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Austria: Selected Issues and Statistical Appendix

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AUSTRIA

Selected Issues and Statistical Appendix

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Approved by the European I Department

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Contents

I. Potential Output And The Output Gap In Austria: A European Perspective[1]

A. Introduction

1. This chapter presents estimates of potential output and the output gap for Austria, in order to identify the scope for sustainable noninflationary growth and allow an assessment of the current stance of macroeconomic policies.[2] The estimates of the cyclical fluctuations in Austria are then compared with those of the other countries of the European Union (EU), in order to provide the basis for an assessment of the relative economic benefits and constraints for Austria in the context of its participation in EMU, both in the short and longer term.

2. The chapter is organized as follows. Section B briefly describes alternative methods for estimating potential output and the output gap. Section C presents the estimates obtained for Austria and discusses recent developments in the determinants of potential output—including the NAIRU—and the medium-term outlook. Section D compares the main features of the Austrian business cycle, particularly its amplitude and degree of synchronization, with those of other EU countries, and completes the investigation by an econometric analysis of the principal characteristics and correlations of demand and supply shocks in these countries. Section E summarizes the main findings.

B. Approaches to Estimating Potential Output and the Output Gap

3. The definition and estimation of the trend and cyclical components of output raise a number of theoretical and empirical questions, which reflect the ongoing controversy over the origins of economic fluctuations. As potential output is an unobserved variable, a number of statistical and economic approaches have been developed to estimate it and the corresponding output gap. Since such measures are known to be fairly uncertain, this paper presents estimates derived from four different techniques, highlighting the sensitivity of the results to alternative methodologies. These methods avoid some of the shortcomings of more traditional approaches, such as the split time-trend.

The Hodrick-Prescott filter

4. The Hodrick-Prescott (HP) filter is a simple smoothing procedure that has become increasingly popular because of its flexibility in tracking the characteristics of the fluctuations in trend output. Trend output (denoted by y^*) derived using the HP filter is obtained by minimizing a combination of the gap between actual output (y) and trend output and the rate of change in trend output for the whole sample of observations (t):

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[1]Prepared by Antoine Magnier.

[2]In this chapter, the terms "trend" and "potential" output are used interchangeably.

$$(1) \qquad Min \sum_{t=0}^{T} (y_t - y_t^*)^2 + \lambda \sum_{t=2}^{T-1} \left[(y_{t+1}^* - y_t^*) - (y_t^* - y_{t-1}^*) \right]^2 ,$$

where λ determines the degree of smoothness of the trend.

5. The properties and shortcomings of the HP filter have been well documented (Harvey and Jaeger, 1993). A major drawback comes from its inability to extract properly the trend and cyclical components for most macroeconomic variables and the difficulty in identifying the appropriate detrending parameter λ—which is generally overlooked by using arbitrary values popularized by the real business cycle literature. In particular, mechanical detrending based on the HP filter can lead to spurious cyclicality with integrated or nearly integrated time series and an excessive smoothing of structural breaks. A second important flaw of the HP filter arises from its high end-sample biases, which reflect the symmetric trending objective of the method across the whole sample and the different constraints that apply within the sample and at its edges. This flaw is particularly severe when the focus of attention is directed at the most recent observations in the sample in an effort to draw conclusions for policy implementation and make projections for the immediate future.

The nonparametric approach by Coe and McDermott (1997)

6. This method identifies trend output from a nonparametric regression whose functional form does not need to be specified. The approach assumes that the trend has an adequate number of derivatives so that it is smooth enough compared with the cyclical component and allows quite flexible functional forms. The originality of this method is that the degree of smoothing—based on the size of the data window used for each observation—is determined by minimizing a fairly general global error criterion. Contrary to the HP filter, there is thus no need to specify an arbitrary smoothing parameter and the method can be implemented uniformly for different countries.

7. However, this nonparametric method is also subject to some fundamental shortcomings that it shares with other detrending techniques. The general error criterion used—and to some extent the shape of the data window (the so-called kernel)—may not be the most appropriate for extracting the trend and cyclical components of output in each country, and estimates appear also to be affected by strong end-sample biases. Insofar, this method has the same operational drawbacks for policy oriented work as the HP filter method.

The structural VAR approach by Blanchard and Quah (1989)

8. This method stems from the traditional Keynesian and neoclassical synthesis, which identifies potential output with the aggregate supply capacity of the economy and cyclical fluctuations with changes in aggregate demand. Based on a vector autoregression (VAR) for output growth and unemployment, the original method identifies structural supply and demand

disturbances by assuming that the former have a permanent impact on output, while the latter can have only temporary effects on it.[3]

9. Formally, a structural model for growth and unemployment, $y_t = (\Delta lnY_t, U_t)'$

$$(3) \quad y_t = \mu + \Gamma(L)\, e_t \quad where \quad \Gamma(L) = \sum_{i=1}^{\infty} \Gamma_i L^i, \; \Gamma_0 = I_2 ,$$

with $e_t = (e_t^d, e_t^s)'$ the vector of demand and supply shocks, $E(e_t)=0$ and $E(e_t e_t')=I_2$,

can be derived from the assumed VAR representation of its reduced form:

$$(4) \quad \Phi(L)\, y_t = c + \epsilon_t \quad where \quad \Phi(L) = \sum_{i=1}^{p} \phi_i L^i, \; \phi_0 = I_2 ,$$

with $E(\epsilon_t)=0$ and $E(\epsilon_t \epsilon_t')=\Omega$,

and by identifying the transformation $\epsilon_t = A\, e_t$, $A = [a_{ij}]_{1,2}$, with the standard constraint $AA' = \Omega$ and the long-run restriction: $[\phi(1)^{-1}]_{11}\, a_{11} + [\phi(1)^{-1}]_{12}\, a_{21} = 0$, imposed by the condition that demand disturbances cannot have a permanent effect on output.

10. Compared with other multivariate detrending techniques, this method relies on clear theoretical foundations and does not impose undue restrictions on the short-run dynamics of the permanent component of output. In particular, the estimated potential output is allowed to differ from a strict—and most often unrealistic—random walk (Dupasquier et al., 1997). In addition, the output gap estimates derived by this method are not subject to any end-sample biases. One obvious drawback of this approach is that the identification chosen may not be appropriate in all circumstances. This is true when changes in the unemployment rate do not provide good indications of cyclical developments in output. Standard deviations of the output gap estimates also suggest that these measures are particularly uncertain.[4]

The production function approach

11. In its simplest form, this approach postulates a simple two-factor Cobb-Douglas production function for the business sector (Giorno et al., 1995):

$$(5) \quad Ln(Y) = c + \alpha Ln(L) + (1-\alpha) Ln(K) + tfp + e ,$$

---

[3]Extensions of the method and other types of identification can be found in King et al. (1991) and Bayoumi and Eichengreen (1992).

[4]See Staiger et al. (1997) for a conclusions on estimates of the NAIRU.

where Y, L, and K are the value added, employment, and capital stock of the business sector, respectively; *tfp*, the trend total factor productivity (in log form); c, a constant; and e, the residual.

12. With parameter α approximated by labor's share in value added, the contributions of labor and capital to output can be computed and subtracted from the value added of the business sector (in log form). The trend total factor productivity is then derived by smoothing the residuals of the equation.

13. Potential output for the business sector is then computed as:

$$(6) \quad Ln(Y^*) = c + \alpha Ln(L^*) + (1-\alpha)Ln(K) + tfp \ ,$$

where L^* is the trend labor input of the business sector calculated as:

$$(7) \quad L^* = P_{wa} Part^* (1 - NAIRU) - EG \ ,$$

with P_{wa} the working age population; $Part^*$ the trend participation rate; *NAIRU* an estimate of the nonaccelerating-inflation rate of unemployment; and *EG* employment in the government sector.

14. Potential output for the whole economy is then computed by assuming that output of the government sector—measured by the government wage bill—is always at its potential.

15. Compared with other methods, the production function approach can provide useful information on the determinants of potential growth. This approach relies, however, on an overly simplistic representation of the economy, and the estimates of potential output and the output gap are crucially dependent on the NAIRU estimates and sensitive to the detrending techniques used for smoothing the components of the factor inputs. In particular, the estimates from the production function approach also share the end-sample biases that affect the underlying detrending techniques that are used. These estimates may also be affected by measurement errors in factor inputs, particularly in the capital stock.

C. Empirical Estimates of Potential Output and the Output Gap

Estimations

16. The HP filter and the non-parametric filter were implemented on a sample of annual observations for 1960–97, enlarged by medium-term staff projections for real GDP growth in order to reduce the end-point biases for the most recent years. These projections assume growth of 2¾ percent in 1998 and 3 percent in 1999, in line with the latest projections by the Austrian Institute of Economic Research (WIFO, April 1998), followed by 2¾ percent in 2000 and 2½ percent each year in 2001–03. As expected, historical estimates of the output gap from the HP filter depend significantly on the choice of the detrending parameter λ.

However, for values of λ in a range of 25 to 400, these differences appear quite marginal for recent years. This parameter was thus fixed at 100.

17. The Blanchard and Quah decomposition of output was obtained from a bivariate VAR model for changes in real GDP (in log form) and deviations of the unemployment rate from its trend (derived in turn from the HP filter, including medium-term staff projections in line with WIFO) estimated on annual data for 1963–97.[5] Potential output was then computed by a full-sample dynamic simulation with actual supply disturbances while demand disturbances were set at zero.

18. In the production function approach, the parameter α was assumed to be ⅔, close to—albeit somewhat above—simple measures of labor's share in GDP from national accounts estimates. The NAIRU was assessed on the basis of staff estimates (see below) and other production inputs were smoothed with the HP filter, using staff medium-term projections to reduce end-sample biases. Data for the capital stock of the business sector are from the OECD's Economic Outlook database, entailing a depreciation rate of about 3 percent a year for 1960–97.

Measures of potential output and the output gap

19. The measures of potential output and the output gap obtained from the four different methods are shown in Table I-1 and Figure I-1. Interestingly, measures derived from the HP filter, the nonparametric, and the production function methods are very similar, while estimates using the decomposition of Blanchard and Quah share their main characteristics.[6] All the measures indicate that potential output growth experienced a sharp slowdown in the 1970s, from 4½– 5 percent a year at the beginning of the decade to 2–2½ percent in the early 1980s, and that it has fluctuated in this range thereafter. These developments are broadly in line with the experience of most other industrial countries, particularly in the EU, although some of them achieved higher potential growth during the period (Giorno et al., 1995).

20. Fluctuating between 2¼ percent and 2½ percent in the 1990s, potential growth appears to have been limited to the lower part of that range in the most recent years. The different estimates also suggest that the amount of slack in the economy is relatively modest at present. The HP filter, the nonparametric and the production function approach indicate that the output gap was between ¾ percent and 1 percent of GDP in 1997—after 1 percent in

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[5]Deviations of the unemployment rate from its trend were used rather than the unemployment rate itself as the latter appears to be a series integrated of order 1, reflecting a steady rise since the beginning of the 1980s (see Blanchard and Quah, 1989, for a discussion of this issue).

[6]This feature is not overly surprising, however, as Coe and McDermott have shown that their approach delivers, under certain circumstances, results similar to those of the HP filter method and since the production function approach relies on smoothing some components of factor input with the HP filter.

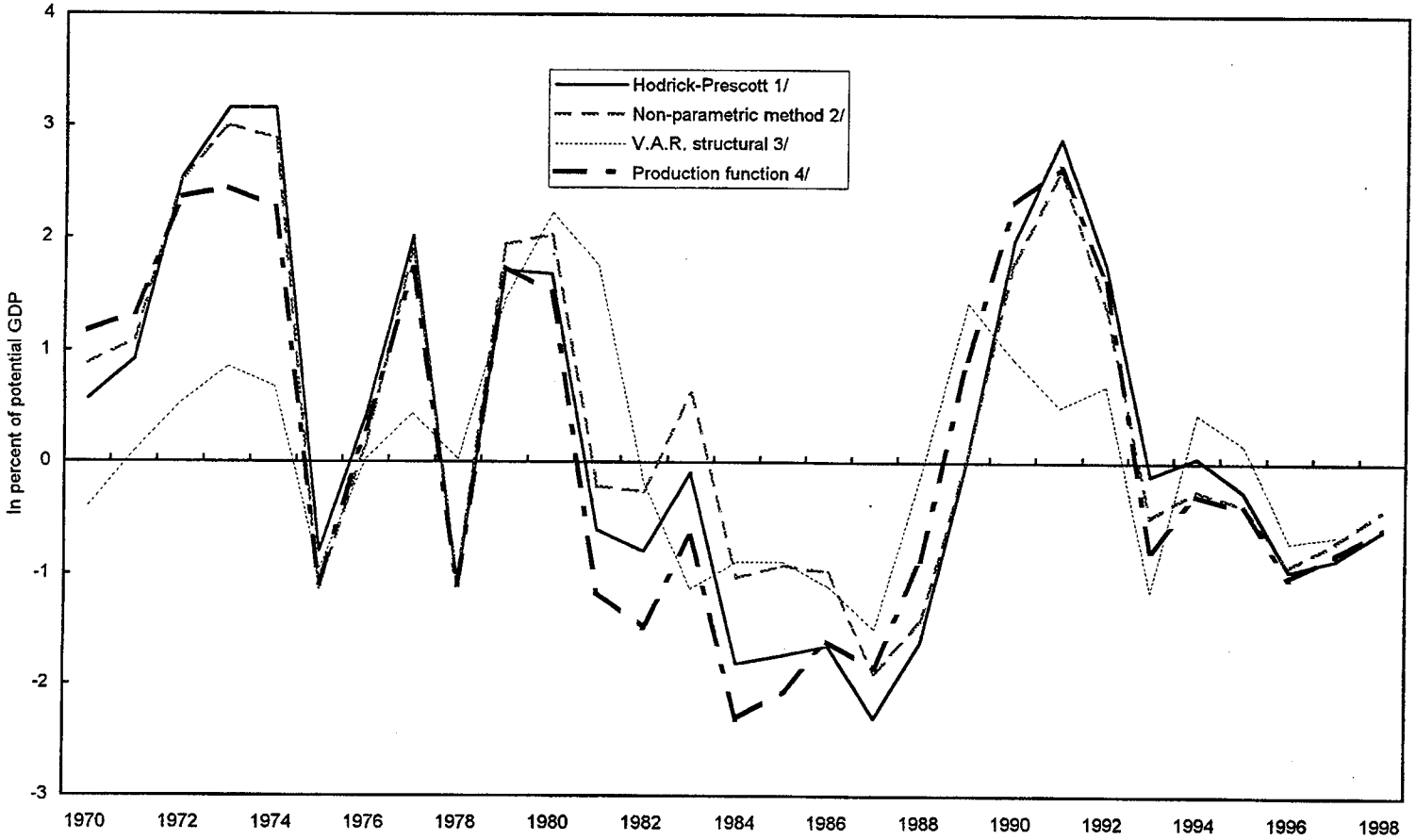
Table I-1. Austria: Alternative Estimates of Potential Growth and Output Gap Estimates

	Actual real GDP	Potential GDP				Output gaps			
		HP filter 1/	Nonpara--metric 2/	V.A.R. structural 3/	Production function 4/	HP filter 1/	Nonpara--metric 2/	V.A.R. structural 3/	Production function 4/
	(Annual percentage change)					(In percent of potential GDP)			
1987	1.7	2.4	2.6	2.1	1.9	-2.3	-1.9	-1.5	-1.9
1988	3.2	2.5	2.7	1.7	2.1	-1.6	-1.4	-0.1	-0.9
1989	4.2	2.5	2.7	2.7	2.4	0.0	0.0	1.4	0.9
1990	4.6	2.5	2.7	5.1	3.1	2.0	1.8	0.9	2.3
1991	3.4	2.5	2.6	3.9	3.1	2.9	2.6	0.5	2.6
1992	1.3	2.5	2.5	1.2	2.4	1.8	1.4	0.7	1.6
1993	0.5	2.4	2.4	2.4	2.9	-0.1	-0.5	-1.2	-0.8
1994	2.5	2.4	2.3	0.9	2.0	0.0	-0.2	0.4	-0.3
1995	2.1	2.4	2.2	2.3	2.2	-0.2	-0.4	0.2	-0.4
1996	1.6	2.4	2.2	2.5	2.3	-1.0	-0.9	-0.7	-1.0
1997	2.5	2.4	2.3	2.4	2.3	-0.9	-0.7	-0.6	-0.8
1998	2.7	2.4	2.4	...	2.4	-0.6	-0.4	...	-0.6
1999	3.0	2.5	2.0	...	2.6	-0.1	0.5	...	-0.1
Memorandum items:									
Average for:									
1971-80	3.6	3.5	3.5	...	3.6				
1981-90	2.3	2.3	2.3	2.4	2.2				
1991-97	2.0	2.4	2.4	2.2	2.5				
1994-97	2.2	2.4	2.2	2.1	2.2				

Sources: WIFO; OECD, Economic Outlook; and staff caclulations.

1/ Hodrick-Prescott filter with λ equal to 100 and real GDP growth projections for 1998-2003 identical to those by WIFO for 1998-99 (April 1998).
2/ Non-parametric method of Coe and McDermott (1996) and growth projections for 1998-2003 identical to those by WIFO for 1998-99 (April 1998).
3/ V.A.R. structural approach from Blanchard and Quah (1989) based on a V.A.R. model of order 2 on annual changes in real GDP (in log) and deviations of the unemployment rate from its trend (estimated with the HP filter). Period of estimation: 1975-97.
4/ Production function approach with projections for 1998-2003 for real GDP and factor inputs identical to those by WIFO for 1998-99 (April 1998).

Figure I-1. Austria: Output Gap Measures from Different Methods



Sources: WIFO; OECD, Economic Outlook; and staff estimates.

1/ Applied on 1960-2003 with λ=100 and real GDP growth projections for 1998-2003 in line with those of WIFO for 1998-99 (April 1998).
2/ Method by Coe and McDermott (1997) on 1960-2003 with growth projections for 1998-2003 in line with WIFO for 1998-99 (April 1998).
3/ Based on Blanchard and Quah (1989) for 1963-97 with changes in real GDP (in log form) and deviations of the unemployment rate from its trend.
4/ Production function approach (Giorno et al., 1995) with medium-term projections for growth and factor inputs in line with WIFO for 1998-99.

1996—while the VAR structural approach points to a somewhat smaller output gap. With real GDP growth envisaged at 2¾ percent in the latest projections by WIFO (April 1998), this output gap would be reduced to ½ percent of GDP in 1998 and all but closed by 1999. These results are broadly consistent with the findings of existing empirical studies (Hahn and Rünstler, 1996; Fritzer and Glück, 1997; and OECD, 1998). The absence of significant inflationary pressures could, however, reflect a higher amount of slack in the economy.

The NAIRU

21. In order to assess the amount of slack in the labor market, this section presents estimates of the nonaccelerating-inflation rate of unemployment (NAIRU), which were used as a component of the production function approach. Such estimates are known to be highly uncertain,[7] and therefore this section will be confined to simple analysis.

22. The Austrian labor market appears more flexible than those of most other EU counties (see chapter II). However, several features suggest that the increase in the overall unemployment rate since the early 1980s—from 1½ percent close to 6½ percent of the total labor force in 1997—reflects a notable rise in its structural component. The top left part of Figure I-2 does indeed point to an adverse shift in the short-run Phillips curve and a marked increase in the NAIRU during the period. Apparent shifts in the Beveridge curve and in the standard Okun relation also support this view.

23. Simple estimates of the NAWRU (nonaccelerating-wage rate of unemployment, which is assumed identical with the NAIRU in this section) were derived from the simple approach proposed by Elmeskov (1993). This method essentially assumes that changes in wage inflation are proportional to the gaps between actual unemployment and the NAWRU:

$$(8) \qquad \Delta^2 Ln(W) = -a\ (U - NAWRU)\ ,$$

where W is an index of nominal wages.

24. With the additional assumption that the NAWRU does not change significantly from one year to another, the NAWRU can thus be simply approximated by:

$$(9) \qquad NAWRU = U - (\Delta U / \Delta^3 Ln(W))\ \Delta^2 Ln(W)\ ,$$

and the resulting variable is then smoothed with the HP filter after outliers are eliminated by interpolations.

