolute central bank independence. Two regions, Europe and the U.S.A., are analyzed using an adapted Dornbush model with forward-looking expectations and overlapping contracts.<sup>18)</sup> There are three European players, two national fiscal policymakers (Germany and France) and the European Central Bank.

An EMU regime in which monetary policy dominates (monetary dominance) and discipline is exerted on fiscal policy by the rules and provisions of the Stability and Growth Pact proves to be suboptimal in this model approach.<sup>19)</sup> Such a structure is the mirror opposite of the regime of fiscal dominance of the 1970s.

Hughes-Hallett starts from the basic game theoretical premise that a Stackelberg solution in which one actor assumes leadership and the other actors follow may be preferable to a noncooperative result, but that it does not lead to a Pareto optimum result.<sup>20)</sup> An even more unfavorable result would be a condition of Stackelberg conflict in which each player (the monetary policy authority and national fiscal authority) tries to enforce his own strategy against the resistance of the other player. The best result in the simulation is achieved when a coordinated approach is chosen.

EMU rules ascribe a sanctioning and disciplining role to the ECB, according to Hughes-Hallett. Thus the ECB assumes a strategically dominant role in the interaction with other policies. In this fashion, the ECB can enforce wage and fiscal conformity using the range of instruments at its disposal, from moral suasion to increases in key interest rates. In the interaction with other policies, the option the monetary policymaker has to

impose sanctions harbors potential political and economic policy conflict. While the uniform monetary policy can wield the instruments at its disposal to discipline national fiscal and income policymakers, in the interpretation of Hughes-Hallett, the monetary policymaker is completely autonomous in its action.

An asymmetric cooperative solution can be stable if it is accepted by the key players.<sup>21)</sup> In attaining their goals, monetary policymakers remain fundamentally dependent on the appropriate behavior of other actors, such as the actors who determine wages. Without the support of an appropriate wage policy, monetary policymakers can reach their goal only in a suboptimal policy mix. Thus Hughes-Hallett surmises that despite monetary policymakers' institutionally dominant position, it is in their best interest to pursue a cooperative economic policy solution.<sup>22)</sup>

However, asymmetric cooperative models are contingent on the other economic policy actors' acceptance of monetary policymakers' leadership. In the event of an economic policy conflict requiring a coordinated change of all actors' behavior, this model comes up against its limits because there are restrictions on institutional cooperation.

Finally, Hughes-Hallett presented his economic policy proposal of an "inflation and growth agreement." Such an agreement would increase the ECB's accountability by focusing on whether monetary policy succeeds in contributing to overall economic policy without restricting the ECB's instrument independence (see also Hahn and Mooslechner, 1998).

Bernhard Winkler of the ECB classified EMU as a monetary dominance regime and attempted to identify the economic advantages of an asymmetric regime on the basis of this label.<sup>23)</sup> EMU is a regime in which clear institutional limits are imposed on economic policy coordination. The TEU provides for an economic policy dialogue between the ECB and the EU Council, and an informal exchange of information between the decision makers has not been ruled out. The option for the President of the ECOFIN Council to participate in the ECB Council's meetings could help identify possible policy externalities more quickly and enable an adjustment of the policy mix. In this fashion, the ECB can obtain information crucial to monetary policymaking and has the ability to react to economic policy problems appropriately and rapidly.<sup>24)</sup> However, the law does not permit more extensive cooperation, nor, according to Winkler, does greater cooperation make economic sense. These restrictions on coordination should prevent a damaging "game of chicken" between the fiscal and monetary policy authorities (see also Artis and Winkler, 1997). Thus it is crucial that the strategic leadership of the monetary policy authorities is accepted by the other economic policymakers.

Winkler argues in favor of a strict interpretation of the monetary policy objective and for the assumption that the policy areas within EMU can be clearly separated. If the monetary policy objective is limited to price stability only, it automatically follows that a smaller degree of economic policy cooperation is required.<sup>25)</sup> If the overall economic policy mix is seen as the result of contributions from individual policy fields, the decisive issue is the assignment problem, that is the allocation of the appropriate instruments and

objectives to specific policy areas, rather than the adjustment of policies (see e.g. Filc, 1998 and Schürz, 1999). This line of argument is based on the assumption that policies can be clearly separated from one another. Under such a premise, fiscal policy is responsible only for dampening demand shocks, wage policy is responsible solely for employment and monetary policy is responsible only for price stability. In a model of separate responsibilities, the decisive question is how every institution can manage to fulfill the duties assigned to it (institutional design) and how its fulfillment can be evaluated in terms of the political targets. The degree of economic policy cooperation between the economic policymakers would be low, as a favorable policy mix would result more or less automatically, without measures at the macro level, as the sum of separate policy contributions. If the economic policy problem is more complex, however, an assessment on the basis of efficiency criteria will not suffice, however. Even reduced standard expectations can only be met if the institution operates efficiently according to the assumptions and if it does not try to reach its goal by externalizing costs at the expense of another economic policy area.

According to Winkler, the independence of the ECB, which is stipulated in the TEU, is the manifestation of an economic policy model which at best permits loose forms of cooperation (dialogue, an exchange of information). Legal provisions prevent economic policy coordination consisting in the use of active consensus politics to hammer out a specific policy mix. Thus the basic design of economic policy interaction in the EU already contains structural asymmetry.

Matthew B. Canzoneri and Behzab Diba of Georgetown University take on the issue of the design of the Stability and Growth Pact. They conclude that the deficit limits in the Pact are very strictly formulated, taking into account the operational independence of the ECB. The need for the ECB to quickly acquire a reputation as the guardian of price stability is only a transitional problem that does not appear to require permanent fiscal policy restrictions.<sup>26</sup>) In fact, the large number of fiscal authorities weakens the strategic position of fiscal policy compared to the single monetary policy to begin with (see also Beetsma and Bovenberg, 1998).

Pierre Alain Muet (Economic Adviser to the Prime Minister, France) underlined that successful budget consolidation and compliance with the criteria of the Stability and Growth Pact required the support of the single monetary policy. Monetary policymakers have to keep interest rates just low enough to be compatible with their price stability aim in order to underpin national fiscal policies' consolidation path. Unlike most other participants, Muet also favored a contribution of monetary policy in the event of asymmetric shocks, because national fiscal policies alone would be unable to cope with handling these shocks alone.

Kurt Bayer (Austrian Ministry of Finance) emphasized Austria's efforts to press for cooperation during its EU Council Presidency and stated that small Member States should be most interested in formal cooperation bodies, which would help them assert their interests against the larger countries.

Cooperation in the form of a reconciliation of interests between economic policymakers was conceptualized in so-called two-level games

(Putnam, 1998), which distinguish between a national and an international level. The focus of economics literature used to be on the coordination of monetary and fiscal policy and cooperation on exchange rate policy. In EMU, however, the interaction between actors becomes far more complex, and the analytical perspective has to be broadened. The supranational level, with its new institutional actor, the ECB/ESCB, and the subnational level, above all negotiation with wage bargainers, gain a crucial dimension alongside the national and international levels (Hall and Franzese, 1998).

Against this background, Stefan Collignon (German Ministry of Finance) assumes that the main pressure for a favorable policy mix emanates not from the relationship between the ECB and the national fiscal authorities, but that the relationship between wage and monetary policy will be decisive instead. Considering the persistently high unemployment rate in the EU, which he believes is caused to a lesser extent by structural factors than is generally presumed, Collignon is convinced that demand management will be highly important. This means that the responsibility for a well-balanced policy mix will lie principally with the ECB and wage bargainers.

This is the area in which cooperation mechanisms are only just beginning to be established. Collignon thinks the idea of keeping unit labor costs perceptibly below productivity developments is a disadvantage in the overall economic perspective. Much rather the rise in unit labor costs should be oriented on productivity increases, so that monetary policy has sufficient room for maneuver to take into account the real economy. What remains unclear, however, is what measure of productivity increases – an EU average, a national average or a sectoral average – should be used as a gauge for wage developments in EMU in practice.

Martine Durand (OECD) focused on the issue that divergent economic policy preferences and disparate macroeconomic structures fundamentally make it more complicated to obtain an appropriate policy mix. Moreover, the institutional prerequisites for suitable cooperation in EMU cannot take into account all problems bound to crop up once economic policy is coordinated in EMU in practice. As the ECB has no direct competence in the field of financial market supervision, systemic risk could lead to economic policy reactions which are not suited to the problems at hand. Therefore, it would be important to implement an institutional structure clearly assigning areas of responsibility and determining decision-making processes in the event of a crisis. Durand also identifies a political issue: As the ECB is the only institution at the European level with an EU-wide set of instruments at its disposal, it automatically becomes the butt of political pressure.

## **6 Conclusions: While Economic Policy Cooperation in EMU Makes Sense, The Question of How Much Cooperation Is Needed Is Still Unresolved**

As expected, no simple, uniform conclusion about the role of economic policy cooperation in EMU could be drawn at the OeNB's one-day workshop. There was agreement that economic policy cooperation solutions had basic advantages, and that loose forms of cooperations, such as dialogue and the exchange of information, were helpful. The main problems identified

for cooperative solutions in EMU were the interaction between monetary and wage policy, and exogenous shocks, such as financial market crises, occurrences for which the EMU regime does not prescribe any specific procedures.

However, opinions varied widely on the decisive issue of the appropriate extent of economic policy cooperation. The participants' disagreement reflected both fundamentally different paradigmatic approaches and contradictory institutional approaches to coordination. The divergences confirmed the topic of the workshop: "Challenges for Economic Policy Coordination within EMU," and it was these analytical and economic policy challenges involved in establishing the appropriate policy mix in Monetary Union that were successfully identified during the workshop.

The institutional and legal rules governing EMU largely preclude a coordinated economic policy strategy and allow only for loose forms of cooperation. EMU is founded primarily on rules designed to ensure the prevention of inappropriate national economic policy action, such as excessive wage policy or a lax budget policy or to rapidly correct such steps. Thus the main purpose of rules contained in the Stability and Growth Pact is to exercise discipline, and they are supposed to contribute to the credibility of the single monetary policy. Within the framework of the broad guidelines of the economic policies of the Member States, cooperation between the various economic policies remains limited to fiscal, employment and structural policy. The single monetary policy is ranked above the other policies and is not strongly integrated into the economic policy cooperation network.

If a conflict arises between the goals and measures of segmented policies that are linked primarily through a set of disciplining rules, EMU's problem-solving capacity is inevitably reduced. As Alexander Italianer of the European Commission noted in conclusion, EMU's success hinges on the respect the economic policy actors have for the respective other actors' areas of economic policy responsibility. And as conflicts cannot be ruled out, designing the institutional system for the strategic interaction of the actors in EMU remains one of the key challenges for successful problem solving in EMU.