25. As expected, the results display a marked increase in the estimated NAWRU and indicate that its present level could stand at close to 6 percent of the total labor force

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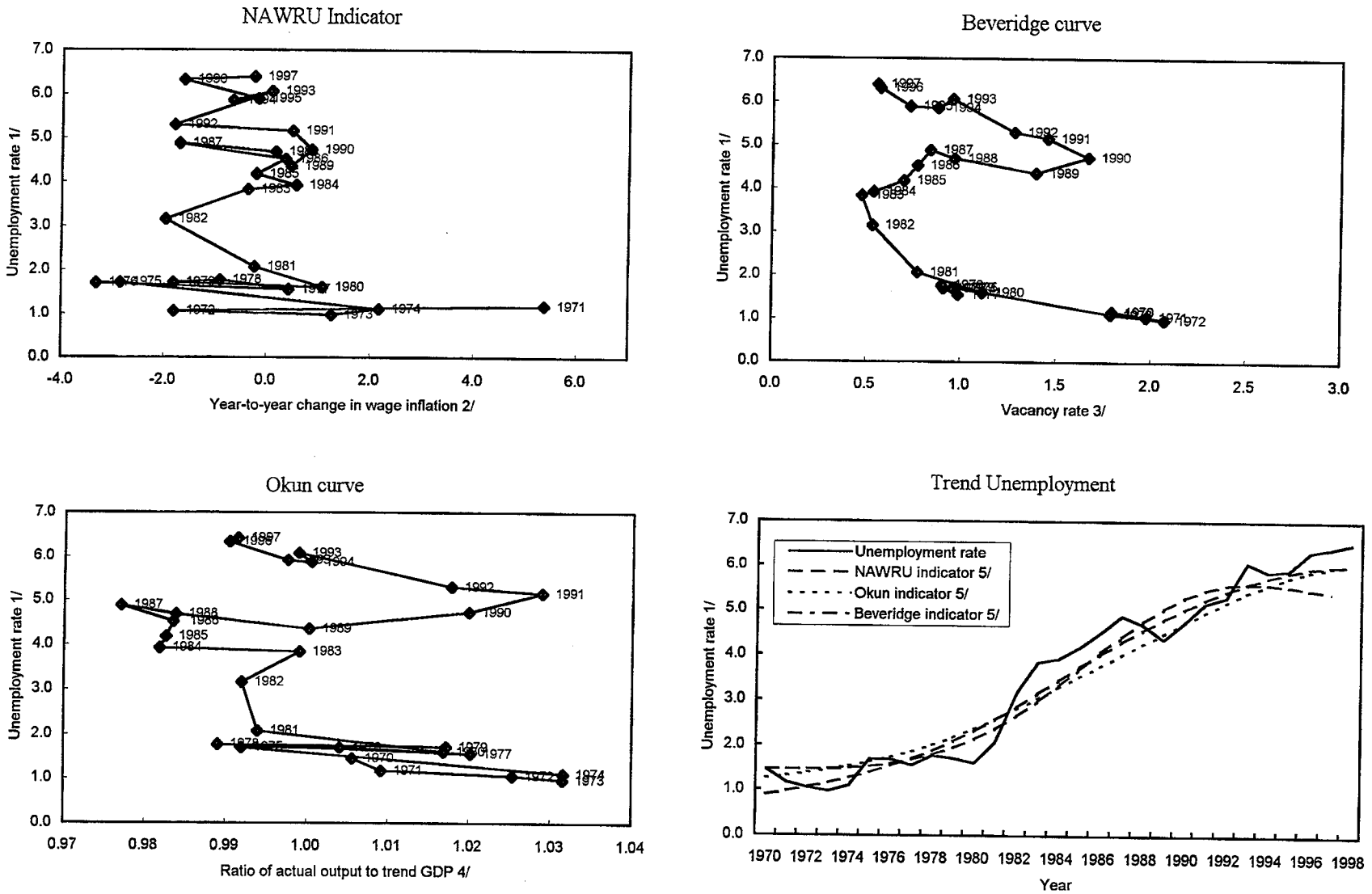
[7]See, for instance, Staiger, Stock and Watson (1996) for a recent study on the precision of conventional and unconventional econometric estimates of the NAIRU in the United States.

Figure I-2. Austria: Structural Unemployment Indicators 1/
(In percent unless otherwise noted)



Sources: WIFO; OECD, Economic Outlook; and staff estimates.

1/ Unemployment to total labor force (including self employment) ratio.
2/ Based on compensation rate in business sector. 3/ Vacancies to total employment ratio (in percent). 4/ Trend GDP by Hodrick-Prescott filter.
5/ See Elmeskov (1993).

(Figure I-2). Indicators of structural unemployment based on a flexible Okun curve and unfilled vacancies and a flexible Beveridge curve—obtained as in Elmeskov (1993)—point to a similar increase in structural unemployment, although of a somewhat smaller magnitude for the latter.[8] These estimates of the NAIRU appear consistent with, although somewhat higher on average than, those of existing empirical studies, which would tend to point to an unemployment gap of ¼ to 1 percent of the labor force in the most recent years. These studies also suggest that the rise in the NAIRU since the early 1980s would be the result of the increase in labor taxation, particularly social security contributions, and of the increase in the share of long-term unemployment (Pichelmann, 1997) and the slower integration of young workers into the labor force (Fritzer and Glück, 1997).

Determinants of potential output and medium-term outlook

26. The production function approach helps to identify the main determinants of potential growth, assessing the respective contributions of capital, labor, and total factor productivity (Table I-2; and Figures I-3, I-4, and I-5). It appears that the sharp slowdown in potential growth experienced in the 1970s was mainly (and almost equally) due to (i) a pronounced reduction in business investment—inducing a decline in capital accumulation from 7–8 percent a year in the early 1970s to about 3 percent a year in the first half of the 1980s—and (ii) a decline of trend factor productivity growth from 2½ percent at the beginning of the decade to 1 percent a year in the early 1980s, a level that is relatively low by international standards. Despite modest growth in the working age population, the contribution of labor to potential growth remained slightly negative, owing to a more than offsetting decline in the participation rate—reflecting in part the increased recourse to early retirement and disability pension schemes—and the rise in the NAIRU.

27. For the most recent years, low growth in the working age population and a further rise in the NAIRU, together with a stabilization of the labor force participation rate and trend factor productivity growth, seem to have limited potential growth to 2¼ percent a year, despite a slight pick-up in capital accumulation. The recent and projected strong expansion of business investment—particularly for machinery and equipment—and a likely stabilization of the NAIRU could, however, allow a modest acceleration of potential growth to, say, 2½ percent per annum in the next few years. A gradual decline in the NAIRU, allowed by recent and prospective labor market reforms, as well as strong productivity increases, such as those recently achieved in the manufacturing sector, might even push it somewhat beyond that level in the medium term. This underscores the importance of proceeding with further structural reforms in the labor and product markets (see chapter II for a review of these reforms).

28. The present estimates of the NAIRU and the output gap point to a small amount of slack and its virtual elimination by 1999, while most business surveys do not envisage any

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[8]The indicator based on the Beveridge curve appears less reliable, however, since it is subject to the strong end-of-sample bias associated with the HP filter.

Table I-2. Austria: Contributions to Potential GDP Growth and Output Gap in Production Function Approach 1/

	Potential output growth					Output gap			
	Total economy	Business sector	Contributions			Total economy	Business sector	Contributions	
			Labor	Capital	Trend TFP 2/			Labor	Residual
	(In percent)								
1987	1.9	2.0	-0.3	1.2	1.1	-1.9	-2.2	-1.4	-0.8
1988	2.1	2.2	-0.3	1.3	1.2	-0.9	-1.0	-0.9	-0.1
1989	2.4	2.4	-0.1	1.4	1.1	0.9	1.1	0.2	0.9
1990	3.1	3.3	0.7	1.5	1.1	2.3	2.7	0.8	1.9
1991	3.1	3.2	0.6	1.5	1.0	2.6	3.1	1.3	1.8
1992	2.4	2.4	0.0	1.4	1.0	1.6	1.9	2.1	-0.2
1993	2.9	2.9	0.8	1.2	0.9	-0.8	-0.9	0.4	-1.3
1994	2.0	1.9	-0.4	1.3	0.9	-0.3	-0.3	0.3	-0.7
1995	2.2	2.5	0.2	1.3	0.9	-0.4	-0.5	-0.2	-0.2
1996	2.3	2.6	0.4	1.3	0.9	-1.0	-1.2	-1.1	-0.1
1997	2.3	2.5	0.3	1.3	0.9	-0.8	-1.0	-1.2	0.2
1998	2.4	2.7	0.4	1.4	0.9	-0.6	-0.7	-0.8	0.1
1999	2.6	2.8	0.4	1.4	0.9	-0.1	-0.2	-0.3	0.1
Memorandum items:									
Average for:									
1971-80	3.6	3.6	-0.2	2.1	1.7				
1981-90	2.2	2.3	-0.1	1.2	1.1				
1991-97	2.5	2.6	0.3	1.3	1.0				
1994-97	2.2	2.4	0.1	1.3	0.9				

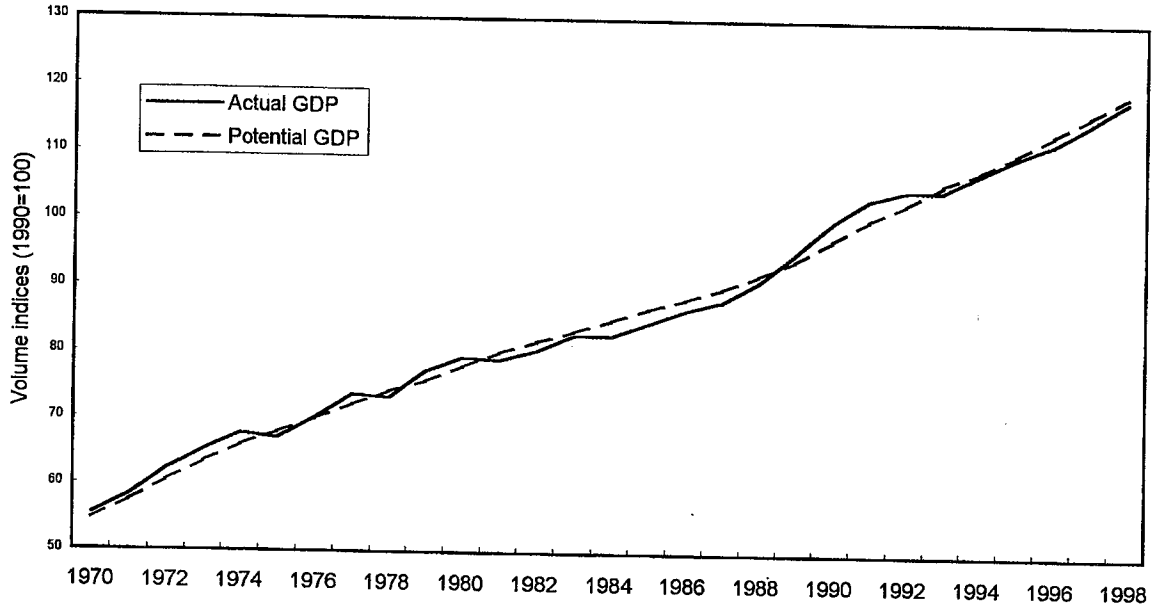
Source: Staff calculations.

1/ Production function approach with projections for 1998-2003 for real GDP growth and factor inputs identical to those by WIFO for 1998-99 (April 1998).

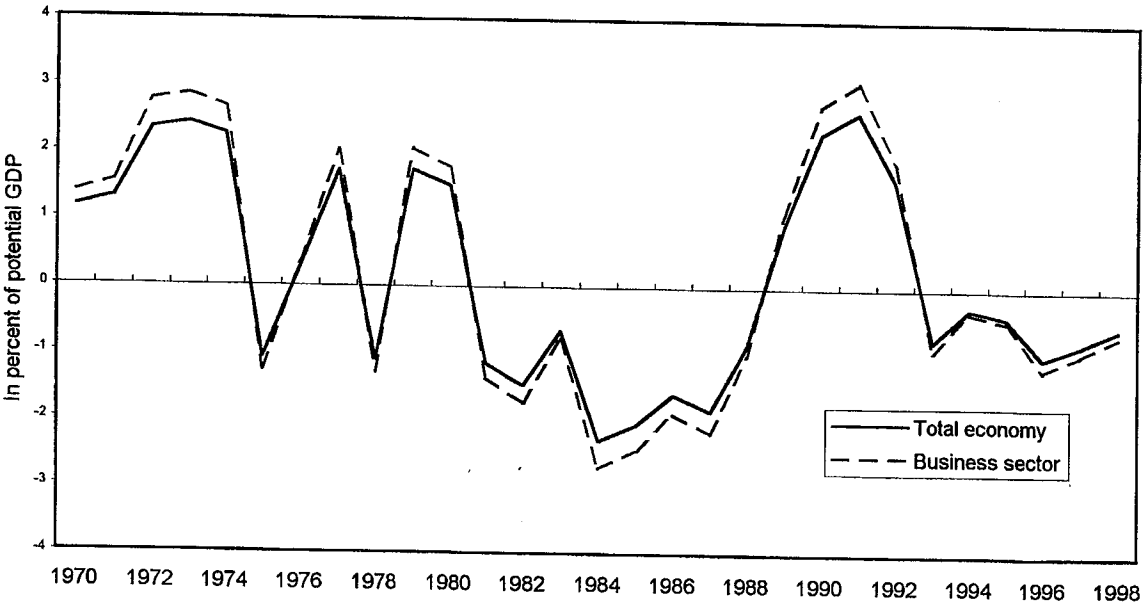
2/ Estimated trend total factor productivity.

Figure I-3. Austria: Potential GDP and Output Gap
Estimated by Production Function Method 1/

Actual and Potential GDP in Business Sector



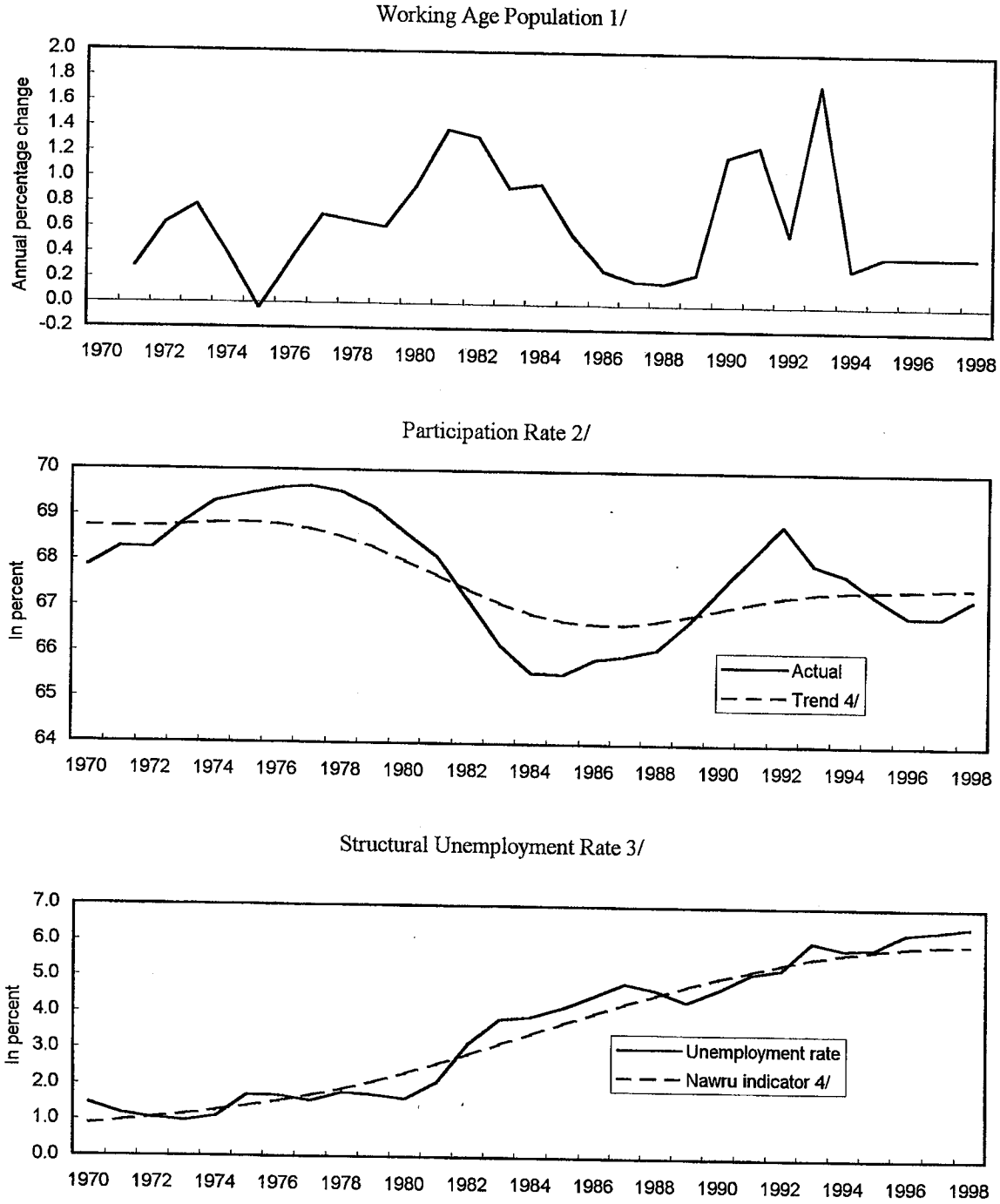
Output Gap



Sources: WIFO; OECD, Economic Outlook; and staff estimates.

1/ Computations based on the standard production function approach (see Giorno et al., 1995) and staff medium-term assumptions for real GDP growth and factor inputs in line with WIFO projections for 1998-99 (April 1998).

Figure I-4. Austria: Labor Input for Production Function Method

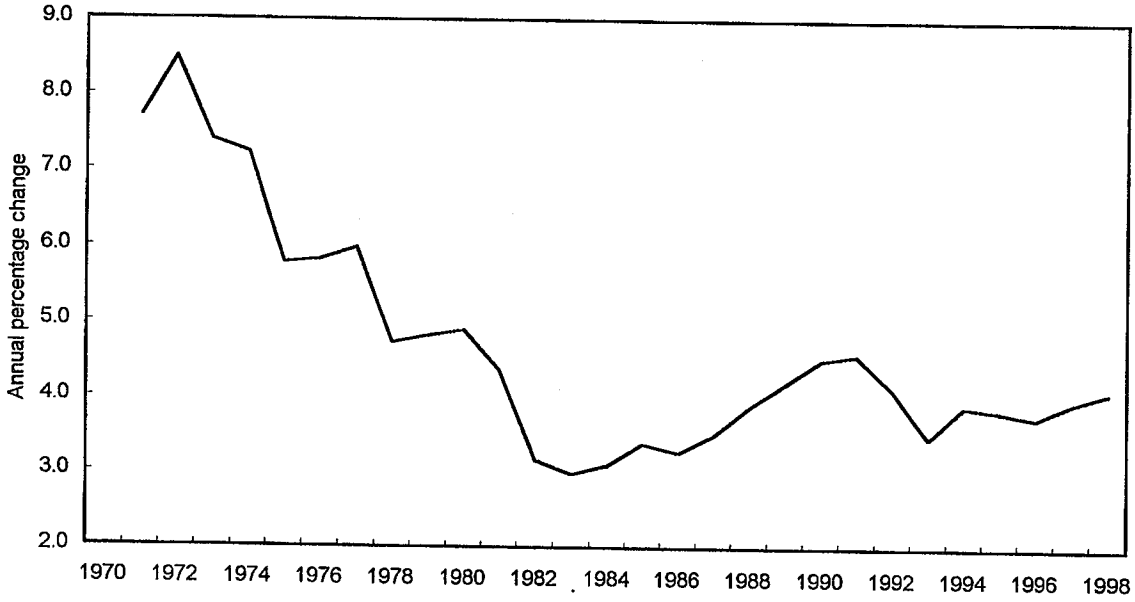


Sources: WIFO; OECD, Economic Outlook; and staff calculations.