## **7 Speakers at the Workshop of the OeNB's Economic Analysis Division on January 22, 1999**

**Kurt Bayer:** Head of Division, Division for International and Economic Policy Affairs, Federal Ministry of Finance, Austria.

**Matthew B. Canzoneri:** Department of Economics, Georgetown University, U.S.A.

**Stephan Collignon:** Head of Division, Ministry of Finance, Germany.

**Behzad T. Diba:** Department of Economics, Georgetown University, U.S.A.

**Martine Durand:** Counsellor for Macroeconomic Policies, Office of the Chief Economist, Economics Department, OECD, France.

**Andrew Hughes Hallett:** Professor of Economics, Department of Economics, University of Strathclyde, United Kingdom.

**Alexander Italianer:** Member of the Cabinet of the President of the European Commission, Belgium.

**Peter Mooslechner:** Director, Economic Analysis and Research, OeNB, Austria.

**Pierre Alain Muet:** Economic Adviser to the Prime Minister, France.

**Martin Schürz:** Economist, Economic Analysis Division, OeNB, Austria.

**Bernhard Winkler:** Economist, General Directorate Research, European Central Bank, Germany.

## 8 References

- Allsopp, C. and Vines, D. (1998).** The Assessment: Macroeconomic Policy After EMU. In: Oxford Review of Economic Policy, Vol. 14. No. 3, 1–24.
- Artis, M. and Ostry, S. (1986).** International Economic Policy Coordination. In: Chatham House Papers 30. The Royal Institute of International Affairs, London.
- Artis, M. and Winkler, B. (1997).** The Stability Pact: Safeguarding the Credibility of the European Central Bank. In: National Institute Economic Review, January, 87–98.
- Axelrod, R. (1984).** The Evolution of Cooperation. New York. Basic Books.
- Barro, R. and Gordon, D. (1983).** Rules, Discretion and Reputation in a Model of Monetary Policy. In: Journal of Monetary Policy 12, 10–121.
- Beetsma, R. and Bovenberg, L. (1998).** Monetary Union without Fiscal Coordination may Discipline Policymakers. In: Journal of International Economics 45, 239–258.
- Buiter, W. H. and Marston, R. C. eds. (1985).** International Economic Policy Coordination. Cambridge University Press.
- Bryant, R. C. (1987).** Intergovernmental Coordination of Economic Policies: An Interim Stocktaking. In: International Monetary Cooperation: Essays in Honor of Henry C. Wallich, Essays in: International Finance No. 169. Princeton University Press.
- Bryant, R. C. and Portes, R. eds. (1987).** Global Macroeconomics. Policy Conflict and Cooperation. CEPR. Macmillan Press.
- Bryant, R. C., Currie, D. A., Frenkel, J. A., Masson, P. R. and Portes, R. eds. (1989).** Macroeconomic Policies in an Interdependent World. The Brookings Institution/CEPR/IMF.
- Bryant, R. C. et al. (1993).** Evaluating Policy Regimes: New Research in Empirical Macroeconomics. Brookings Institution. Washington D.C.
- Bryant, R. C. (1995 a).** International Coordination of National Stabilization Policies. The Brookings Institution. Washington D.C.
- Bryant, R. C. (1995 b).** International Cooperation in the Making of National Macroeconomic Policies: Where Do We Stand? In: Kenen, P. B. ed. (1995). Understanding Interdependence. The Macroeconomics of the Open Economy. Princeton University Press. Princeton, New Jersey, 392–447.
- Canzoneri, M. B. and Gray, J. (1985).** Monetary Policy Games and the Consequences of Non-cooperative Behavior. In: International Economic Review Vol. 26, No. 3, 547–564.
- Canzoneri, M. B. and Minford, P. (1988).** When International Policy Coordination Matters: an empirical analysis. In: Applied Economics 1988, 20, 1137–1154.
- Canzoneri, M. B. and Henderson, D. W. (1988).** Is Sovereign Policy Making Bad. In: Carnegie-Rochester Conference Series on Public Policy 28 (spring), 93–140.
- Canzoneri, M. B. and Henderson, D. W. (1991).** Monetary Policy in Interdependent Economies: A Game-Theoretic Approach. The MIT Press. Cambridge/London.
- Canzoneri, M. B. and Diba, B. (1996).** Fiscal Constraints on Central Bank Independence and Price Stability. In: CEPR Discussion Paper 1463.
- Cooper, R. N. (1985).** Economic Interdependence and Coordination of Economic Policies. In: Jones/Kenen Handbook of International Economics Vol. II. North-Holland. Amsterdam, 1195–1235.