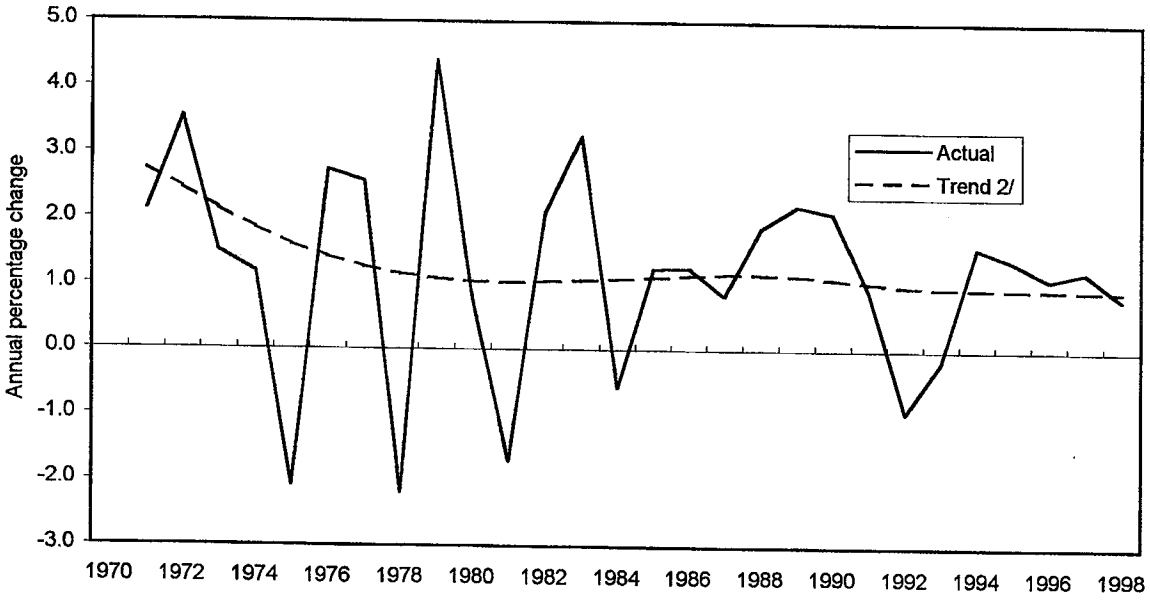
1/ Population of age 15-64 (source OECD).
2/ Ratio of total labor force (including self-employment) to working age population.
3/ Unemployment in percent ot total labor force (including self-employment).
4 / Staff calculations.

Figure I-5. Austria: Capital Input and Total Factor Productivity for Production Function Method

Capital Stock in Business Sector 1/



Total Factor Productivity in Business Sector



Sources: WIFO; OECD, Economic Outlook; and staff calculations.

1/ Volume of capital stock in business sector excluding residential (Source OECD).
2/ Saff calculations.

significant production bottlenecks or labor shortages, and wage and price inflation are projected to remain subdued in the near term. The estimates are undoubtedly subject to a high level of uncertainty, as illustrated by the difficulty of extracting the trend component of labor input and factor productivity growth (Figures I-4 and I-5), and may overestimate the NAIRU and underestimate the remaining output gap. Nevertheless the growth assumptions (based on the latest WIFO projections) do not envisage any significant overheating in the medium term, as output would remain rather close to, albeit somewhat above, its potential in the period ahead. Besides, the recent disinflation is partly explained by increased competition resulting from Austria's membership in the EU and the opening of the Central and East European countries (CEECs). These factors should continue to prevail—particularly with the implementation of EMU—contributing to moderate inflationary pressures in the years ahead.

D. A European Perspective

29. As Austria is set to participate in EMU from the outset, monetary policy will be determined by the European Central Bank (ECB) from January 1999, on the basis of EMU-wide economic conditions, and fiscal policy will be constrained by the Stability and Growth Pact. With these prospects, interest rates in the countries selected to participate in EMU should further converge this year. Looking ahead, Austria's balance of economic benefits and costs resulting from EMU will depend on how closely it can form an optimal currency area with the other countries of the union. This section attempts to shed some light on these aspects by assessing the relative amplitude and correlation of Austrian cyclical fluctuations with those of other EU countries.

The output gaps in Austria and the EU

30. Cyclical fluctuations in Austria appear to be of a smaller amplitude than in most other EU countries (Table I-3). The volatility of growth over 1970–97 was indeed similar to that of other core EMU countries, such as Belgium, France, Germany, and the Netherlands, but somewhat lower than in most other EU countries. Meanwhile, employment and particularly the unemployment rate, have been more stable than in practically all other EU countries. Owing to the high credibility of the exchange rate peg to the deutsche mark, inflation also was nearly as stable as in Germany over the period. These cyclical features were also associated with smaller fluctuations in real wages.

31. With a standard deviation of 1½ percent of GDP over 1970–97, measures of the output gap from the HP filter, the nonparametric method, as well as from the WEO (based on the production function approach for Austria) converge to indicate that the output gap in Austria has been less volatile than in other EU countries, with the possible exception of France

Table I-3 Austria: Amplitude of Cyclical Fluctuations in Austria and the European Union, 1970-97

	Standard deviation of annual percentage change in:					Ouput gaps from:								
						HP filter 2/			Non-parametric method 3/			Production funtion and WEO 4/		
	Real GDP	Employment	Unemploy--ment rate	Consumer price index	Real wages 1/	Min--imum	Max--imum	Standard deviation	Min--imum	Max--imum	Standard deviation	Min--imum	Max--imum	Standard deviation
						(In percent)								
Austria	2.0	0.8	0.4	2.3	2.0	-2.3	3.2	1.6	-1.9	3.0	1.5	-2.3	2.6	1.6
Belgium	2.1	0.9	0.9	3.2	...	-2.5	3.8	1.8	-2.2	4.0	1.8	-3.2	7.9	3.4
Denmark	1.9	1.3	1.1	3.8	...	-3.6	3.8	1.9	-3.2	3.7	1.9	-3.9	3.3	1.8
Finland	3.3	2.6	1.8	4.8	3.2	-8.2	9.1	4.0	-7.2	8.1	3.4	-12.9	7.4	4.9
France	1.7	0.7	0.6	4.1	1.6	-2.1	3.2	1.6	-2.2	3.1	1.5	-3.8	4.4	2.3
Germany 5/	2.0	1.3	0.8	1.9	3.4	-3.0	5.0	2.2	-3.1	4.6	2.1	-3.9	3.4	2.3
Greece	3.1	1.2	0.8	5.5	7.2	-3.0	5.8	2.3	-2.7	6.3	2.3	-4.9	9.3	4.2
Ireland	2.6	2.0	1.3	6.4	2.8	-4.4	4.1	2.3	-4.1	3.7	1.9	-5.2	8.0	3.3
Italy	2.1	1.0	0.6	5.9	2.9	-3.4	3.1	1.8	-2.9	3.6	1.7	-3.1	4.0	2.1
Netherlands	1.6	1.3	1.0	3.0	2.8	-3.4	2.3	1.6	-2.9	2.4	1.6	-3.3	3.2	1.8
Portugal	3.3	2.4	1.0	7.0	7.8	-5.4	8.3	3.2	-4.4	8.2	2.8	-3.0	11.0	3.4
Spain	2.2	2.1	1.5	5.6	3.2	-3.6	5.3	2.7	-2.6	5.1	2.1	-3.2	5.0	2.7
Sweden	1.9	1.8	0.8	3.4	2.7	-4.8	3.6	2.1	-4.9	3.4	2.0	-4.8	3.5	2.3
United Kingdom	2.3	1.7	1.3	5.5	2.3	-4.1	5.2	2.6	-3.8	5.2	2.6	-4.7	5.5	2.8
EU 5/	1.6	0.8	0.7	3.6	...	-2.1	3.3	1.6	-1.9	3.4	1.5	-3.1	3.4	1.9
EU11 5/	1.7	0.8	0.6	3.5	...	-2.0	3.0	1.7	-1.8	3.1	1.6	-2.9	2.9	1.9
Canada	2.4	1.7	1.1	3.4	2.0	-4.9	4.6	2.4	-3.9	3.9	2.0	-5.4	2.4	2.3
Japan	2.5	0.7	0.2	5.0	2.7	-2.4	6.6	2.7	-1.4	5.7	1.8	-4.0	4.8	2.4
United States	2.3	1.4	1.1	3.0	1.6	-5.0	3.1	2.1	-4.7	3.6	2.1	-5.8	2.5	2.1

Sources: WIFO; OECD, Economic Outlook; IMF, World Economic Outlook; and staff calculations.

1/ Compensation rate of business sector deflated by consumer price index.
2/ HP filter applied with λ=100 on 1960-2003 with real GDP growth projections for 1998-2003 by staff for Austria and from the WEO (April 1998) for other countries.
3/ Non-parametric method by Coe and McDermott (1996) applied on 1960-2003 with real GDP growth projections for 1998-2003 by staff for Austria and from the WEO (April 1998) for other countries.
4/ Estimates from the production function for Austria (with medium-term projections for growth and factor inputs in line with WIFO for 1998-99) and from the WEO (April 1998) for other countries.
5/ Based on West Germany only, for fluctuations in growth, employment and the unemployment rate, as well as for output gaps from the HP filter and the non-parametric method.

and the Netherlands.[9] With a maximum output gap of 2¾ percent of GDP obtained from the HP filter and the production function approach, and 2 percent of GDP obtained from the nonparametric method, the troughs of recessions in Austria appear to have been significantly less deep than in other EU countries. Conversely, phases of overheating were also less severe, with output exceeding its potential by no more than 2½–3 percent during 1970–97.

32. The lower amplitude of the Austrian business cycle could be attributed to higher aggregate real wage flexibility (see chapter II)—resulting from the highly centralized wage negotiations under the social partnership system—and pronounced consumption-smoothing patterns—possibly associated with greater job security under the social partnership system and a large stock of household savings—while macroeconomic policies may have also been more successful, with monetary policy subject to the deutsche mark peg since the early 1980s and a significant countercyclical role for fiscal policy, particularly during recessions. It is likely that some of these factors influenced others, but ascertaining any such interdependence is beyond the scope of this paper.

33. Table I-4 shows that the different measures of the output gap for Austria appear closely correlated with their counterparts in other core EMU countries, as well as with those in Portugal and Spain over 1970–97. Correlation coefficients with output gaps in the EU as a whole and the group of 11 countries selected to participate in EMU from the outset (EU11) reaches as high as 0.7–0.8 over the period. This relatively high synchronization with the core countries of the euro area suggests that monetary policy by the ECB should generally be adapted to Austrian economic conditions and that the net economic benefits of EMU should be higher for Austria than for some other EU countries.

34. At present, WEO estimates indicate that the amount of slack in the Austrian economy is smaller than in major EU countries such as Germany, France, and Italy and the future euro area as a whole (Figure I-6). This would support the view that a moderate monetary policy tightening in the run-up to, or just after the beginning of, EMU would be unlikely to derail the present recovery in Austria and might be helpful to maintain low inflation. Finally, it is intriguing that estimates of the output gap using the HP filter method point to much closer cyclical positions for Austria and other EMU countries.

Demand and supply disturbances in Austria and the EU

35. The present investigation was extended to compare the respective size, correlations, and economic impact of demand and supply disturbances in Austria and in other EU countries. Such disturbances were derived from a Blanchard and Quah decomposition (see sections B and C) for all EU countries.

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[9]The cyclical fluctuations for the EU and the euro area as a whole are of a similar amplitude as in Austria. This low amplitude however reflects the aggregation of national cycles that are not perfectly synchronized.

Table I-4 Austria: Correlations of Cyclical Fluctuations in Austria and the European Union, 1970-97

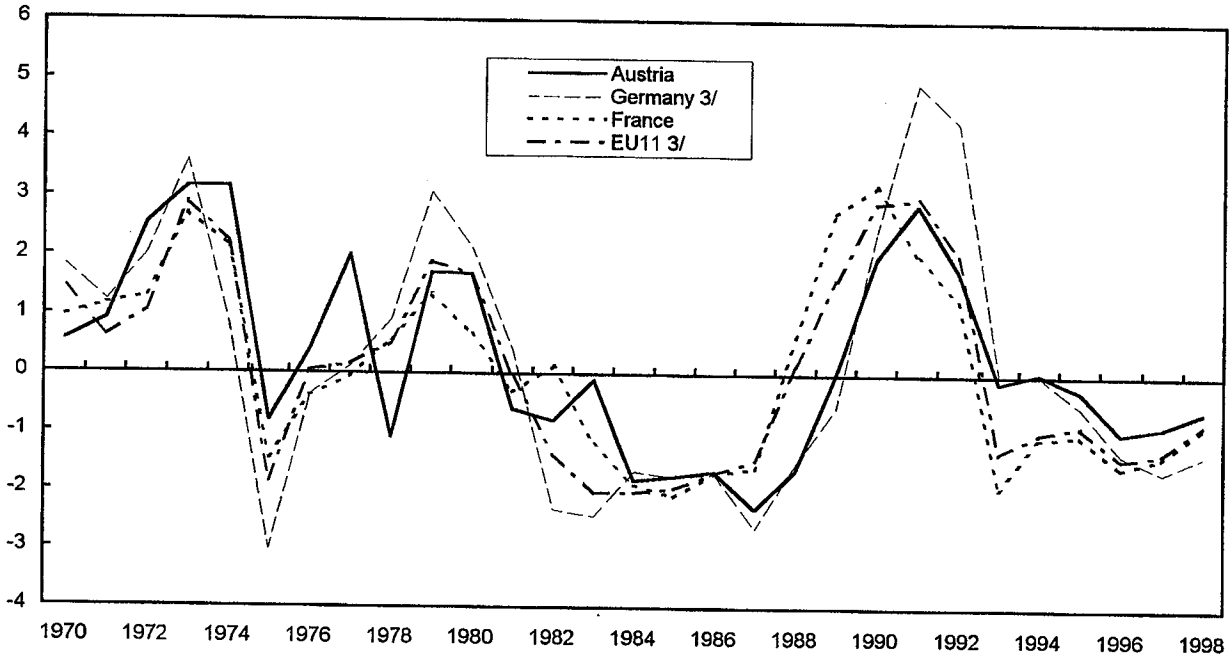
	Correlation with Austria				Correlation with EU11 1/			
	Annual real GDP growth	Output gap measures from:			Annual real GDP growth	Output gap measures from:		
		HP filter 2/	Non-param. method 3/	Prod. funct. and WEO 4/		HP filter 2/	Non-param. method 3/	Prod. funct. and WEO 4/
Austria	1.0	1.0	1.0	1.0	0.8	0.8	0.8	0.8
Belgium	0.7	0.8	0.8	0.6	0.9	0.9	0.9	0.7
Denmark	0.3	0.0	0.1	0.2	0.4	0.1	0.2	0.2
Finland	0.3	0.1	0.2	0.1	0.4	0.4	0.4	0.5
France	0.7	0.8	0.8	0.6	0.9	0.9	0.9	0.9
Germany 4/	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Greece	0.4	0.5	0.5	0.5	0.6	0.7	0.7	0.7
Ireland	0.0	0.2	0.3	0.5	0.1	0.3	0.5	0.6
Italy	0.6	0.5	0.6	0.2	0.9	0.8	0.8	0.7
Netherlands	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7
Portugal	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.8
Spain	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Sweden	0.3	0.2	0.2	0.4	0.5	0.4	0.4	0.6
United Kingdom	0.2	0.2	0.2	0.4	0.4	0.5	0.4	0.6
EU 4/	0.7	0.7	0.7	0.7	1.0	1.0	1.0	1.0
EU11 4/	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0
Canada	0.2	0.0	0.0	-0.1	0.4	0.3	0.3	0.3
Japan	0.6	0.6	0.6	0.5	0.7	0.8	0.8	0.6
United States	0.0	0.1	0.1	0.2	0.4	0.4	0.4	0.4

Sources: WIFO; OECD, Economic Outlook; IMF, World Economic Outlook; and staff calculations.

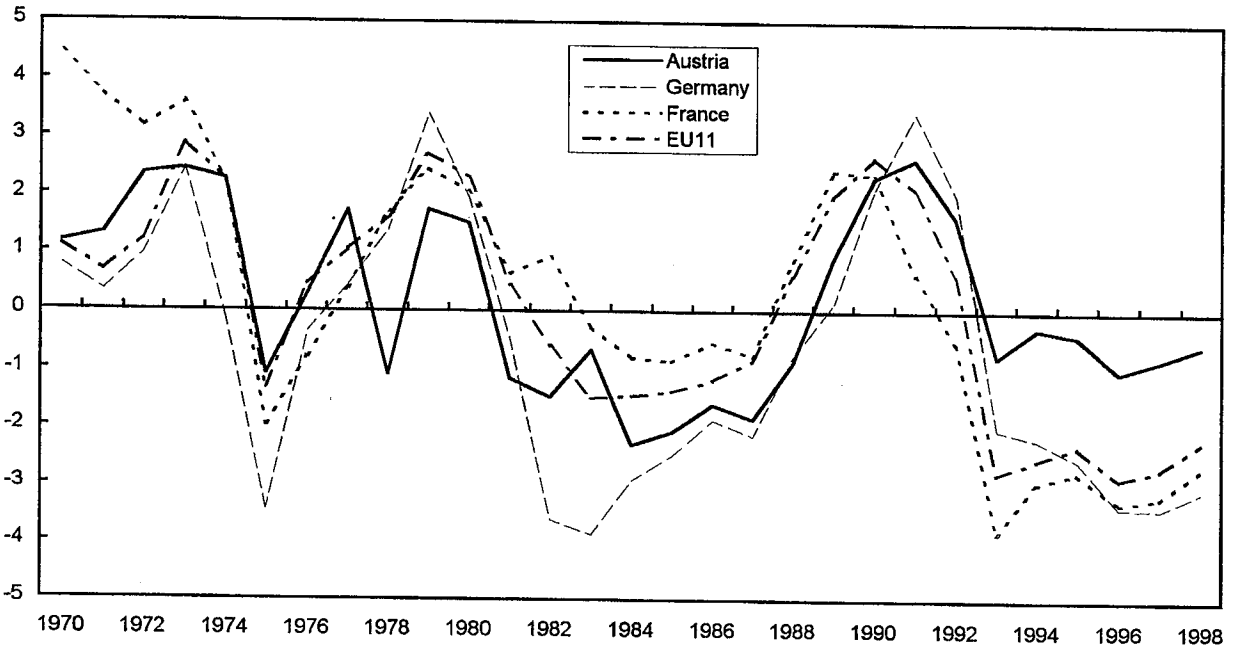
1/ EU countries, except Denmark, Greece, Sweden and the UK. Based on the west part of Germany only.
2/ See footnote 2/ in Table 3.
3/ See footnote 3/ in Table 3.
4/ See footnote 4/ in Table 3.
5/ See footnote 5/ in Table 3.

Figure I-6. Austria: Output Gap in Austria and the EU

Estimates from the Hodrick-Prescott Filter 1/



Estimates from the Production Function and the WEO 2/



Sources: WIFO; IMF, World Economic Outlook; and staff estimates.

1/ Applied with a detrending parameter λ=100 on 1960-2003, with projections for real GDP growth for 1998-2003 by staff for Austria and the WEO (April 1998) for other EU countries.
2/ Estimates from the production function for Austria and WEO (April 1998) for other EU countries.
3/ Based on the west part of Germany alone.

36. The identification chosen, based on changes in real GDP (in log form) and deviations in the unemployment rate from its trend, may not provide sufficient information on supply and demand shocks for all EU countries, given in particular the likely importance of the unemployment hysteresis effect. The results obtained share some important characteristics with those derived by Bayoumi and Eichengreen (1992) from another identification based on growth and inflation, but there are also some significant differences between the two sets of results.