- Cooper, R. N., Eichengreen, B., Henning, C. R., Holtham, G. and Putnam, R. D. eds. (1989).** Can Nations Agree? Issues in International Economic Cooperation. The Brookings Institution, Washington D. C.
- Currie, D. A. and Levine, P. (1985).** Macroeconomic Policy Design in an Interdependent World. In: Buiters, W. H. et al. eds. (1985). International Economic Policy Coordination. Cambridge University Press, 228–271.
- Currie, D. A., Levine, P. and Vidalis, N. (1987).** International Cooperation and Reputation in an Empirical Two-Bloc Model. In: Bryant, R. C. and Portes, R. eds. (1987). Global Macroeconomics. Policy Conflict and Cooperation. CEPR. Macmillan Press, 75–121.
- Currie, D. A., Holtham, G. and Hughes-Hallett, A. H. (1989).** The Theory and Practice of International Policy Coordination: Does Coordination Pay? In: Bryant, R. C. et al. (1989). Macroeconomic Policies in an Interdependent World. Brookings/CEPR/IMF, 14–47.
- Currie, D. A. and Wren-Lewis, S. (1989).** Evaluating Blueprints for the Conduct of International Macro Policy. In: American Economic Review Papers and Proceedings 79, No. 2, 264–269.
- Currie, D. A. and Levine, P. (1991).** The International Co-ordination of Monetary Policy: A Survey. In: Green, C. J. and Llewellyn, D.T. eds. (1991). Survey in Monetary Economics. Volume 1: Monetary Theory and Policy. Blackwell Cambridge/Oxford, 379–417.
- Currie, D. A. and Levine, P. (1993).** Rules, Reputation and Macroeconomic Policy Coordination. Cambridge University Press. Cambridge.
- Demertzis, M., Hughes-Hallett, A. H. and Viegi, N. (1998).** Independently Blue? Accountability and Independence in the New European Central Bank. CEPR Discussion Paper No. 1842.
- Dobson, W. (1991).** Economic Policy Coordination: Requiem or Prologue. Institute for International Economics. Washington D.C.
- Eichengreen, B. (1997).** European Monetary Unification and International Monetary Cooperation. In: Working Paper No. C97–091. Center for International and Development Economics Research. Berkeley.
- Frankel, J. A. and Rockett, K. E. (1988).** International Macroeconomic Policy Coordination when Policymakers Do Not Agree on the True Model. In: The American Economic Review, Vol. 78 No. 3, June, 318–340.
- Ghosh, A. R. and Masson, P. R. (1994).** Economic Cooperation in an Uncertain World. Oxford.
- Gilpin, R. (1975).** U. S. Power and the Multinational Corporations. In: Kehohe, P.J. (1991) New York.
- Goldstein, M. (1994).** Improving Economic Policy Coordination: Evaluating some new and some not-so-new proposals. In: Kenen, P. B. and Papadia, F. and Saccomanni (eds.). The International Monetary System. Proceedings of a Conference organized by the Banca d'Italia. Cambridge. 298–324.
- Grieco, J. M. (1988).** Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism. In: International Organization 42 (3), 485–507.
- Hahn, F. and Mooslechner, P. (1998).** Zur Fundierung des Designs des Europäischen Zentralbanksystems. In: WIFO Monatsberichte 12/1998.
- Hall, P. A. and Franzese, J. R. (1998).** Mixed Signals: Central Bank Independence, Coordinated Wage Bargaining, and European Monetary Union. In: International Organization 52, 3, 503–535.

- Hamada, K. (1974).** Alternative Exchange Rate Systems and the Interdependence of Monetary Policies. In: Aliber, R. Z. ed. (1974). National Monetary Policies and the International Financial System. University of Chicago Press. Chicago.
- Hamada, K. (1976).** A Strategic Analysis of Monetary Interdependence. In: Journal of Political Economy, Vol. 84 No. 4, August, 677–701.
- Hamada, K. and Kawai, M. (1997).** International Economic Policy Coordination: Theory and Policy Implications. In: Fratianni, M. U., Salvatore, D., Hagen, J. eds. (1997). Macroeconomic Policy in Open Economies.
- Holtham, G. and Hughes-Hallett, A. J. (1987).** International Policy Coordination and Model Uncertainty. In: Bryant, R. and Portes, R. eds. Global Macroeconomics: Policy Conflict and Cooperation. London, 128–184.
- Holtham, G. and Hughes-Hallett, A. J. (1992).** International Macroeconomic Policy Coordination when Policymakers Do Not Agree on the True Model. Comment in: American Economic Review 82, 1043–1051.
- Hughes-Hallett, A. J. (1986).** Autonomy and the Choice of Policy in Asymmetrically Dependent Economies. An Investigation from International Policy Co-ordination. In: Oxford Economic Papers 38, 516–544.
- Hughes-Hallett, A. J. (1989 a).** What are the Risks in Co-ordinating Economic Policies Internationally? In: MacDonald, R. and Taylor, M. P. eds. (1989). Exchange Rates and Open Economy Macroeconomics. Basil Blackwell Cambridge, 307–358.
- Hughes-Hallett, A. J., Holtham, G. and Hutson, G. (1989 b).** Exchange-rate Targetting as Surrogate International Cooperation In: Miller, M. et al. (1989) Blueprints for Exchange-rate Management. Centre for Economic Policy Research. Academic Press, 239–278.
- Hughes-Hallett, A. J. (1992).** Target Zones and International Policy Coordination. The Contrast between the Necessary and Sufficient Conditions for Success. In: European Economic Review 36, 893–914.
- Hughes-Hallett, A. J. and Vines, D. (1993).** On the Possible Costs of European Monetary Union. In: The Manchester School Vol. LXI No.1, March, 35–64.
- Kenen, P. B. (1987).** Exchange rates and Policy Coordination. In: Brookings Discussion Papers on International Economics No. 61. Washington D.C.
- Kenen, P. B. (1990).** The Coordination of Macroeconomic Policies. In: Branson, W. H., Frenkel, J. A. and Goldstein, M. eds. (1990). International Policy Coordination and Exchange Rate Fluctuations. A National Bureau of Economic Research Conference Report. The University of Chicago Press, 63–102.
- Kenen, P. B. ed. (1995).** Understanding Interdependence. The Macroeconomics of the Open Economy. Princeton University Press. Princeton, New Jersey.
- Keohane, R. O. (1984).** After Hegemony. Cooperation and Discord in the World Political Economy. Princeton University Press. Princeton, New Jersey.
- Kindleberger, C. (1973).** The World in Depression 1929–39. University of California Press. Berkeley.
- Kindleberger, C. (1986).** International Public Goods without International Government. In: The American Economic Review Vol. 76, No. 1, 1–13.
- Krasner, S. D. (1976).** State Power and the Structure of International Trade. In: World Politics 28. No. 3, April, 317–347.
- Kydland, F. E. and Prescott, E. C. (1977).** Rules rather than Discretion: The inconsistency of optimal plans. In: Journal of Political Economy 85, 473–491.
- Levine, P. and Currie, D. (1987).** Does International Macroeconomic Policy Coordination Pay and is it Sustainable: A Two Country Analysis. In: Oxford Economic Papers 39, 38–74.