37. Figures I-7 to I-9 show the correlations of demand and supply shocks for all EU countries with Germany and the entire prospective euro area (EU11), on the basis of estimates for 1963–97, as well as for 1963–89 in order to abstract from the impact of German unification in 1990. From an Austrian perspective, demand shocks appear to have been highly correlated in the past with those of Germany and the EU11 as a whole, a characteristic shared with Belgium and the Netherlands, and—maybe to a smaller extent—France and Spain. While the correlations of supply shocks within the core group of EMU countries appear somewhat smaller than in Bayoumi and Eichengreen (1992), the present estimates indicate that those for Austria are also significantly correlated with those in Germany and the EU11.

38. According to Figure I-9, demand disturbances in Austria would have been of a somewhat smaller amplitude than in most other EU countries, while supply disturbances might have been somewhat higher than the average. However, the difficulty of interpreting the experience of some other countries—including France, Italy, and the United Kingdom—suggests that these results be interpreted with great caution.

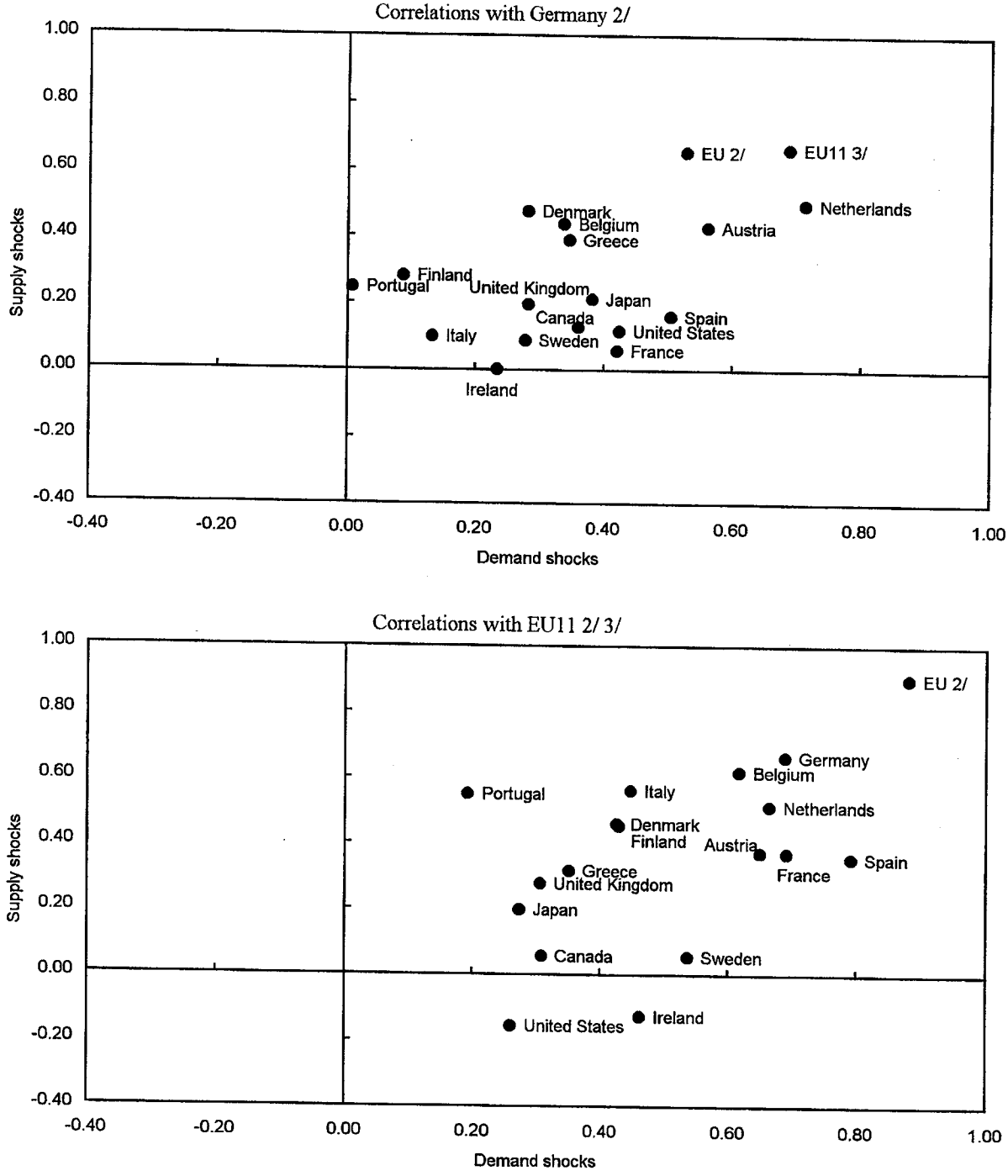
39. Figures I-10 and I-11 show how demand and supply disturbances affect output over time in the different EU countries. One striking result for Austria is that the impact of demand disturbances recedes much more quickly than in other EU countries. The typical impact of a demand shock declines steadily and disappears completely after four years, while most other countries seem to experience an overadjustment and some—including Belgium, France, Greece, and Spain—show considerable persistence. Supply disturbances also reach their long-term impact relatively quickly in Austria, in about 4 years, but a number of other EU countries seem to adjust as quickly.

40. These results show that one of the key characteristics of the Austrian economy is its capacity to adjust quickly to demand and—to a lesser extent—to supply shocks. This would tend to suggest that real-wage flexibility and consumption-smoothing patterns are the primary factors—rather than macroeconomic policies—explaining the relatively low amplitude of cyclical fluctuations in Austria. This point would, however, deserve further empirical work.

E. Conclusion

41. This chapter has presented new estimates of trend output and the output gap for Austria according to four different methods. These estimates suggest that potential growth slowed sharply during the 1970s and remained at a modest 2–2½ percent a year thereafter. This slowdown reflected lower capital accumulation and a marked decline in total factor

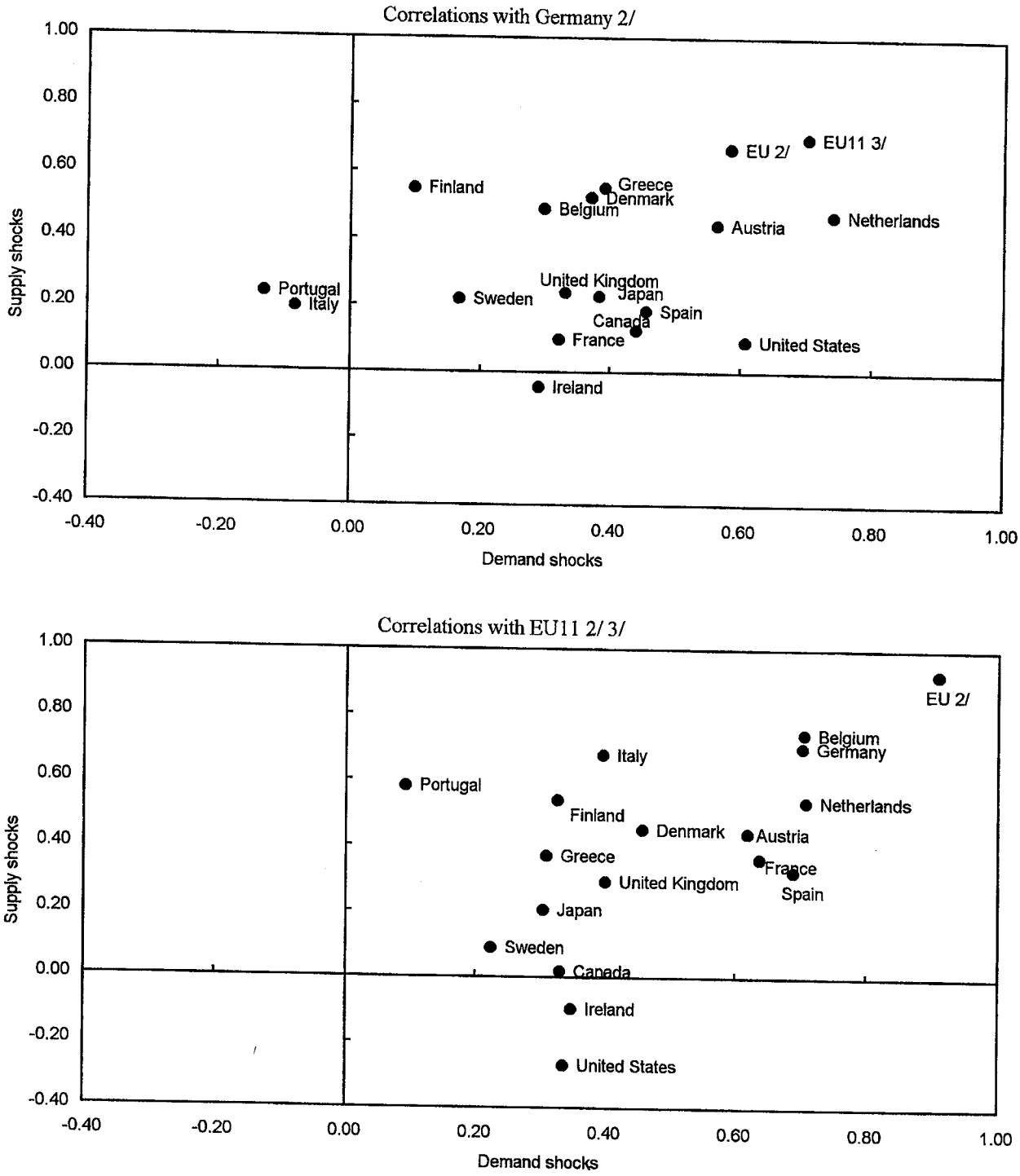
Figure I-7. Austria: Correlations of Demand and Supply Disturbances for EU Countries, 1963-97 1/



Source: Staff calculations.

1/ Demand and supply shocks identified by the procedure of Blanchard and Quah (1989).
2/ Based on the west part of Germany only.
3/ EU11 gathers all EU countries, except Denmark, Greece, Sweden and the United Kingdom.

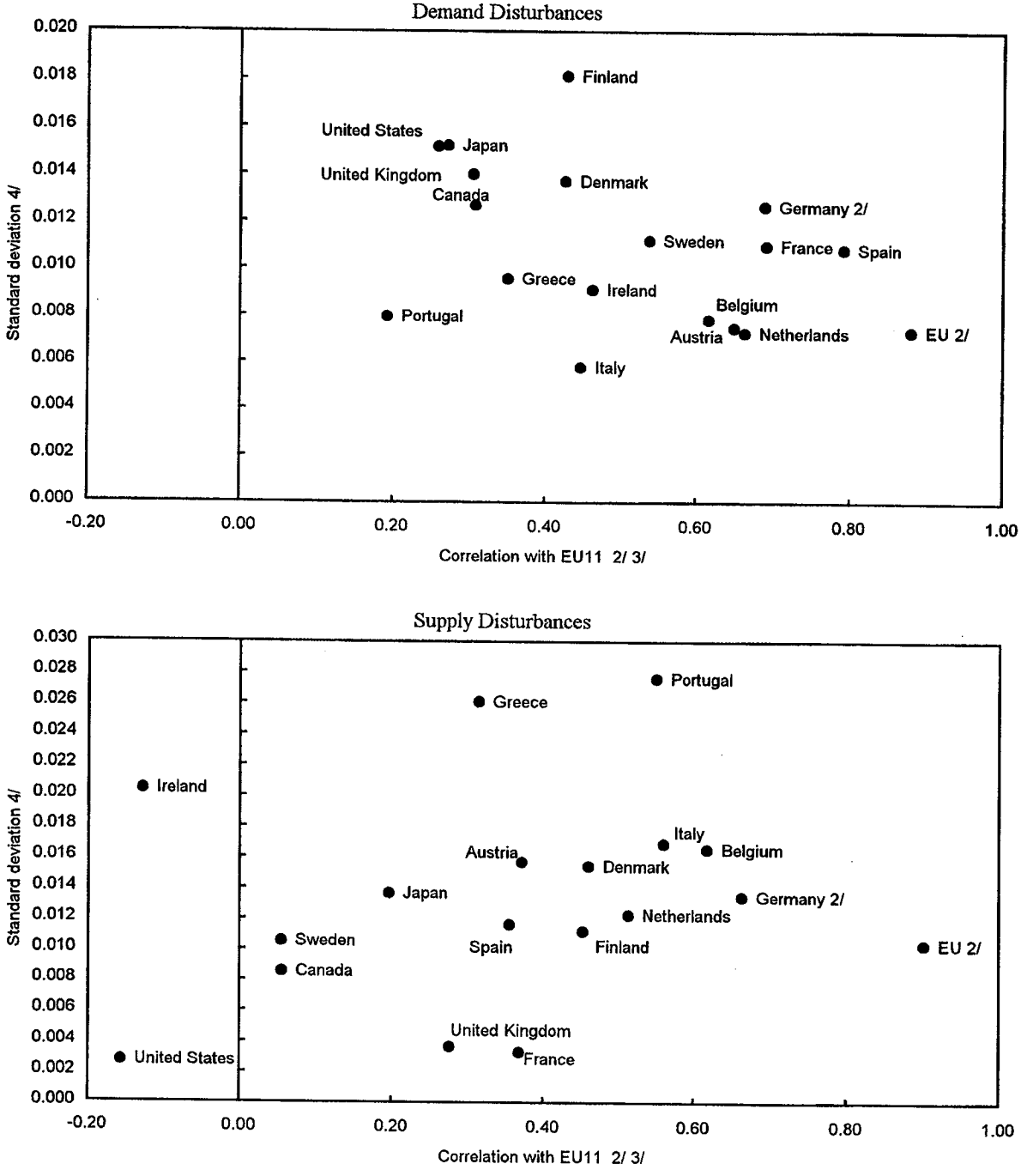
Figure I-8. Austria: Correlations of Demand and Supply Disturbances for EU Countries, 1963-1989 1/



Source: Staff calculations.

1/ Demand and supply shocks identified by the procedure of Blanchard and Quah (1989).
2/ Based on the west part of Germany only.
3/ EU11 gathers all EU countries, except Denmark, Greece, Sweden and the United Kingdom.

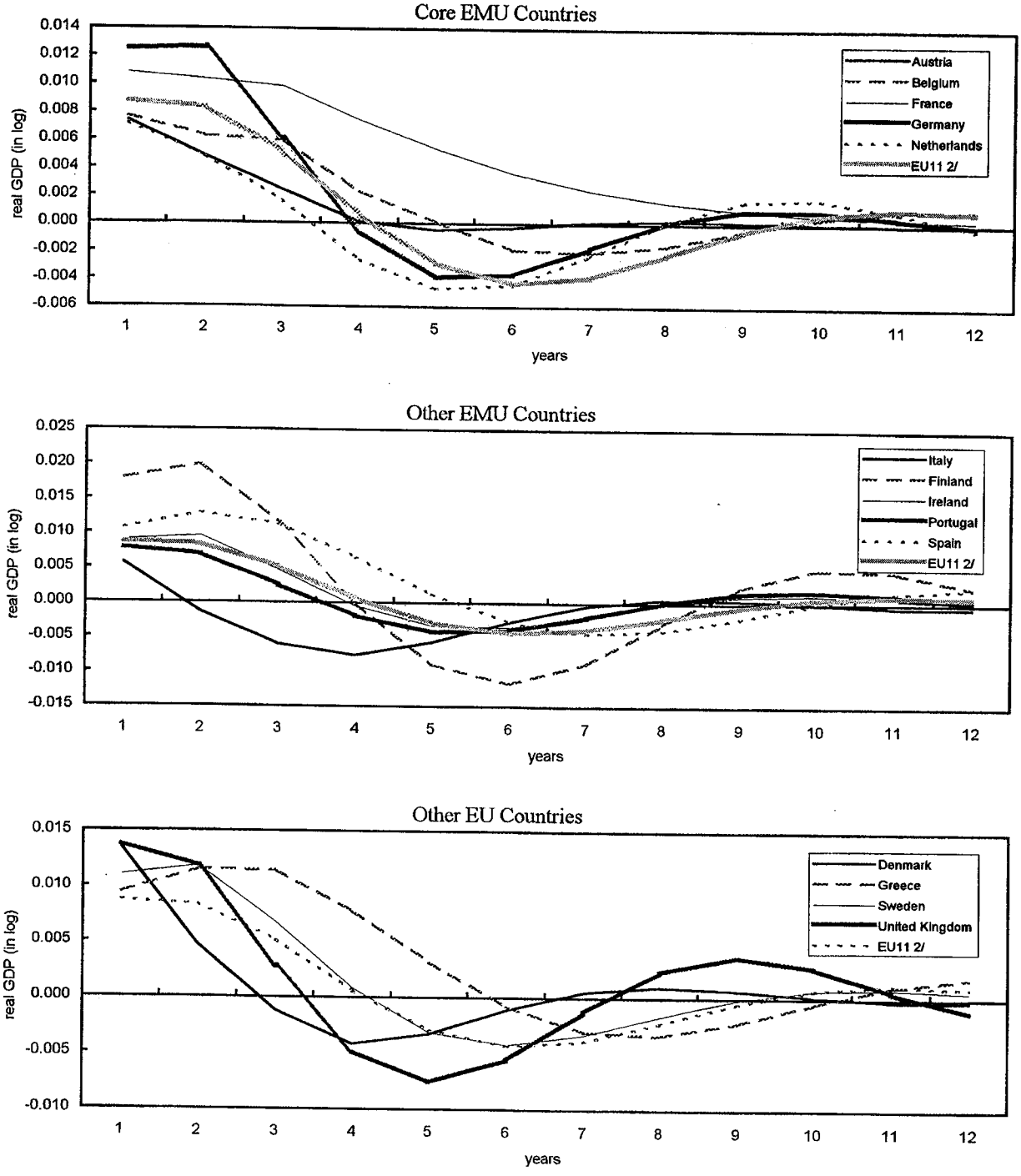
Figure I-9. Austria: Correlation and Size of Demand and Supply Disturbances for EU Countries, 1963-97 1/



Source: Staff calculations.

1/ Demand and supply shocks identified by the procedure of Blanchard and Quah (1989).
2/ Based on the west part of Germany only.
3/ EU11 gathers all EU countries, except Denmark, Greece, Sweden and the United Kingdom.
4/ Standard deviation of residuals of V.A.R. reduced form due to demand and supply shocks respectively.

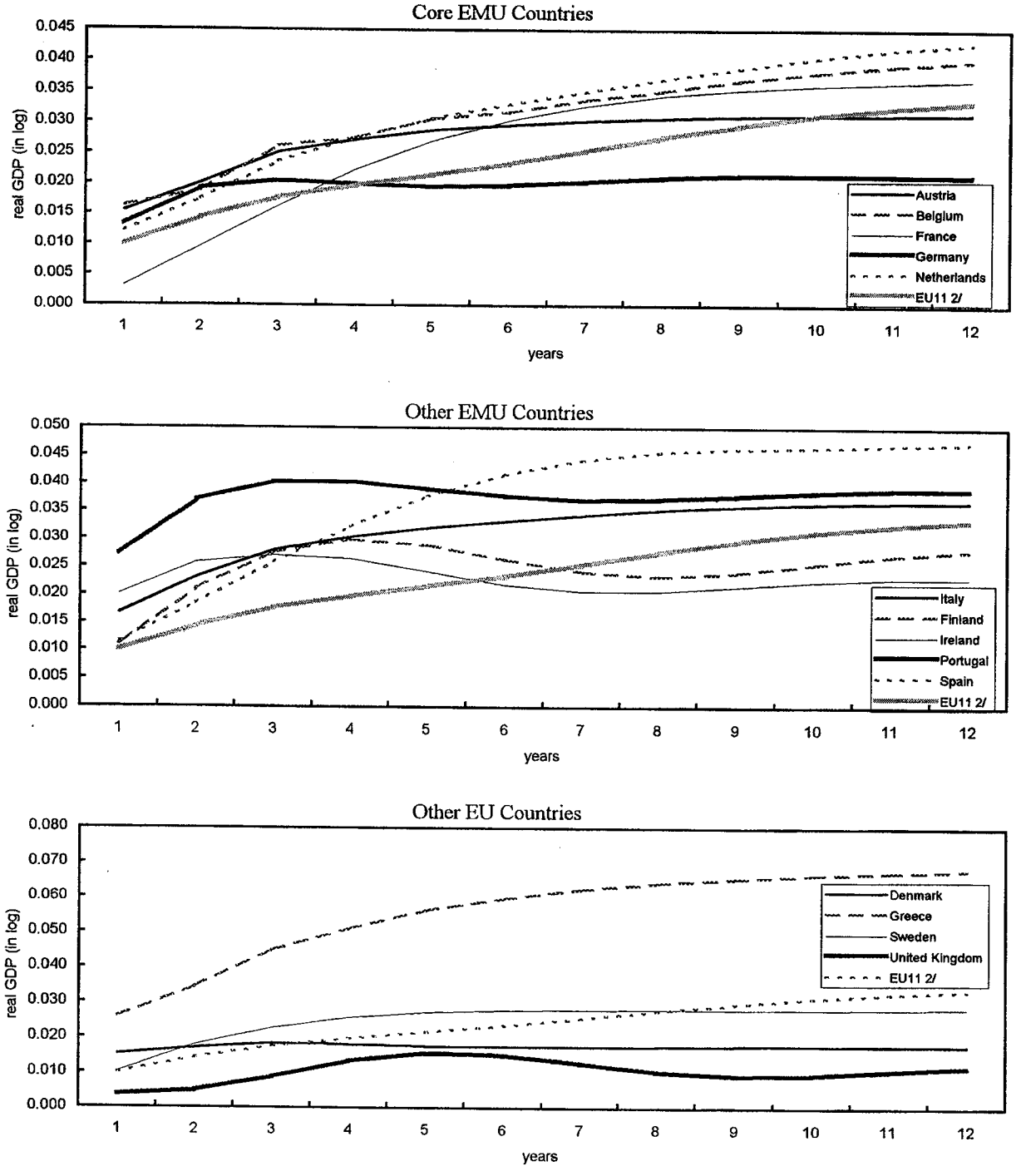
Figure I-10. Austria: Impulse Response Functions of Output to Demand Disturbances 1/



Source: Staff calculations.