- Lohmann, S. (1992).** Optimal Commitment in Monetary Policy: Credibility versus Flexibility. In: American Economic Review, March.
- McKibbin, W. J. and Sachs, J. D. (1989).** Implications of Policy Rules for the World Economy. In: Bryant, R. C., Currie, D. A., Frenkel, J. A., Masson, P. R., Portes, R. eds. (1989). Macroeconomic Policies in an Interdependent World. The Brookings Institution/CEPR/IMF, 151–194.
- McKibbin, W. J. and Sachs, J. D. (1991).** Global Linkages. Macroeconomic Interdependence and Cooperation in the World Economy. The Brookings Institution. Washington D.C.
- Milner, H. (1992).** International Theories of Cooperation among Nations: Strengths and Weaknesses. In: World Politics, Vol. 44, No. 3, 466–496.
- Muscatelli, A. (1996).** Political Consensus, Uncertain Preferences and Central Bank Independence. In: Discussion Papers in Economics No. 9615. University of Glasgow.
- Oudiz, G. and Sachs, J. D. (1984).** Macroeconomic Policy Coordination among the Industrial Economies. In: Brookings Papers on Economic Activity, 1, 1–76.
- Persson, T. and Tabellini, G. (1993).** Designing Institutions for Monetary Stability. In: Carnegie-Rochester Conference Series on Public Policy, 39, 53–84.
- Persson, T. and Tabellini, G. (1995).** Double-edged Incentives: Institutions and Policy Coordination. Centre for Economic Policy Research Discussion Paper No.1141.
- Persson, T. and Tabellini, G. (1996).** Monetary Cohabitation in Europe. Centre for Economic Policy Research Discussion Paper No.1380, May.
- Putnam, R. D. und Bayne, N. (1987).** Hanging Together: Cooperation and Conflict in the Seven-Power Summits. Cambridge Harvard University Press.
- Putnam, R. D. (1988).** Diplomacy and Domestic Politics: The Logic of Two-Level Games. In: International Organization 42, 427–460.
- Putnam, R. D. and Henning, C. R. (1989).** The Bonn Summit of 1979: A Case Study in Coordination. In: Cooper, R. N. et al. (1989). Can Nations Agree? Washington D. C., 12–140.
- Rogoff, K. (1985).** Can International Monetary Policy Cooperation be Counterproductive? In: Journal of International Economics 18, 199–217.
- Schürz, M. (1999).** Wirtschaftspolitische Problemlösungsfähigkeit in der WWU (mimeo) In: Grande, E., Jachtenfuß, J. Wie problemlösungsfähig ist die EU. Nomos Verlag. Baden-Baden.
- Svenson, L. E. O. (1995).** Optimal Inflation Targets, Conservative Central Bankers and Linear Inflation Contracts. In: CEPR Discussion Paper Series 1249. London.
- Taylor, J. B. (1985).** International Coordination in the Design of Macroeconomic Policy Rules. In: European Economic Review 28, 53–81.
- Walsh, C. E. (1995).** Optimal Contracts for Central Bankers. In: American Economic Review 85(1), 150–167.
- Webb, M. C. (1995).** The Political Economy of Policy Coordination. International Adjustment Since 1945. Cornell University Press. Ithaca and London.
- Williamson, J. and Miller, M. H. (1987).** Targets and Indicators: A Blueprint for International Coordination of Economic Policy. Policy Analyses. In: International Economics 22. Institute for International Economics. Washington D.C.

- 1 On January 22, 1999, the Economic Analysis Division of the Oesterreichische Nationalbank held an international workshop on the "Challenges for International Economic Policy Coordination within EMU." This study presents selected aspects of the contributions at the workshop; the authors take responsibility for the synoptic presentation. The long versions of the contributions will be published in the periodical *Empirica* in fall 1999. The authors thank Ernest Gnan, Wolfdietrich Grau and Thomas Wagner for valuable comments.
- 2 See the Table describing the policymaking process in the EU for more information.
- 3 The definition of "institutions" in this study includes rules, agreements and conventions.
- 4 A simple example of a spillover effect would be the trend toward seepage losses in foreign trade whenever national fiscal policy is stimulated; part of the positive demand effect seeps through to all trade partner countries.
- 5 All references to the TEU are to the TEU as amended by the Treaty of Amsterdam, which entered into force on May 1, 1999.
- 6 For further comprehensive presentations of literature on this topic, see e.g. Artis and Ostry (1986), Kenen (1987), Currie and Levine (1991), Bryant (1995 a) and Hamada and Kawai (1997).
- 7 Cooperation first became a topic of policy optimization literature in the 1970s, when fixed exchange rate regimes were described (e.g. Hamada, 1974 and 1976). Later macroeconomic interdependence, policy conflicts and cooperation in a flexible exchange rate regime were analyzed (e.g. Canzoneri and Gray, 1985).
- 8 With this premise, it is not possible to examine the policy development process.
- 9 For a criticism of the limits the methods chosen for these models impose on the analysis of situations in which economic policy is negotiated, see Putnam and Bayne (1987), Milner (1992) and Webb (1995).
- 10 See the seminal analysis of Oudiz and Sachs (1984) and further literature, e.g. studies by Taylor (1985) or McKibbin and Sachs (1989).  
A Nash solution denotes strategic equilibrium characterized by a situation in which none of the players can improve his own position by deviating from the equilibrium combination.
- 11 After having accepted certain obligations to reach a cooperative solution, every player in a prisoner's dilemma situation has an incentive to break his promise as long as he expects that the other players keep their promises.
- 12 A criticism frequently cited in the literature is that these gains are modest, i.e. not much larger than the standard forecasting error. However, it is unclear what gauge this judgement is based. In a more general empirical study, Hughes-Hallett (1986) calculated cooperation gains of between 0.5 and 1.5% of GDP.
- 13 See Williamson and Miller (1987) as well as Currie and Wren-Lewis (1989, 1990) for the widely discussed proposal of target zones for exchange rates.
- 14 The international relations approaches include realistic, neorealistic and liberal institutionalistic analyses. For a realistic analysis, see e.g. Gilpin (1975) and Krasner (1976), for a liberal-institutionalistic approach, see e.g. Kindleberger (1986), Keohane (1984) and Grieco (1988).
- 15 "The main comparative advantage of political science has been not so much theoretical formalization as sensitivity to institutions and contexts – in short story telling." (Putnam and Henning, 1989, p. 13).
- 16 The number of actors is expanded in the analyses, but, as in the policy optimization approaches, the role of the state always remains the focal point (see Webb, 1995, and Milner, 1992, for a review of the literature).
- 17 The principal-agent literature examines the issue of the incentives a principal needs to give for an agent to exhibit a certain behaviour. Monetary policy is interpreted as a contractual relationship between government (the principal) and the central bank (the agent) (see e.g. Persson and Tabellini, 1993, and Walsh, 1995).
- 18 With this model, Hughes-Hallett follows modell Oudiz and Sachs (1984), McKibbin and Sachs (1991) and Hughes-Hallett and Vines (1993).
- 19 For the concept of monetary dominance, see Canzoneri and Diba (1996).
- 20 The Pareto optimum guarantees that no player is in a worse position in a cooperative game than in a noncooperative game. In the case of Stackelberg equilibrium, the dominant player, the leader, takes into account the influence his strategic choice has on the strategies of the remaining players. The remaining players are followers and ignore their strategies' effects on the dominant player's strategy.
- 21 See Kindleberger (1973) on the Hegemonic Stability Theory.
- 22 Assuming a weight of 0 for  $b$ , the ECB could reach its price stability goal autonomously and even at the price of a recession. Such an unrealistic theoretical extreme, however, would imply a violation of the social consensus.
- 23 "The Maastricht criteria can be seen as an attempt to secure pre-commitment to the monetary dominance regime, i.e. select the better of two possible equilibria and in particular to avoid costly conflict (leadership battles) between monetary and fiscal policy." (Artis and Winkler, 1997, p. 93).
- 24 An informal Euro-11 group of the euro area participants was established in the wake of the Luxembourg

*Summit of December 1997. This group represents a forum in which ministers of the euro area can discuss issues of common interest. The President of the ECB participates in ECOFIN Council meetings devoted to specific topics, such as the basic features of economic policy. Conversely, the President of the ECOFIN Council and a member of the European Commission may take part in meetings of the ECB Governing Council without a vote and may provide the members of the ECB Council with the ECOFIN Council's assessment of the economy and the economic policies of the Member States. Moreover, the President of the ECOFIN Council may discuss with the ECB the reflections of the ECOFIN Council on exchange rate developments.*

25 *In a noncooperative game, monetary policy could theoretically also attain the price stability objective by externalizing costs in the form of output losses.*

26 *"...establishing permanent constraints on fiscal policy seems a heavy-handed way of addressing what is presumably a transitional problem." (Canzoneri and Diba, comment at the workshop of the Economic Analysis Division of the Oesterreichische Nationalbank on January 22, 1999).*