1/ Based on an identification of demand and supply shocks from Blanchard and Quah (1989).
2/ EU except Denmark, Greece, Sweden and the UK.

Figure I-11. Austria: Impulse Response Functions of Output to Supply Disturbances 1/



Source: Staff calculations.

1/ Based on an identification of demand and supply shocks from Blanchard and Quah (1989).
2/ EU except Denmark, Greece, Sweden and the UK.

productivity growth during the 1970s, while modest growth in the working age population, lower participation rates for older workers, and a notable rise in the NAIRU restrained labor input growth during the 1980s. These trends underscore the need for further structural reforms in the labor and product markets, in order to stimulate business investment and enhance labor utilization and efficiency.

42. Based on the present calculations, potential growth was close to 2¼ percent per annum in the last few years, but it could accelerate to 2½ percent a year or slightly higher in the medium term, in light of the projected expansion of business investment and the stabilization of the NAIRU. These estimates—though particularly uncertain—point to a relatively small output gap at present, which would likely be all but eliminated by 1999. This argues that a modest monetary tightening in Europe would not be inconsistent with Austria's cyclical position. But, despite output projected to remain near, or even somewhat above, its potential, the present estimates also indicate that inflationary pressures should remain modest in the coming years, inasmuch as greater competition will continue to exert downward pressure on prices and continued piecemeal reforms improve the functioning of the labor and product markets.

43. Finally, the analysis in this chapter has shown that the Austrian business cycle is of smaller amplitude than those in most other EU countries and is highly correlated with those of countries that have been selected to participate in EMU from the outset, suggesting that Austria could reap higher net benefits from EMU than some of the other participants. These conclusions are supported further by a study of the main characteristics of demand and supply disturbances in Austria and in other EU countries. In particular, it appears that the impact of demand shocks on output tends to recede more quickly in Austria than in other EU countries, indicating that Austria's high aggregate real-wage flexibility and pronounced consumption-smoothing patterns have contributed to dampening Austria's cyclical fluctuations in the past.

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II. The Austrian Labor Market: Performance and Policies[1]

A. Introduction

44. Compared with other industrial countries, Austria has been remarkably successful in maintaining low levels of unemployment and flexible labor market flows. However, with rapid productivity increases containing employment growth in the business sector, this favorable performance has been partly due to a rise in public employment and substantial recourse to early retirement and disability pensions. Nonetheless, unemployment has been gradually rising in recent years, with growing signs of persistence, and, owing to a significant expansion of the labor force, the present upswing is expected to bring only modest unemployment relief in the near term.

45. Against this background, Austrian policymakers (including the social partners) have become more aware of the structural weaknesses of their labor market in the face of a rapidly changing international environment. They have started to implement reforms in order to improve the job-generating capacity of the economy, both in connection with the fiscal consolidation undertaken since 1996 and with a view to meeting the challenge of increased globalization and competition from other economies of the European Union (EU) and the transition economies of Central and Eastern Europe. This chapter examines the need for structural labor market reforms in Austria and assesses the measures that have been adopted in recent years.

46. The chapter is organized as follows. Section B reviews recent developments and the main features of the Austrian labor market. Section C identifies the principal sources of strains and discusses the reforms that appear to be needed. Section D discusses the measures that have already been adopted by the government and labor market institutions, and section E provides a brief conclusion.

B. Labor Market Performance

47. The different measures of employment and unemployment in Austria have shown an unusual degree of divergence in recent years. According to the Labor Market Service (AMS) and social security registrations, registered unemployment increased from about 1½ percent in the 1970s to close to 6½ percent of the total labor force in 1997. In the meantime, based on a labor force survey, the international standardized unemployment rate increased only gradually, to 4½ percent at last count.[2] Different as they are, those levels remain enviable by international

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[1]Prepared by Antoine Magnier.

[2]Appendix I presents in greater detail the different measures of unemployment—including the traditional national indicator based on registered unemployment and the dependent labor force

(continued...)

standards and are much lower than in the EU, particularly for youth and long-term unemployment (Figure II-1 and Table II-1). With the standardized employment rate at 68 percent of the working-age population, the overall degree of labor utilization is also relatively high and general labor market flows—both in and out of unemployment and between occupations—are significant, albeit somewhat inflated by the relatively high share of seasonal employment in the tourism and construction sectors.[3]

48. This favorable performance has, however, masked poor employment growth since the mid-1970s. As in most other EU countries, hefty real wage increases were accompanied by strong productivity gains and total employment increased by only 0.3 percent a year on average during the period (Figures II-2 and II-3). Moreover, somewhat lower growth in private dependent employment and a gradual contraction of the number of self-employed have led to the stagnation, and even a modest decline, of total employment in the business sector. The small expansion in overall employment has indeed been entirely due to a rapid increase in government employment since the early 1970s. As a result, the share of public employment—excluding employment in state-owned enterprises—rose steadily from some 13 percent to 22½ percent of total employment in recent years, a level that appears particularly high by international standards (Figure II-4).

49. The unemployment rate has also been maintained at a relatively low level because of extensive resort to early retirement and disability pensions, which has significantly reduced the labor force since the early 1980s. While the proportion of workers benefiting from the general early retirement scheme stabilized in the second half of the 1980s, the share of older workers receiving disability pensions continued to rise and the number of those with other benefits and early pension support has expanded rapidly in recent years (Figure II-5). Thus, although the incidence of unemployment among older workers remains low in Austria, their employment rate has declined to levels significantly lower than in most other industrial countries (Table II-2). With nearly 7 percent of the entire working-age population benefiting from these schemes, the effective retirement ages for men and women were only 58 and 57 in 1996, compared with respective statutory retirement ages of 65 and 60 years.[4]

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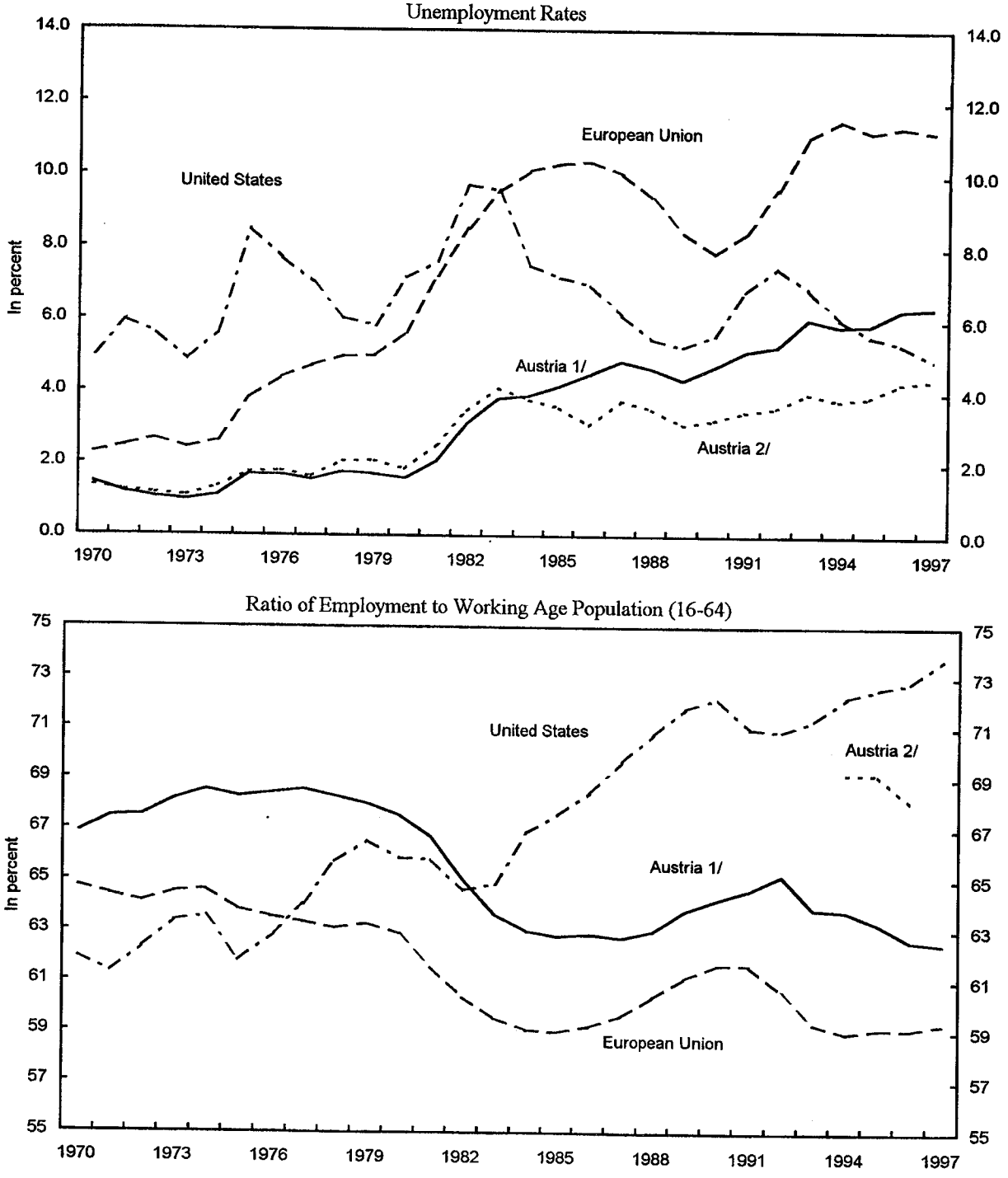
[2](...continued)
only—and discusses the reasons for their divergence.

[3]Social security registrations suggest that, on average, one worker out of four changes jobs every year, while evidence from the labor force survey would put the job turnover rate at only one out of ten. With seasonal workers responsible for about one third of registered unemployment, cumulated monthly outflows from unemployment still amounted to 720,000 in 1997.

[4]In recent years, less than 10 percent and 20 percent of men and women, respectively, remained employed in the year preceding their statutory retirement age.

Figure II-1. Austria: Employment and Unemployment Rates



Sources: WIFO; OECD, Economic Outlook and Labor Force Statistics.

1/ Based on administrative data; registered unemployment from labor market service, dependent employment from social security, and WIFO estimate for self-employment.
2/ Based on labor force survey; standardized unemployment and employment from microcensus as of 1994.

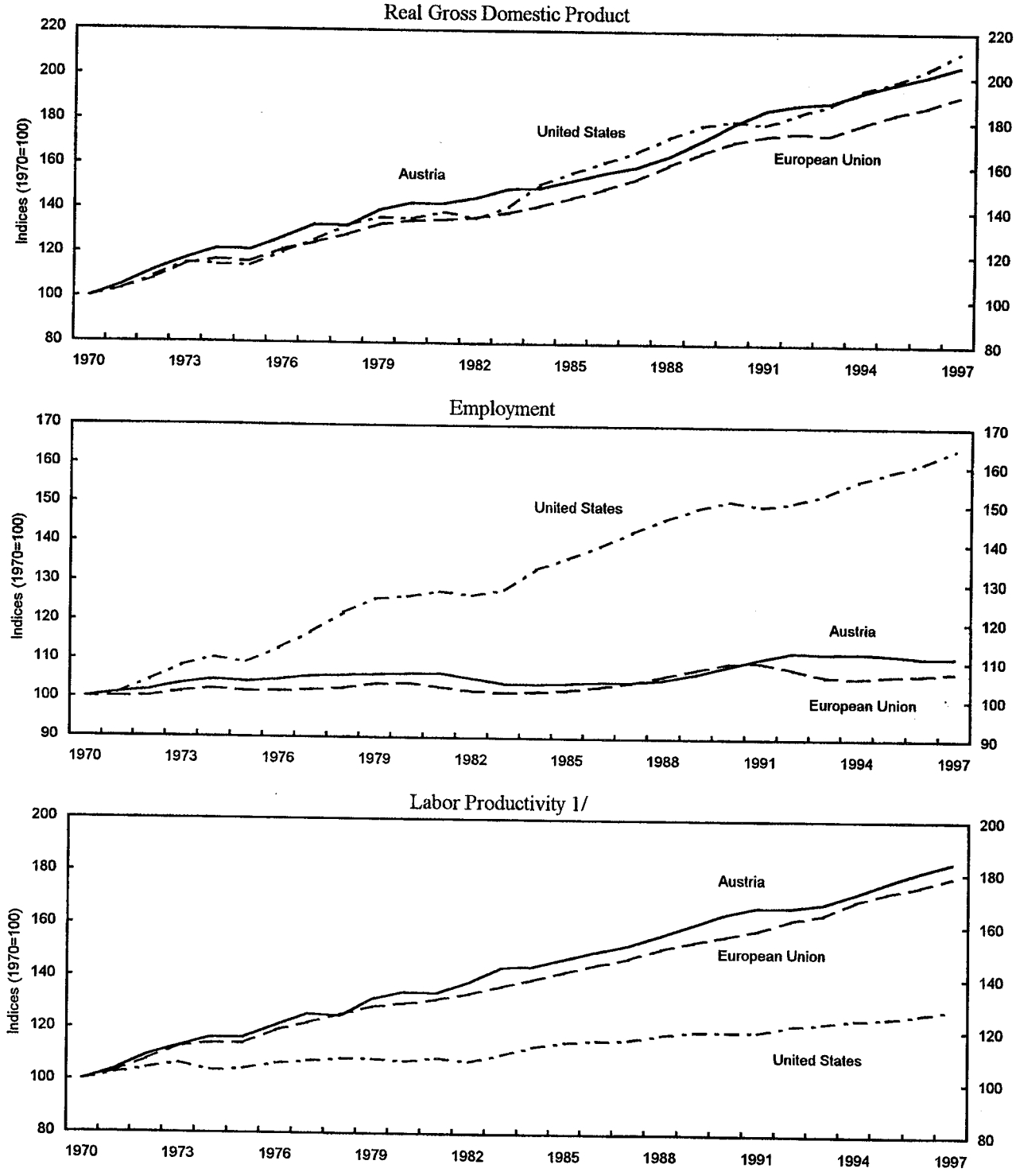
Table II-1. Characteristics of Unemployment in Industrial Countries, 1996

	Standardized unemploy--ment rate	Unemployment rate by gender			Unemployment rate by age			Incidence of long-term unemployment in percent total unemployment 1/	
		Both sexes	Men	Women	15 to 24	25 to 54	55 to 64	6 months and over	12 months and over
Austria	4.4	5.3	5.3	5.2	6.9	5.1	4.6	42.5	25.6
Belgium	9.8	9.5	7.4	12.4	20.5	8.6	4.5	77.3	61.3
Denmark	6.0	6.8	5.5	8.4	10.6	6.0	6.1	44.4	26.5
Finland	15.7	16.1	15.8	16.5	24.7	13.9	25.0	55.3	35.9
France	12.4	12.1	10.4	14.2	26.3	11.0	8.6	61.5	39.5
Germany 2/	9.0	9.0	8.1	10.2	8.0	7.8	11.3	65.4	48.3
Greece 3/		9.1	6.2	13.8	27.9	7.3	3.4	72.4	51.2
Ireland	12.3	11.9	11.9	11.9	18.2	11.0	6.8	75.7	59.5
Italy	12.0	12.2	9.6	16.5	34.1	9.3	4.3	80.8	65.6
Netherlands	6.3	6.4	5.2	8.1	11.4	5.6	4.0	81.4	49.0
Portugal	7.3	7.5	6.6	8.5	16.7	6.4	6.7	66.7	56.1
Spain	22.2	22.2	17.6	29.6	42.0	19.3	11.6	72.2	55.7
Sweden 4/	10.0	8.0	8.4	7.4	15.7	7.0	7.6	38.4	17.1
United Kingdom	8.2	8.2	9.7	6.3	14.7	7.0	7.1	58.1	39.8
Canada	9.7	9.7	9.9	9.4	16.1	8.6	7.7	27.7	13.9
Japan	3.4	3.4	3.4	3.4	6.6	2.7	4.2	40.7	19.9
United States 4/	5.4	5.4	5.4	5.4	12.0	4.3	3.4	17.4	9.5

Source: OECD (1997b).

1/ Based on labor force surveys.
2/ Data for 1995 for unemployment rate by age.
3/ Data for 1995.
4/ Age group 15 to 24 refers to 16 to 24.

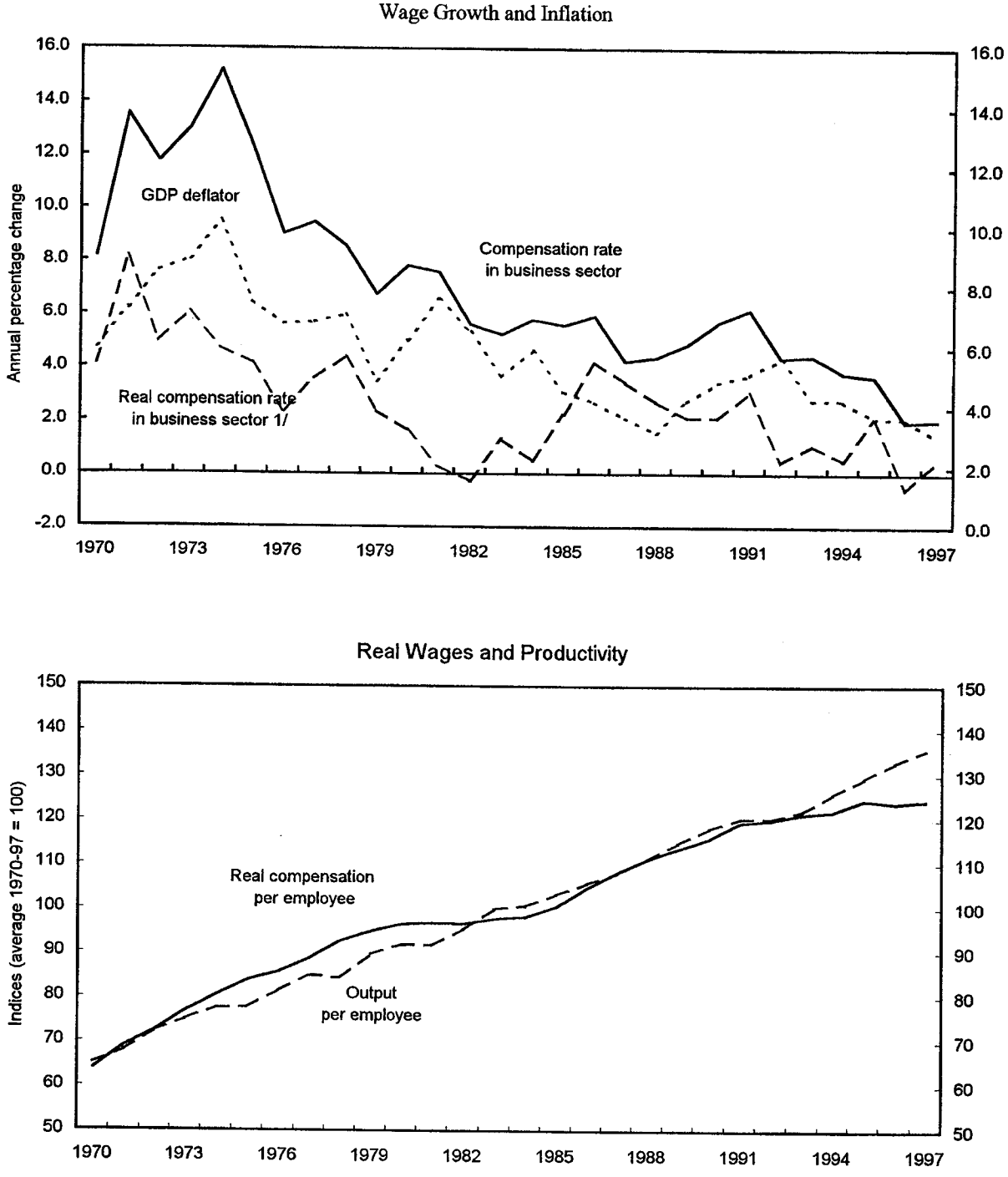
Figure II-2. Austria: Output, Employment, and Productivity



Sources: WIFO; OECD, Economic Outlook.