# Abbreviations

AMS	Arbeitsmarktservice Österreich (Austrian Public Employment Office)	GDP	Gross Domestic Product
ARTIS	Austrian Real Time Interbank Settlement	HICP	Harmonized Index of Consumer Prices
BWA	Bundes-Wertpapieraufsicht (Federal Securities Supervisory Authority)	IHS	Institut für Höhere Studien (Institute for Advanced Studies)
BWG	Bankwesengesetz (amendments to the Banking Act)	IIP	International Investment Position
CAD	Capital Adequacy Directive	IMF	International Monetary Fund
CEECs	Central and Eastern European Countries	NACE	Nomenclature générale des Activités économiques dans les Communautés Européennes (Statistical Classification of Economic Activities)
COICOP	Classification Of Individual Consumption by Purpose	ÖCPA	Austrian version of the Classification of Products by Activities
CPI	Consumer Price Index	OECD	Organisation for Economic Co-operation and Development
EC	European Community	OeKB	Oesterreichische Kontrollbank
ECB	European Central Bank	OeNB	Oesterreichische Nationalbank
EEA	European Economic Area	ÖNACE	Austrian version of the Statistical Classification of Economic Activities
EEC	European Economic Community	ÖSTAT	Österreichisches Statistisches Zentralamt (Austrian Central Statistical Office)
EGVG	Einführungsgesetz der Verwaltungsverfahrensgesetze (Introductory Act to the Administrative Procedure Acts)	RTGS	Real Time Gross Settlement System
EMU	Economic and Monetary Union	SDR	Special Drawing Right
EQOS	Electronic Quote and Order Driven System	SNA	System of National Accounts
ERM	Exchange Rate Mechanism	TARGET	Trans European Automated Real Time Gross Settlement Express Transfer System
ERP	European Recovery Program	TEU	Treaty on European Union
ESCB	European System of Central Banks	WIFO	Österreichisches Institut für Wirtschaftsforschung (Austrian Institute of Economic Research)
ESNA	European System of National Accounts		
EU	European Union		
EUROSTAT	Statistical Office of the European Communities		

# 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.

# 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 1/95	Repeal of the Official Announcement DL 1/93; SC Resolution 1022 (1995) Concerning the suspension of the sanctions of the United Nations against the Federal Republic of Yugoslavia	Dec. 21, 1995	4/1995
DL 1/96	Modification of Official Announcement DL 3/91	Sept. 3, 1996	3/1996
DL 1/99	Modification of Official Announcements DL 2/91 and DL 3/91 to the Foreign Exchange Act	Dec. 21, 1998	4/1998
DL 2/99	Abrogation of Official Announcement DL 3/93 Sanctions of the United Nations against Libya	April 30, 1999	1/1999

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

# Council Regulations of the European Communities

Published in the  
Official Journal  
of the  
European  
Communities

## **Minimum Reserve Regulations**

No 2531/98	Council Regulation (EC) concerning the application of minimum reserves by the European Central Bank	Nov. 23, 1998
No 2532/98	Council Regulation (EC) concerning the powers of the European Central Bank to impose sanctions	Nov. 23, 1998
No 2818/98	Regulation (EC) of the European Central Bank on the application of minimum reserves	Dec. 1, 1998

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

Published in  
F = "Focus on Austria"

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

Official Announcements Regarding the Foreign Exchange Law and Minimum Reserve Requirements – see preceding page	
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
Calendar of Monetary Highlights	F 3/1998
Calendar of Monetary Highlights	F 4/1998
The OeNB's Tasks and Duties in the ESCB	F 4/1998
Calendar of Monetary Highlights	F 1/1999
Calendar of Monetary Highlights	F 2/1999

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

## **Austrian Financial Institutions**

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
Money and Credit in the First Half of 1998	F 3/1998
Austrian Bank Holidays in 1999	F 4/1998
Money and Credit in the First Three Quarters of 1998	F 4/1998
Credit Risk Models and Credit Derivatives	F 4/1998
A Comparison of Value at Risk Approaches and Their Implications for Regulators	F 4/1998
Money and Credit in 1998	F 1/1999
Money and Credit in the First Quarter of 1999	F 2/1999
Austria's Major Loans Register in 1998	F 2/1999

## **Interest Rates**

The Information Content of the Term Structure – The Austrian Case	F 1/1998
An International Comparison of Term Structures – Estimations Using the OeNB Model	F 1/1999

## **Austrian Capital Market**

The Bond Market in 1997	F 2/1998
-------------------------	----------

## **Austrian Public Finance**

<sup>1</sup> For a comprehensive list of  
reports, summaries and studies  
hitherto published please refer  
to issue no. 1/1999 of  
"Focus on Austria."



Published in  
F = "Focus on Austria"**Austrian Real Economy**

Economic Background	F 1/1998
Economic Background	F 2/1998
Economic Background	F 3/1998
Economic Outlook for Austria from 1998 to the Year 2000	F 4/1998
Economic Background	F 4/1998
Economic Background	F 1/1999
Financial Assets and Liabilities of Enterprises and Households in the Year 1995 to 1997	F 1/1999
Economic Outlook for Austria from 1999 to 2001	F 2/1999
Economic Background	F 2/1999

**External Sector**

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
Balance of Payments in the First Quarter of 1998	F 3/1998
Austrian Outward and Inward Direct Investment at the End of 1996	F 3/1998
Balance of Payments in the First Half of 1998	F 4/1998
Balance of Payments in the First Three Quarters of 1998	F 1/1999
Austria's International Investment Position in 1997	F 1/1999
Special Survey on the Regional Allocation of Nonresident Securities Held by Residents as of December 31, 1997	F 1/1999
Balance of Payments for the Year 1998	F 2/1999
New Concept of the Austrian Balance of Portfolio Investment	F 2/1999
Austrian Outward and Inward Direct Investment at the End of 1997	F 2/1999

**Economic and Monetary Union**

Disinflation and Fiscal Indicators – A Comparative Analysis of the EU Member States between 1970 and 1996	F 2/1998
Core Inflation in Selected European Union Countries	F 3/1998
Harmonized Indices of Consumer Prices – Progress and Unresolved Problems in Measuring Inflation	F 2/1999
Economic Policy Co-operation in EMU: European Economic Policy Challenges	F 2/1999