1/ Real gross domestic product per employed person.

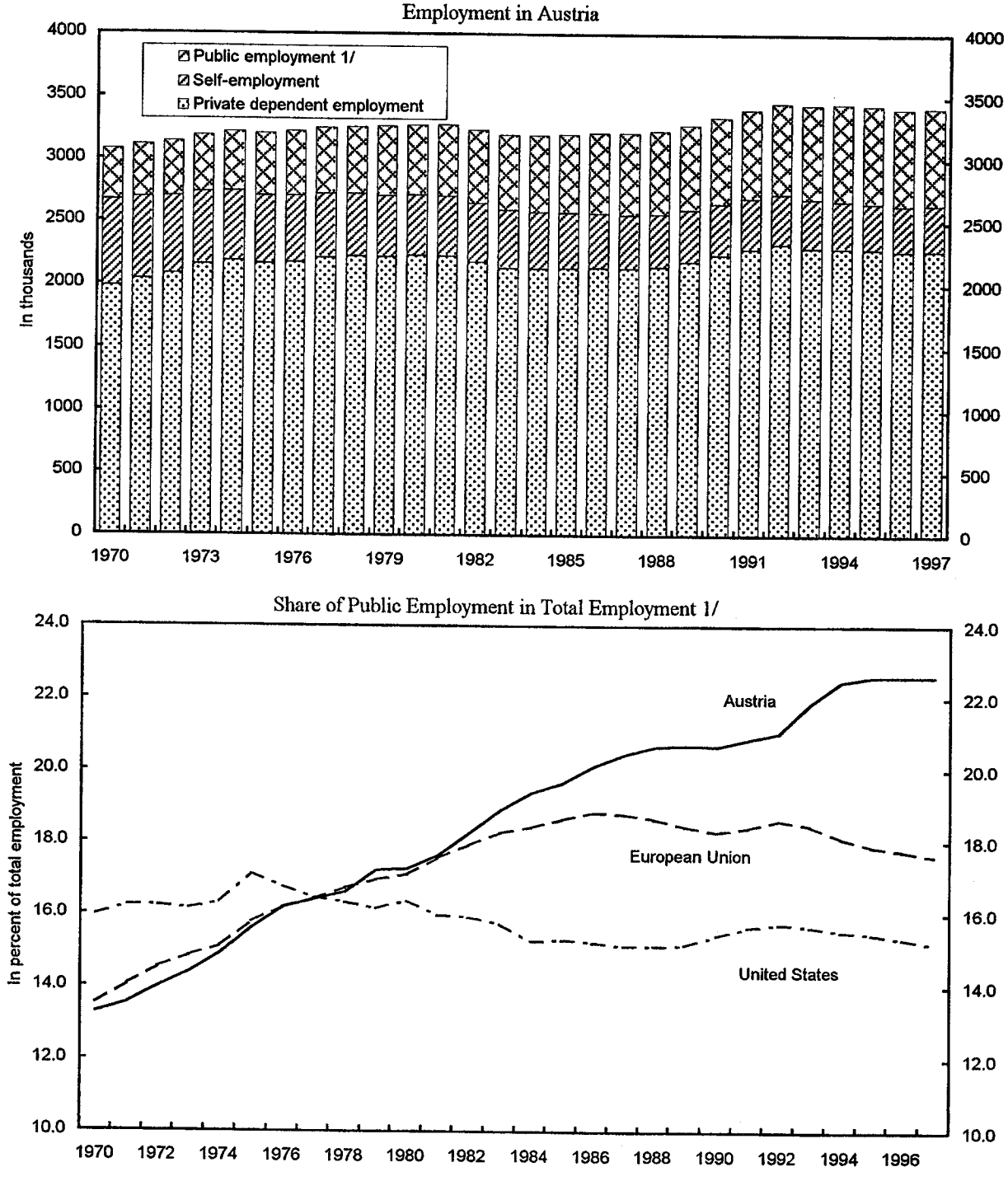
Figure II-3. Austria: Wages, Inflation, and Productivity



Source: OECD, Economic Outlook.

1/ Deflated by private consumption deflator.

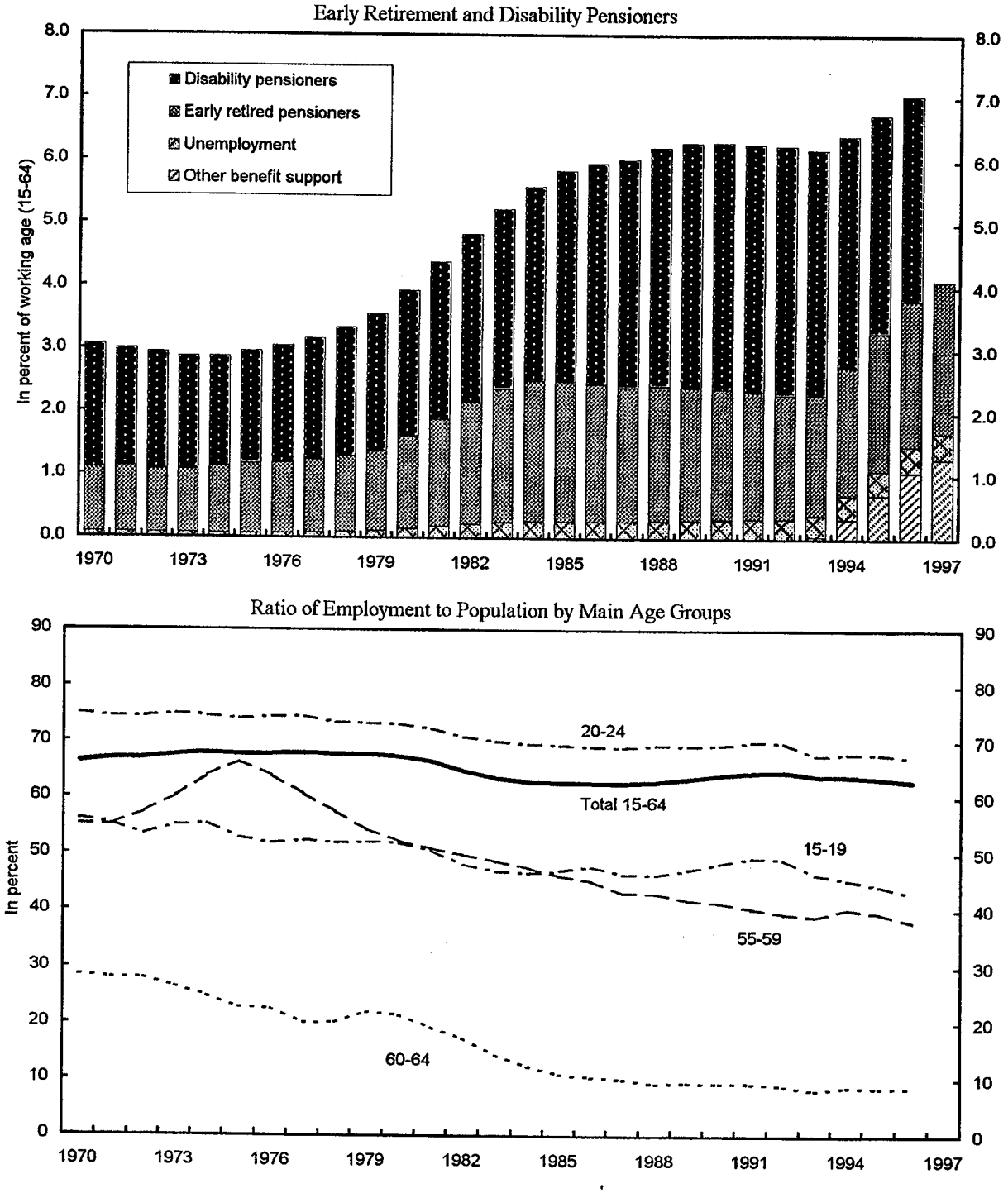
Figure II-4. Austria: Public and Private Employment, 1970-97



Source: OECD, Economic Outlook.

1/ Government sector (excluding public enterprises).

Figure II-5. Austria: Early Retirement and Employment Rates by Age



Source: WIFO; OECD, Economic Outlook.

Table II-2 Ratios of Employment to Working Age Population in Industrial Countries, 1996

	Total	By gender		By age 1/		
		Men	Women	Youth (15-24)	Adults (25-54)	Older workers (55-64)
Austria 2/	68.1	76.9	59.2	55.5	79.3	29.4
Belgium	56.6	67.3	45.8	26.1	73.9	21.8
Denmark	74.7	81.4	67.8	66.0	82.2	47.5
Finland	62.2	65.4	58.9	33.6	75.8	34.8
France	59.6	67.2	52.1	21.5	76.9	33.5
Germany 3/	64.0	73.4	54.3	51.2	76.1	35.7
Greece 4/	56.4	75.1	39.0	26.5	68.8	40.5
Ireland	56.2	68.8	43.5	35.9	66.3	40.3
Italy	51.3	66.4	36.5	25.4	65.5	27.3
Netherlands	66.0	76.6	55.0	54.1	75.8	30.0
Portugal	67.2	76.1	58.7	37.0	79.2	46.2
Spain	48.1	63.0	33.4	25.7	60.2	33.0
Sweden	72.7	74.7	70.6	40.3	81.8	63.4
United Kingdom	71.0	77.7	64.1	60.3	77.5	47.7
European Union	59.1	69.8	48.4	38.3	73.3	35.1
Canada	68.5	74.8	62.2	51.6	76.5	44.2
Japan	74.6	88.5	60.7	45.1	79.6	63.6
United States	75.0	82.3	68.1	57.6	80.2	55.9

Sources: OECD (1997b).

1/ Ratio of employment to population of each group.
2/ Employment rates based on labor force survey (microcensus).
3/ Data for 1995 for employment to population by age.
4/ Data for 1995.

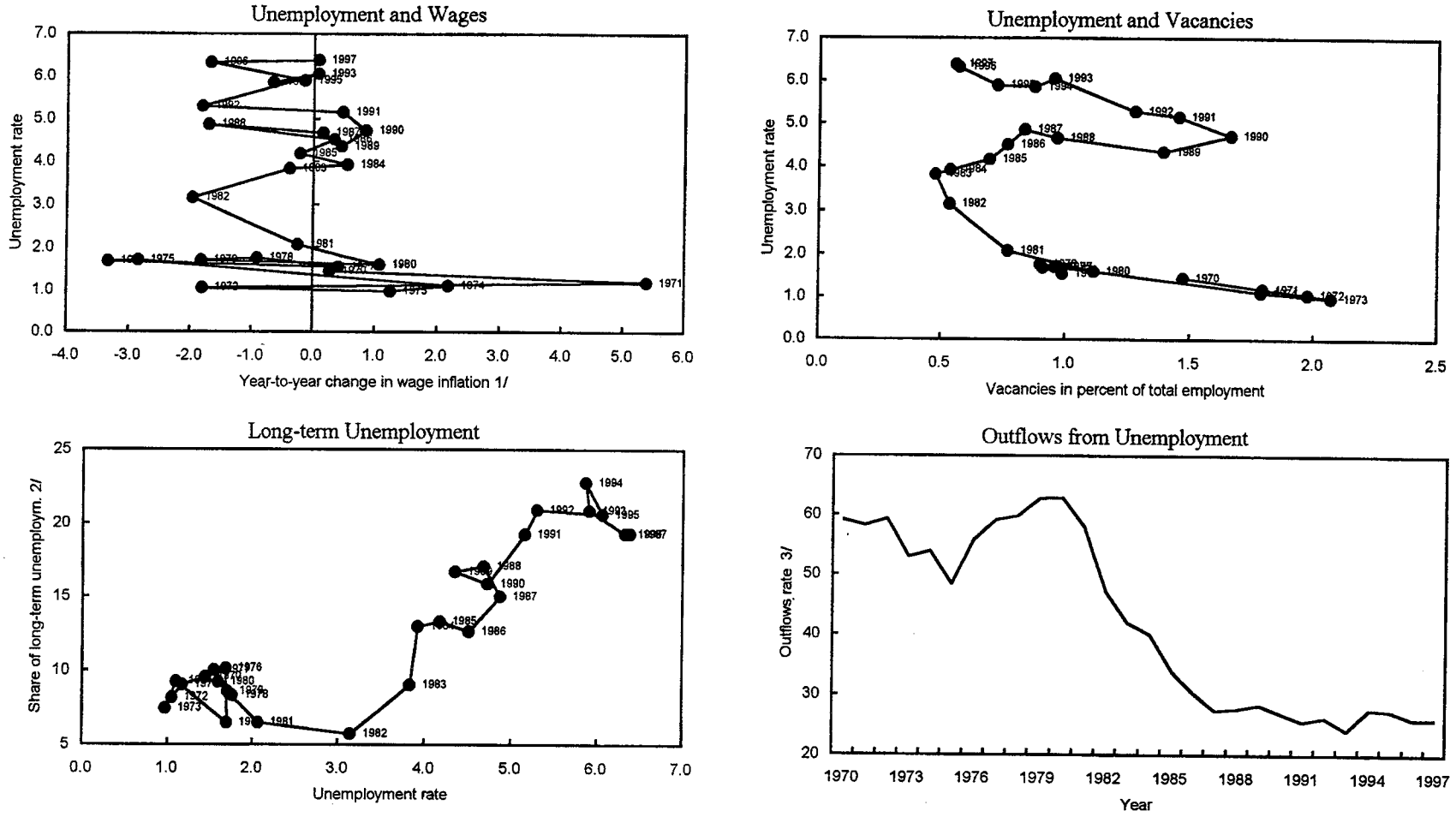
50. Although Austrian unemployment remains modest compared with most other industrial countries, it has gradually, but steadily, risen in the last two decades. The comparatively low rate of unemployment has resulted mostly from smaller increases during recessions rather than larger falls during upswings. This favorable outcome during downturns has been due partly to a strong cyclical sensitivity of the labor force as well as highly responsive migration flows and the expansion of early retirement schemes. But it is also associated with the fact that employment in Austria has proved to be more stable than in other countries, reflecting a combination of factors—including lower volatility in output, labor hoarding, and public employment policies, and a strikingly strong aggregate real wage flexibility—most of which would appear to be intertwined (see chapter I and section 3; and OECD 1996a, 1997a).

51. The rise in unemployment has also been accompanied by increased signs of persistence. Following each downturn, wages and prices have begun accelerating at a higher level of unemployment, suggesting a steady rise in the short-term NAIRU (Figure II-6). Similarly, the rates of unemployment associated with an average vacancy rate or a normal rate of capacity utilization have increased over time, implying a series of adverse shifts in the Beveridge curve and in the Okun law relationship. Standard indicators derived from these relations point to a continued increase in structural unemployment since the mid-1970s. Despite some stabilization in recent years, this structural component now seems to account for the bulk of actual unemployment (see chapter I). In the meantime, the rate of outflows from unemployment (i.e., the rate at which the unemployed either find a job or leave the labor force) declined markedly, from some 60 percent in the 1970s to 25 percent in the 1990s.

52. These structural pressures have also been reflected in a steady increase in the share of long-term unemployment (i.e., those unemployed for more than a year), which has risen from about 10 percent in the 1970s to 20 percent of total registered unemployment—25 percent based on survey-based unemployment measures—in recent years. While this proportion remains much smaller than for most other EU countries, its growth has been substantially slowed by the ease of access to early retirement and disability pension schemes. As in other EU countries, the long-term unemployed appear to be concentrated among workers who are less skilled or whose skills are increasingly made redundant by technological progress. They are also largely drawn from industries that have been undergoing severe adjustments imposed by increased exposure to international competition—such as in the leather, clothing and textiles, and chemical, metal, and electrical industries (Biffl, 1996).

53. The level of female labor force participation used to be low in Austria, but it increased markedly in the 1980s, offsetting in part the decline of male participation. Estimated at 62–63 percent in standardized labor force surveys (compared with 81–82 percent for men), the female participation rate was still much lower than in most Nordic countries and the United States, but it has been some 6 percentage points higher than the EU average in recent years. In the meantime, however, the incidence of part-time work and other flexible work arrangements—including hours worked, shift work, and fixed-term contracts—has remained comparatively low in Austria.

Figure II-6. Austria: Unemployment Persistence



Sources: WIFO; OECD, Economic Outlook; and staff calculations.

1/ Based on compensation rate in business sector.
2/ Share of long-term unemployment (over 1 year) in August in percent of total unemployment.
3/ Outflows in percent of unemployment.

54. Another important characteristic of the Austrian labor market is the high share of foreign workers. In the beginning of the 1990s, the Austrian government allowed a substantial increase in inflows of unskilled labor, in order to relieve the labor shortages associated with brisk demand growth. As a consequence, the share of foreign workers climbed from 5 percent to nearly 9 percent of total employment in 1996-97 (Figure II-7). Tight restrictions have, however, been subsequently introduced since 1991 on both immigration flows and work permits for immigrants.[5] Thus, while net immigration flows helped to buffer cyclical fluctuations of employment and unemployment of Austrian-born labor in the past, these restrictions may have contributed to reducing the cyclical sensitivity of the labor force in recent years.

C. Directions of Labor Market Reforms

55. Against this background, this section reviews the main factors hampering the performance of the Austrian labor market and outlines the need for structural reforms. In doing so, it examines the extent to which Austrian institutions and practices share some of the weaknesses generally considered responsible for the European unemployment problem.[6] This section also draws on the recommendations of the OECD Jobs Study for Austria (see OECD, 1997a, 1998a; and Appendix II).

Wage flexibility and differentiation

56. Austrian labor market institutions have been successful in achieving one of the highest degrees of aggregate real wage flexibility among industrial countries. Empirical studies indicate that a 1 percentage point rise in the unemployment rate would contribute to moderating real wages by 1–1½ percent in the short term and by nearly 2½–3 percent in the longer term (Table II-3). This restraining influence is much higher than in most other advanced countries, with the notable exception of Japan, and is believed to be largely responsible for the relatively stable level of employment and output in Austria and the fact that unemployment did not ratchet up as much in Austria as in the EU during recessions (see chapter I; and Pichelmann and Schuh, 1998). This favorable feature reflects the highly centralized wage-bargaining framework of the Austrian social-partnership system, which has generally emphasized productivity, international competitiveness, and general labor market conditions in assessing wage demands.[7] But, as in Japan, the higher real-wage flexibility may

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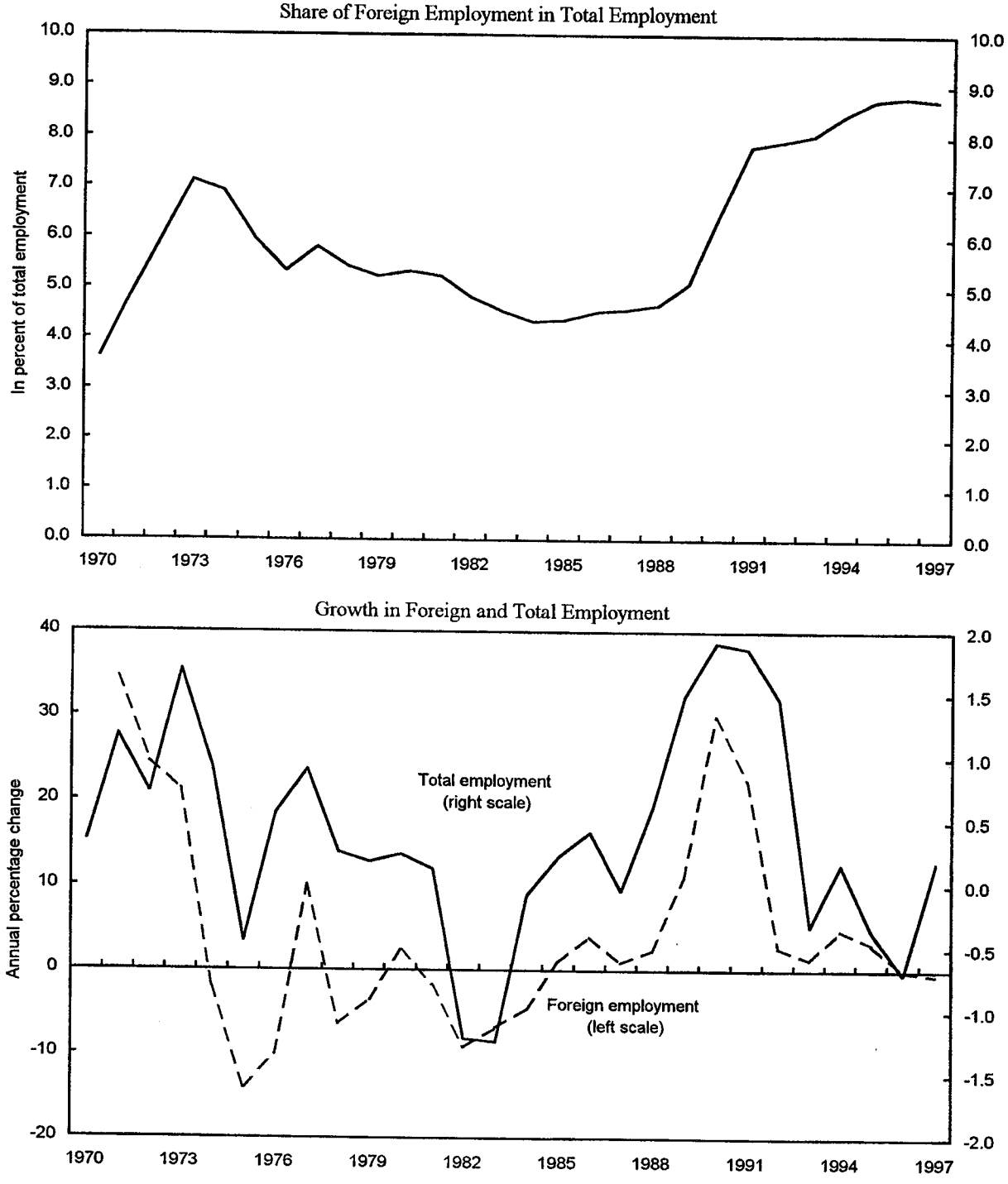
[5]Citizens of other EU countries are exempt from these restrictions. However, their number (some 25,000) has remained small in comparison with labor from non-EU member countries.

[6]See, for instance, Layard et al., 1991; Bean, 1994; and OECD, 1994; and the more recent contributions of Lindbeck, 1996; Blanchard and Katz, 1997; Nickell, 1997; and Siebert, 1997.

[7]The main institutional features of the social-partnership and the wage-bargaining systems are described in Appendix III.

Figure II-7. Austria: Foreign and Total Employment



Sources: WIFO; and OECD, Economic Outlook.

Table II-3. Measures of Aggregate Real Wage Flexibility in Industrial Countries 1/

	Aggregate time series measures 2/					Micro-economic measures 3/
	Layard et al. (1991)		Roeger and Veld (1997)		OECD (1997)	
	Short-term	Long-term	Short-term	Long-term	Short-term	
Austria	1.43	3.11	1.60	2.53	0.97	2.43
Belgium	0.65	4.06	0.90	1.18	0.67	...
Denmark	0.66	1.74	0.90	1.11	0.57	...
Finland	0.48	1.55	0.75	1.28	...	...
France	2.22	4.31	0.90	1.27	0.57	...
Germany 4/	0.55	1.01	0.65	0.89	0.71	2.06
Greece	...	...	0.55	1.24	0.73	...
Ireland	0.80	1.82	0.48	0.71	0.27	2.35
Italy	2.07	12.94	0.95	1.44	1.34	1.32
Netherlands	0.66	2.28	0.95	1.42	0.93	1.98
Portugal	...	...	0.64	1.45	2.19	...
Spain	0.17	1.21	0.88	1.86	0.45	...
Sweden	2.31	12.16	1.10	1.83	...	...
United Kingdom	0.98	0.98	0.50	0.74	0.20	0.82
Canada	0.50	2.38	...	...	0.58	0.92
Japan	6.40	14.50	2.50	3.47	...	...
United States	0.32	0.94	0.50	0.55	0.43	1.52

Sources: Layard et al. (1991); Nickel (1997); OECD (1997b); Roeger and Veld (1997).

1/ Percentage increase (reduction) in real wages in response to a 1 percentage point fall (increase) in the unemployment rate

2/ Measures derived from econometric estimations based on aggregate time series. The precise specifications and the estimation periods are detailed in the studies. The results are not perfectly comparable across countries as the specifications vary somewhat across them.

3/ Aggegate measures by Nickel (1997) derived from the results of the microeconomic studies reported in Blanchflower and Oswald (1994).

4/ Based on West Germany.

also be related to the fact that the wage-formation system relies to some extent on tenure, particularly for white-collar workers, which implies a substantial cost for employees losing their jobs (OECD, 1997a).

57. While centralized wage bargaining is often associated with less wage differentiation, owing to a higher emphasis on social equity considerations, the Austrian social-partnership system has also led to a relatively high degree of wage dispersion among sectors and companies (Guger, 1991; OECD, 1997a; and Pollan, 1997). Part of this variability may reflect differences in the sectoral composition of the work force by tenure, age, and skills. In addition, there are indications that the sectoral wage structure has been rather stable over the years and that the wage dispersion reflects, in large part, institutional factors such as the source of ownership—public or private—and the degree of exposure to international competition, rather than different productivity trends.

58. A wider wage dispersion appears to have become more important in recent years in order to reorganize work in an environment of intense structural changes prompted by rapid technological progress and higher foreign competition as well as to expand employment in the private services sector (Siebert, 1997). In that respect, one key challenge for Austrian institutions is to promote a more flexible wage structure between and within companies, while preserving the existing high aggregate real-wage flexibility. While bargaining practices have moved somewhat in that direction in recent years (see section D), the introduction of formal "opening clauses" allowing adjustments of wage and working conditions to the requirements of individual enterprises would further help to reach that objective (OECD, 1997a).

Direct labor market rigidities

59. Until recently, Austria appeared to have one of the strictest labor market regulations among industrial countries (Table II-4). International comparisons indicate that the level of employment protection is relatively high in Austria, particularly for older workers. Although there is some disagreement on the precise impact of employment protection legislation on labor market outcomes (see OECD, 1994; and Jackman et al., 1996; or Blanchard and Katz, 1997, for different views), strict employment protection legislation is believed to raise the effective cost for firms of adjusting their level of employment, and can slow down labor reorganization (including new hiring) within firms and the realization of productivity increases.

60. The incidence of flexible work arrangements also used to be low in Austria. Until 1997, hours worked were limited by rather strict legislation—usually reinforced by collective agreements—and work at night and in shift-type arrangements on a regular basis still covered only about 10 percent of the labor force (OECD, 1997a). Similarly, most employment contracts have unlimited duration, as strict regulations have considerably slowed the expansion of fixed-term contracts, which still covered only 5 percent of employees in the mid-1990s. According to this legislation, fixed-term contracts that are extended or renewed automatically become unlimited in duration, unless justified by specific economic or social conditions.

Table II-4. Labor Market Rigidities and Incidence of Part-Time Employment

	Employment protection 1/		Labor Standards 4/	Part-time unemployment in percent of total employment, 1996 5/		
	Overall ranking for protection against dismissals 2/	Overall ranking for general protection 3/		Men	Women	Both sexes
Austria	13.0	16	5	2.6	21.7	10.9
Belgium	5.0	17	4	4.3	30.0	14.6
Denmark	4.0	5	2	10.2	24.2	16.5
Finland	9.5	10	5	5.5	11.2	8.3
France	6.0	14	6	4.8	22.1	12.5
Germany 6/	9.5	15	6	3.4	29.1	14.2
Greece	12.0	18	...	4.7	13.7	8.0
Ireland	3.0	12	4	5.7	25.2	13.2
Italy	14.0	21	7	4.7	20.9	10.5
Netherlands	7.0	9	5	11.3	55.4	29.3
Portugal	16.0	19	4	4.5	15.1	9.2
Spain	15.0	20	7	2.9	16.2	7.5
Sweden	11.0	13	7	6.7	23.5	14.8
United Kingdom	2.0	7	0	5.2	38.9	20.3
Canada	...	3	2	...	...	18.9
Japan	...	8	1	13.0	37.7	23.0
United States	...	1	0	7.7	19.1	13.2

Source: OECD (1994).

1/ Indicators computed by the OECD for employment protection legislation during the late 1980s and early 1990s. The rankings increase with the strictness of legislation.

2/ Indicator of the strictness of protection against dismissals in 16 industrial European countries (OECD, 1994).

3/ Indicator of employment protection legislation for 21 industrial countries based on different sources (OECD, 1994).

4/ Indicators of the overall strength of labor market legislation, including for working time, fixed-term contracts, employment protection, minimum wages, and employees' representation rights (OECD 1995, from Nickel, 1996).

5/ Part-time unemployment defined as usually working less than 30 hours per week.

61. Resort to part-time work is also smaller in scale than in some other industrial countries, but this has been attributed to a comparatively lower incidence for men than for women (seeTable II-4). As there is no major legislative hindrance to its expansion, this situation could reflect the structure of the Austrian industry and may be related to some aspects of the tax and benefits system (Biffl and Pollan, 1995; and OECD, 1995 and 1997a). But it could also be partly explained by the widespread use by Austrian firms of work contracts with self-employed persons, as, until last year, such contracts were not subject to employers' and employees' social security contributions.

Welfare benefits system

62. The development and structure of the social security benefits system is known to be a key determinant of labor market incentives, including those for work effort, wage claims, job search, and labor force participation (Layard et al., 1991; Nickell, 1997). As in most other EU countries, the Austrian social security system is characterized by generous unemployment and welfare benefits that have been associated with undesirable unemployment and poverty traps. In addition, legal provisions and financial incentives in favor of early retirement and disability pensions have been responsible for the low labor force participation rate of older workers.

63. The Austrian unemployment benefits system comprises unemployment insurance (UI) benefits for 20 to 26 weeks and, on exhaustion of these benefits, unemployment assistance (UA) of almost unlimited duration, while social assistance (SA) is granted to low-income households, including the unemployed. Even though statutory replacement rates for UI—at some 57 percent of net income for single-earner households at the average production worker's level of earnings—appear lower than in most other industrial countries, unemployment benefits are exempted from social security contributions and the replacement rates rise substantially if one takes into account the combined tax and benefit system—particularly family allowances. Moreover, with a relatively high replacement rate for UA—of more than 90 percent of UI payments—and SA benefits, the combined effect of those replacement rates can be as high as 70-80 percent for some categories of workers, even after several years of unemployment (Table II-5).

64. The disincentive effects for job seeking are particularly strong for older workers and the lower paid. Older workers generally benefit from higher statutory replacement rates, and since wages are heavily dependent on tenure and age, once unemployed, they would tend to face employment opportunities at wages substantially lower than those used for calculating their benefits (OECD, 1997a). Means testing of UA and SA—with benefits drastically reduced once the income of households (or even extended families) rises above relatively low thresholds—also contributes to unemployment and poverty traps for some categories of low-skilled workers, with strong disincentives to take casual or part-time jobs.

65. While recipients of unemployment benefits must be seeking work, the practical requirements for active job-search and work acceptance as well as the monitoring and enforcement of these conditions by employment offices are not particularly strict. This feature

Table II-5. Treatment of the Unemployed in Industrial Countries

	Net replacement rates for single-earner couples at average production worker earnings, 1994 1/			Public expenditures in labor market programmes, 1996 1/		
	In 1st month of unemployment 2/		In 60th month of unemployment 3/	Active measures in percent of GDP 4/	Passive measures in percent of GDP 5/	Share of active measures in total in percent
	Couple with no children	Couple with 2 children	Couple with 2 children			
Austria	57	69	78	0.38	1.44	20.9
Belgium	64	66	70	1.41	2.81	33.4
Denmark	69	83	83	2.26	4.36	34.1
Finland	63	75	98	1.73	3.75	31.6
France	69	71	65	1.3	1.79	42.1
Germany	60	71	71	1.43	2.37	37.6
Greece				0.32	0.44	42.1
Ireland	49	64	64	1.75	2.55	40.7
Italy	37	47	11	0.93	1.03	47.4
Netherlands	77	77	80	1.37	3.41	28.7
Portugal				1.04	1.02	50.5
Spain	75	74	46	0.67	2.14	23.8
Sweden	81	84	99	2.25	2.27	49.8
United Kingdom	35	51	77	0.46	1.33	25.7
Canada	63	67	47	0.56	1.31	29.9
Japan	43	42	68	0.13	0.39	25.0
United States	60	68	17	0.19	0.34	35.8

Sources: OECD (1996 and 1997b).

1/ OECD estimates. See OECD (1996 and 1997b) for country-specific definitions and period.

2/ Excluding social assistance.

3/ Including social assistance.

4/ Includes expenditures for public employment services and administration, labor market training, youth measures, subsidized nemployment, and measures for the disabled.

5/ Includes expenditures for unemployment compensation and early retirement for labor market reasons.

is strikingly illustrated by the extreme seasonal fluctuation of registered unemployment in Austria, with seasonal workers, in particular from the tourism and construction sectors, accounting on average for about one-third of total unemployment. Contracts between employers and employees in these sectors seem indeed to be tailored to take advantage of the UI system at times of seasonal slack, thereby leading to an implicit government subsidy to these sectors.

66. Generous provisions for early retirement and disability pensions contribute to the low labor force participation rate of older workers in Austria. Until the adoption of tightening measures in 1996 (see section D), the general early retirement scheme on account of old age provided full pension entitlement for persons having worked 35 years and being 60 years or older for men and 55 years or older for women. Disability pensions are formally granted on the basis of medical criteria alone, but there are widespread indications—including from household surveys—that such pensions are only loosely connected with the health status of retirees. In addition, until recently, older workers becoming unemployed or with a reduced work capacity, benefited from easier access to early retirement and disability pensions.

Labor taxes

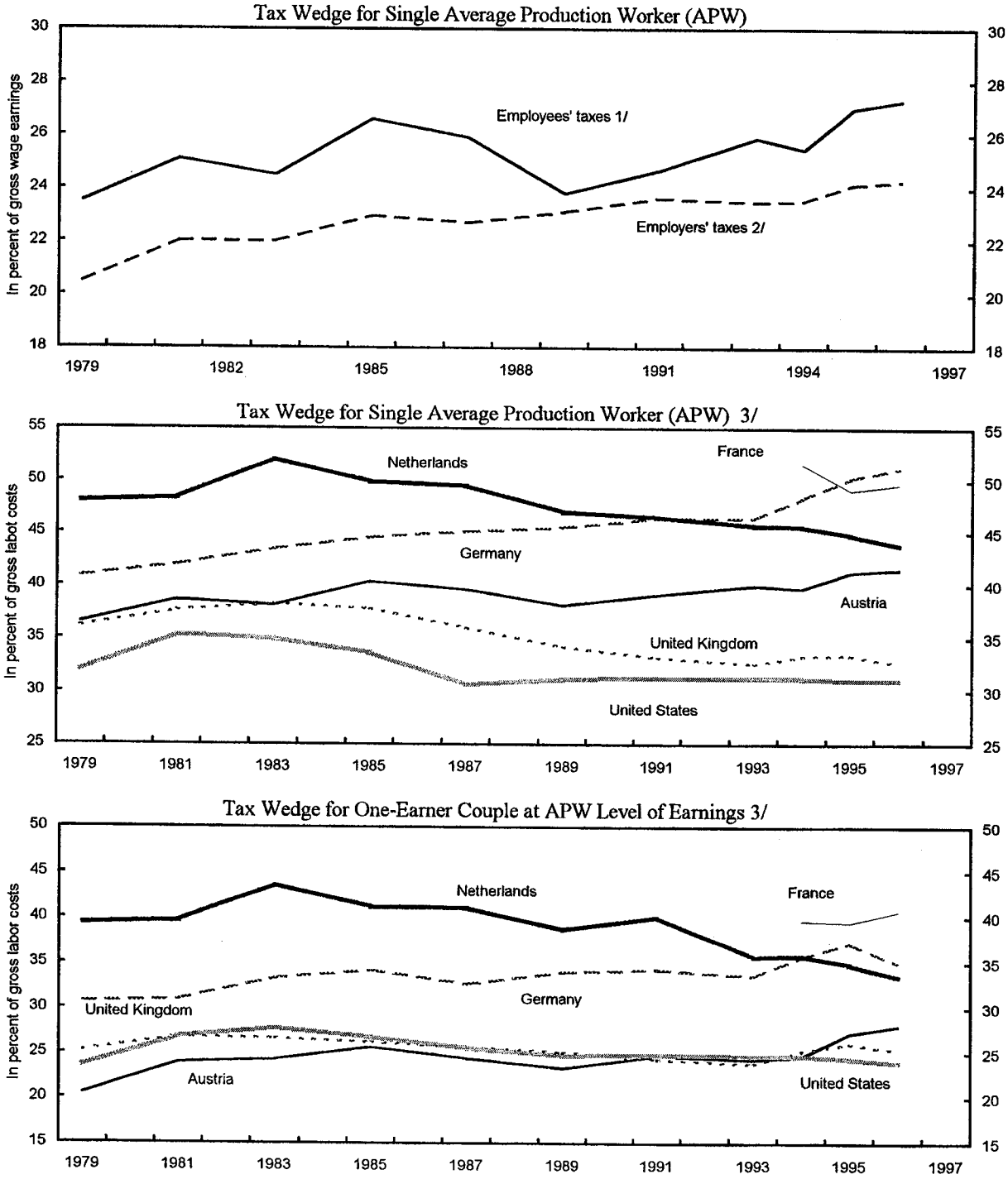
67. Taxes and social security contributions have significantly increased since the early 1970s and amounted to 44 percent of GDP in 1997, a relatively high level among industrial countries (OECD, 1998a). The rise in the tax burden has also been accompanied by a disproportionate increase in social security contributions, which accounted for more than one-third of total government tax revenues in recent years. With social security contributions and income taxes at some 45 percent of gross wage costs, Austria has one of the highest direct tax burdens on wage earners (OECD, 1998a). The size of the tax wedge is even higher when indirect taxes are taken into account, as the Austrian government also raised these taxes to contain the expansion of social security contributions over the years.

68. Although the Austrian tax system imposes a relatively high aggregate effective tax burden on labor, the latter is not out of line with that of some other European countries and tax wedges facing individuals seem to be generally smaller for standard categories of workers. Direct tax wedges for workers with average incomes are higher in Austria than in Japan, the United States, and the United Kingdom, but—despite a significant rise since the late 1980s—they remain lower than in most other EU countries, with the exception of Greece, Ireland, Portugal and, to some extent, Spain. These tax wedges are smaller in Austria than in France, Germany, and Italy, particularly for workers with lower incomes and those with families and children, and they remain below those in the Netherlands, which have been substantially lowered since the early 1990s (see OECD 1997c; and Figure II-8).