# 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
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>	
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
Economic Consequences of Soviet Disintegration (Bergsten Conference Vienna 1992)	1993
Neuorientierung – Internationale Vermögensposition und Außenwirtschaftliche Investitionsbilanz Österreichs	1993 <sup>1)</sup>
Bankwesengesetz 1993	1994 <sup>1)</sup>

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

	Published
<b>Other Publications (cont.)</b>	
Internationale Vermögensposition 1992 – Die grenzüberschreitenden Forderungen und Verpflichtungen Österreichs	1994 <sup>1)</sup>
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 <sup>1)</sup>
Monetary Policy in Transition in East and West	1997
Die Auswirkungen des Euro auf den Finanzmarkt Österreich	1997 <sup>1)</sup>
Die Bank der Banken	1997
Die Zukunft des Geldes: Auf dem Weg zum Euro	
Grundlagen – Strukturen – Termine	1997
Geld und Währung	1997
Kompendium von Texten zur Wirtschafts- und Währungsunion	1997
Nationalbankgesetz 1984 (as of January 1999)	1999
Information literature on banknote security	recurrently
Working Papers (for a list of the topics discussed in the papers, see below)	recurrently
<b>Videos</b>	
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

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

**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<sup>1)</sup> 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
- 1998 Wirtschaftspolitik 2000 – Die Rolle der Wirtschaftspolitik  
und nationaler Notenbanken in der WWU
- 1999 Möglichkeiten und Grenzen der Geldpolitik

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

**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 <sup>1)</sup>	The Scope for Regional Autonomy in Russia	1993
No. 13 <sup>1)</sup>	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".

Published

**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 <sup>1)</sup>	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
No. 31	The Usual Suspects? Productivity and Demand Shocks and Asian Pacific Real Exchange Rates	1998
No. 32	Price Level Convergence Among United States Cities: Lessons for the European Central Bank	1998
No. 33	Core Inflation in selected European Union Countries	1998
No. 34	The impact of EMU on European unemployment	1998
No. 35	Room for Manoeuvre of Economic Policy in the EU Countries – Are there Costs of Joining EMU?	1998
No. 36	Heterogeneities within Industries and Structure-Performance Models	1998
No. 37	Estimation of the Term Structure of Interest Rates A Parametric Approach	1999
No. 38	On the Real Effects of Monetary Policy: A Central Banker's View	1999

*1 Out of print.*

# Addresses of the Oesterreichische Nationalbank

	Postal address	Telephone	Telex
<b>Head Office</b>			
<b>Vienna</b>	P. O. Box 61	(1) 404 20, ext.	(1) 114669 natbk
9, Otto-Wagner-Platz 3	A-1011 Vienna	Fax: (1) 404 20 2399	(1) 114778 natbk
	Austria		
Internet: <a href="http://www.oenb.at">http://www.oenb.at</a>			
<b>Branch Offices</b>			
<b>Bregenz</b>	P. O. Box 340	(55 74) 49 61, ext.	
Anton-Schneider-Straße 12	A-6901 Bregenz	Fax: (55 74) 49 61 99	
	Austria		
<b>Eisenstadt</b>	P. O. Box 60	(26 82) 627 18, ext.	
Esterhazyplatz 2	A-7001 Eisenstadt	Fax: (26 82) 627 18 99	
	Austria		
<b>Graz</b>	P. O. Box 451	(31 6) 81 81 81, ext.	
Joanneumring 7	A-8011 Graz	Fax: (31 6) 81 81 81 99	
	Austria		
<b>Innsbruck</b>	P. O. Box 505	(51 2) 594 73, ext.	
Adamgasse 2	A-6021 Innsbruck	Fax: (51 2) 594 73 99	
	Austria		
<b>Klagenfurt</b>	P. O. Box 526	(46 3) 576 88, ext.	
10.-Oktober-Straße 13	A-9010 Klagenfurt	Fax: (46 3) 576 88 99	
	Austria		
<b>Linz</b>	P. O. Box 346	(73 2) 65 26 11, ext.	
Coulinstraße 28	A-4021 Linz	Fax: (73 2) 65 26 11 99	
	Austria		
<b>Salzburg</b>	P. O. Box 18	(66 2) 87 12 01, ext.	
Franz-Josef-Straße 18	A-5027 Salzburg	Fax: (66 2) 87 12 01 99	
	Austria		
<b>St. Pölten</b>	P. O. Box 5	(27 42) 313 483, ext.	
Julius-Raab-Promenade 1	A-3100 St. Pölten	Fax: (27 42) 313 483 99	
	Austria		
<b>Representative Offices</b>			
Oesterreichische Nationalbank		(212) 888 2334	(212) 422509 natb ny
New York Representative Office		(212) 888 2335	
General Motors Building 5th floor		Fax: (212) 888 2515	
767 Fifth Avenue			
<b>New York, N.Y. 10153</b>			
<b>U.S.A.</b>			
Permanent Mission of Austria to the EU		(322) 285 48 41, 42, 43	
Avenue de Cortenbergh 30		Fax: (322) 285 48 48	
<b>B-1040 Brussels</b>			
<b>Belgium</b>			
Permanent Mission to the OECD		(331) 53 92 23 39	
3, rue Albéric-Magnard		(331) 53 92 23 44	
<b>F-75116 Paris</b>			
<b>France</b>			
		Fax: (331) 45 24 42 49	