Active labor market policies and labor force skills

69. While generous social benefits are believed to be partially responsible for the high rates and persistence of unemployment in the EU, suitable active labor market policies (ALMP) can

Figure II-8. Austria: Tax Wedges on Wages



Source: OECD, Tax/Benefit Position of Employees 1996-96 (1997); and staff calculations.

1/ Employees' social security contributions and personal income tax less transfer payments.
2/ Employers' social security contributions.
3/ Employees' and employers' social security contributions and personal income tax less transfer payments, in percent of gross wage earnings plus employers' social security contributions.

help to alleviate the problem, as illustrated by the apparent success of the Swedish model until the 1990s (Layard et al., 1991; OECD, 1994). Given the low levels of unemployment, particularly for youth and long-term unemployment, active labor market policies have remained relatively modest in Austria. Out of a total of 1.8 percent of GDP of public expenditures devoted to labor market programs in 1996, only 0.4 percentage point was spent on active labor measures, a proportion lower than in most other industrial countries (seeTable II-5). Until recently, those measures largely consisted of training for unemployed adults and those at risk of unemployment (about one-third of the total), while subsidized work schemes and specific measures for job-market entrants remained quite limited (OECD, 1997b). Existing studies evaluating training programs point to variable degrees of success. Despite greater flexibility in recent years, the market for training provision has not become very competitive, as adult training services continue to be dominated by trade unions and the employers' association.

70. With the exception of university qualifications, Austria stands out as a country with a well-qualified labor force, owing to a diversified school curriculum and a well-developed secondary vocational and apprenticeship system. Early school leaving is very limited, as the vast majority of younger workers complete secondary education or undergo vocational training. The level of educational attainment has also risen substantially, with about two-fifths of the cohort of 18-19 year olds enrolled in higher education and three quarters of those reaching 15 years (the age limit for compulsory schooling) moving on to vocational studies and about one half of these into an apprenticeship program. The apprenticeship system, however, has come under pressure in recent years, owing to the narrowness of the skills offered, the fact that it did not provide access to all trades, particularly modern ones with a high technological content, and the relatively high costs of training for firms.

71. The university sector has been under the most intense pressures for reform in recent years. With long periods of study and high rates of non-completion, universities have provided the labor force with a relatively low number of graduates. Until recently, the system was also excessively rigid with respect to fields of study, curriculum, and the duration of studies. In addition, universities used to absorb the bulk of public funds for research and development (R&D), but their R&D activities were insufficiently related to the structure and needs of the economy. Thus, the contribution of universities to the innovation potential of the economy has been lower. Against this background, the recent development of polytechnic schools (*Fachhochschulen*) has provided another avenue of tertiary study for acquiring high-quality technical training beyond the apprenticeship level. Admission to those schools has been rather strictly regulated, however, and, until recently, their curriculum was limited to niche courses (OECD, 1997a).

Product market competition and the business environment

72. Other factors that may have contributed to the low job-generating capacity of the Austrian economy in recent years include a relatively low level of product competition, a highly regulated business environment, and a rather low technological innovative capacity.

The Austrian economy has long been characterized by a pervasive lack of competition, associated with a high share of public enterprises in the economy and tight regulations concerning trades and professions. This has led to higher product prices than in more open economies in some sectors, particularly in network industries such as telecommunications and energy, and may have slowed down structural change and the expansion of non-government services.

73. Weaknesses in the business climate are also reflected in a low rate of business start-ups. This feature may reflect a lack of risk-taking entrepreneurial behavior, but is also related to the relatively strict administrative and regulatory burden on enterprise creation, a widespread provision of private service substitutes by local governments and Länder, a strict and penalizing bankruptcy law, and other types of regulations, such as restrictions on shopping hours. As for the apparent lack of innovative capacity, it may have resulted from the low level of R&D expenditure undertaken in the business sector and a lack of access for small and medium-sized firms to venture capital, as such markets have remained somewhat underdeveloped in Austria (OECD, 1997b; see also chapter IV).

D. Recent Labor and Product Market Reforms and Policies

74. In the face of these pressures, the Austrian government and the social partners have adopted in recent years various measures in order to improve the job-generating capacity of their economy and foster greater labor utilization. Some of these measures were implemented in connection with the fiscal consolidation program for 1996-97 and the 1997 pension reform, but most of them also reflected the social partners' recognition of the need for greater labor efficiency.

Wage and labor cost flexibility

75. In response to higher competitive pressures and rising unemployment in recent years, the social partners have spontaneously allowed some additional wage flexibility and differentiation at the enterprise level. The traditionally high wage drift (the difference between centrally negotiated and actual wages) steadily declined from above 25 percent in the early 1980s to below 20 percent in recent years. There have also been reports of work councils in small and medium-sized enterprises accepting downward adjustments to centralized wage agreements, even though this is formally prohibited by law (see Appendix III). The unions and their federation (ÖGB) have not challenged such arrangements in court.

76. In the metal industry—Austria's largest industry and a leading sector for wage bargaining—there was a new, albeit modest, initiative to allow for greater wage differentiation in 1997. While the collective agreements for 1997-98 envisaged a general wage increase of 2.1 percent, agreements at the company level could stipulate a uniform 1.9 percent increase for all workers, with an additional 0.5 percent of the wage bill distributed on the basis of merit only. Similarly, the union for white-collar workers agreed to shift the lifetime earnings profile in favor of younger workers. Although these developments indicate some progress toward

greater wage differentiation—after an unsuccessful attempt in 1993—genuine opening clauses in the centralized agreements, which could help firms in difficult situations, have not yet been introduced.

Work arrangements and practices

77. The 1997 amendment of the working-time law, which eased the rules for time averaging and payment for overtime, has been one of the most notable changes achieved recently toward more flexible working arrangements. In particular, the new law increased from eight weeks to at least one year the period during which the maximum allowable working time would be calculated, providing considerably more operational flexibility for most enterprises, especially for those in sectors exposed to sharp seasonal fluctuations The new law also paved the way for an agreement in the metal industry, which introduced "working time accounts" allowing the number of hours worked to vary from 32 to 45 a week (with additional daily and annual limits) and a more flexible and progressive mode of calculating the payment for excess hours worked. The construction industry has introduced work-averaging, thus lowering the length of seasonal unemployment, and similar agreements could be introduced in other sectors in the future. A general prohibition against night-work for women was also lifted in early 1998.[8]

78. The number of people with casual jobs and part-time work rose substantially in 1997, accounting for most of the ½ percent increase in dependent employment. As part of the pension reform adopted in November 1997, however, the government decided to make most casual jobs and all forms of self-employment liable for social security contributions, with employers being required to pay and workers having the option to contribute and be covered by social security benefits. While this measure fosters a more equal social coverage of workers, it should contribute to raising the wage costs of casual jobs and could therefore lower the demand for such jobs, particularly for workers with lower skills. This decision may also have adverse consequences for the long-term financial sustainability of the pension system.

Taxes and benefits

79. The government has adopted several measures to raise the effective age of retirement and work incentives for older workers. As part of the 1996-97 fiscal consolidation package, the incentives for early retirement have been markedly lowered in the public sector (with a full pension available only from age 60 for men) and significantly reduced in the private sector, as the number of months of contributions necessary has been increased from 420 to 450 months

[8]Sunday work remains generally prohibited in Austria.

(while time spent in education has been excluded) and early retirement on account of long-term unemployment has been eliminated.[9]

80. Over time, the 1997 pension reform will further reduce these incentives. The earnings base from which pension entitlements are computed will be gradually increased by 3 years to the 18 best-paid years of a person's work history. In addition, for each year of early retirement the pension will be cut by 2 percentage points up to a maximum of 10 percentage points. The eligibility conditions for early retirement on account of reduced capacity to work have also been tightened, the required contribution period was extended from 36 months to 72 months, and a minimum period of sickness necessary to qualify (20 weeks) was introduced.

81. Following the tightening in eligibility conditions, the number of new early retirement pensions declined in 1997, but this development has also reflected a clear substitution effect as the number of new disability pensions appears to have risen, despite the stricter controls that were introduced in 1996. In addition, the reductions in pensions for early retirement that are envisaged in the new pension reform fall short of the actuarial deductions that would seem necessary to completely eliminate the remaining incentives for early retirement (see chapter III).

82. With a view to encouraging employment of older workers, the government introduced a bonus-malus system in 1996. This scheme provides firms with additional financial incentives to employ workers above the age of 50—through a reduction of social security contributions—and contains a special system of fines for their dismissal. So far, the employment effect of this bonus-malus system has been modest. A further reduction in the incentives for early retirement would improve the chances of success for such subsidies.

83. The 1995 and 1996-97 fiscal packages also contained measures tightening the conditions of access to, and the amount of, unemployment and other social benefits, which should have strengthened the incentives for job seeking by the unemployed. Among them, the qualifying period for unemployment benefits was increased from 26 to 28 months and the earnings base for the calculation of benefits was raised from 6 to 12 months. A special scheme that entailed higher unemployment benefits for older workers (up to 25 percent for men above the age of 59 and for women above 54) was eliminated. In the meantime, the conditions of access to special assistance for long-term unemployed persons have been tightened and the unemployment benefits for higher income workers as well as the amount of family allowances have been somewhat lowered.[10]

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[9]Incentives for later retirement have been also strengthened.

[10]The latter were, however, increased again by the family support package adopted in early 1998.

84. The government envisages a major tax reform for 2000, with the aim of reducing the relatively high tax burden on labor. A special commission is expected to present its recommendations by the end of 1998, but the authorities plan to achieve this reduction in large part by shifting taxation toward capital (by basing taxation more broadly on gross value added rather than labor income) and environmental taxes. While this reform may be difficult to implement—owing in particular to EU membership and the mobility of capital—the evidence from other industrial countries suggests that the gains in employment from such a shift should not be overestimated (OECD, 1998a). In particular there is now a wide recognition that for industrial countries—exposed to a high international mobility of capital as contrasted with that of labor—the total tax burden (the sum of social security contributions, personal income taxes, and indirect consumption taxes), more than the payroll taxes per se, can limit the demand of labor in the long term (Lindbeck, 1996; Nickell, 1997).

Active labor market policies

85. The Austrian National Employment Action Plan, designed along the guidelines adopted by the EU in December 1997—with a view to promoting employability, entrepreneurship, adaptability, and equal opportunities—envisages a significant increase in public expenditure on labor market measures—from S 3-4 billion to S 7-8 billion a year by 2002—and an increased emphasis on active labor market policies. The government intends, in particular, to provide additional training schemes for the unemployed, expand in-work schemes for workers at risk, and improve the job placement services. As a result, the number of ALMP beneficiaries is expected to double in the medium term.

86. The government has also adopted several schemes to encourage new forms of work sharing. After three years of continuous work, workers who qualify for study leave can now receive income support from the AMS for up to one year. Workers on non-educational leave may also receive such benefits when their employers hire unemployed persons during a period between six months and one year. In addition, workers can obtain bonuses when they reduce their work time in connection with the hiring of an unemployed person. While these measures could prove useful, the experience of other countries suggests that such schemes, if insufficiently targeted, can entail significant deadweight costs so that their overall effect on employment may be modest.

Other areas

87. Notable progress has also been achieved in other areas of structural reform. In the education sector, the curricula for some apprenticeships have been revised, new job profiles have been defined in the service sector, and the possibilities for apprentices to make the transition to the tertiary polytechnic schools have been widened. The training cost for apprentices for firms has been lowered as the AMS is now responsible for their health insurance contributions and the restrictions on their working time have been eased. Meanwhile, the social partners have agreed on a new university law which should help to shorten the periods of study. The government also plans to introduce additional

apprenticeship programs and shorten the time requirement for introducing new qualification profiles in the near term

88. Important measures have been taken to improve the degree of product market competition and improve the business environment. The new regulation for trades, which was introduced in 1997, has broadened the definition of registered occupations and cut their number by nearly one half—from 153 to 84. The conditions of access to some of the regulated trades have also been relaxed. Shop opening hours were extended in early 1997, but the impact on employment seems to have been relatively modest so far, inasmuch as new restrictions have been imposed on the establishment of large shopping centers.

89. Some progress has been achieved in introducing greater competition in the network industries. A new telecommunication law has been adopted and the post and telecommunications agency has been split into its three component parts which have been incorporated to prepare them for privatization. The negotiations to liberalize the electricity sector in order to conform to the EU directive have also been proceeding, albeit at a slower pace owing to the complexity of the situation reflecting vertical integration (generation, transmission, and distribution) and widespread public ownership at all three levels of government. In the financial sector, the government has started to withdraw from ownership of banks with the sale of Creditanstalt and has sold shares in Bank of Austria (see chapter IV).

90. Other measures intended to improve the business environment include the reorganization of the Vienna stock exchange, the revision of the insolvency and restructuring laws, and a considerable reduction of the administrative approval time for business start-ups. The government has also prepared two special programs to promote exports and enhance the creation and diffusion of technological know-how. Other recent measures affecting the labor market are detailed in Appendix II.

91. In its National Employment Action Plan, the government envisages further measures to reduce the administrative burden on enterprises, financial and practical measures to facilitate business start-ups, measures allowing better access to capital for small and medium-sized enterprises as well as measures to promote greater female participation in the labor force

E. Conclusion

92. This chapter has reviewed the performance of the Austrian labor market and the recent policies by the government and the social partners. While the performance of the Austrian labor market appears rather good, especially by continental European standards, there have been increased signs of stress in recent years, including weak employment growth in the business sector, low labor force participation for older workers, and growing signs of unemployment persistence. In response, the social partners and the government have adopted a number of welcome structural reforms, but further measures would be needed to improve the job-generating capacity of the economy, sustain the low level of unemployment—particularly for youth and long-term unemployment—and flexible labor

market flows, and strengthen the degree of labor utilization for older workers. The OECD Jobs Strategy for Austria has recommended a series of measures that would also help the Austrian labor market to meet the challenge of increased globalization and a more competitive international environment.

93. Such measures would include, among others, the introduction of genuine opening clauses in sectoral agreements in order to allow greater wage differentiation at the firm level; an easing of job-security provisions and of restrictions on fixed-term contracts, and further measures toward greater working-time flexibility; a further reduction in incentives for early retirement and a tightening of eligibility for disability pensions; cuts in unemployment benefits to seasonal workers, in particular in the tourism industry; and more generally, measures to reduce the distortions arising from the system of tax and social benefits with the aim of enhancing job search and work efforts, reducing reservation wages, and eliminating unemployment traps, particularly for older workers. Further measures toward greater labor force skills, increased product market competition, and a more favorable business environment would also be useful.

94. As for most other industrial countries, there are clear indications in Austria that some aspects of these reforms are complementary and that their beneficial impact on employment would be higher if implemented in a comprehensive form (see, for instance, OECD 1994, 1997d and 1998b; Lindbeck, 1996; or Coe and Snower, 1997).

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DIFFERENCES IN EMPLOYMENT AND UNEMPLOYMENT MEASURES IN AUSTRIA

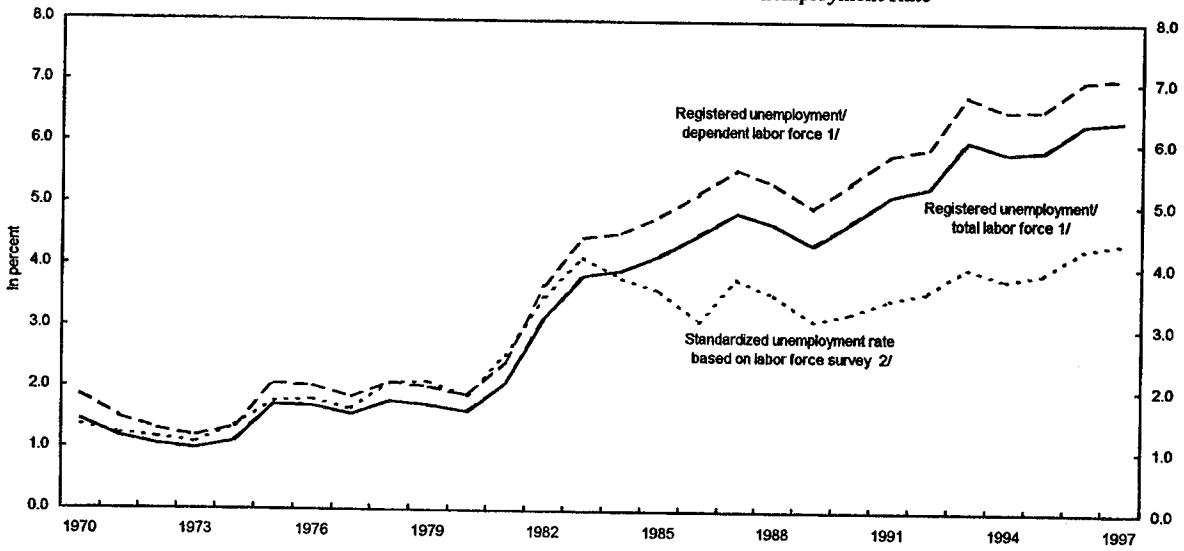
95. Measures of employment and unemployment from administrative data and labor force surveys differ to some extent in nearly all countries, but they generally point to similar developments over time. This is not the case in Austria, where this divergence has been substantially widening since the early 1980s, with significant complications for the analysis of labor market trends.

96. Based on unemployment data from the Labor Market Service (AMS) and social security registrations for dependent employment—and WIFO estimates for self-employment—the registered unemployment rate increased from about 1½ percent in 1980 to nearly 6½ percent of the total labor force in 1997. The best-known definition of unemployment in Austria, defined as the ratio of registered unemployment to the dependent labor force only, was slightly above 7 percent last year. Meanwhile, however, the internationally standardized unemployment rate, based on a labor force survey and a new microcensus since 1994, rose only marginally to some 4½ in 1997 (Figure I-A1).

97. The differences between administrative data and those from the microcensus are mostly due to different statistical definitions, since the former are based on an income concept while the latter rely on the standard internationally accepted labor force concept (Biffl, 1997) The number of unemployed people registered by the AMS exceeds the number measured by the microcensus by a large margin, but this difference mostly reflects workers who have been laid off only temporarily, e.g., seasonal workers, and—to a lesser extent—workers employed in casual jobs, both of whom are included in the former but not in the latter (Table I-A1). Conversely, the measure of registered employment turns out to be significantly lower than that of the microcensus, as it excludes casual workers without social security coverage and indicates a much lower estimated number of self-employed workers.

98. Transposed into the standard labor force concept, the registered unemployment rate turns out to be much closer to the standardized unemployment rate derived from the microcensus. The growing divergence between the two measures thus seems to be largely associated with the rise in casual forms of work, as the number of individuals working on a contract basis or in other forms of casual employment has substantially increased since the early 1980s. However, there are also significant differences in the results from the microcensus and those from a full census that is carried out every 10 years. These differences cast doubts on the sampling properties of the former and suggest that it could be underestimating the level of unemployment.

Figure A1. Austria: Different Measures of the Unemployment Rate



Sources: WIFO; OECD, Economic Outlook and Labor Force Statistics.

1/ Based on administrative data; registered unemployment from Labor Office; dependent employment from social security; and WIFO estimate for self-employment.
2/ Based on labor force survey; standardized unemployment and employment from microcensus as of 1994.

Table A1. Austria: Employment and Unemployment
Based on Administrative Data and Microcensus, 1995

	Administrative data 1/	Microcensus 2/
	(number of persons)	
Unemployment		
Income concept	215,700	173,400
Casually employed (-)	13,600	29,700
With job return approval (-) 3/	51,000	
Labor force concept	151,100	143,700
Dependent employment		
Income concept	3,068,200	3,144,900
Casually employed (+)	89,900	76,600
Labor force concept	3,158,100	3,221,500
Self-employment		
Income concept	371,300	490,100
Casually employed (+)	47,100	47,100
Labor force concept	418,400	537,200
Memorandum items:	(In percent of labor force)	
Unemployment rate		
Income concept	5.9	4.6
Labor force concept	4.1	3.7

Source: Biffl (1996).

1/ Registered unemployment from Labor Office; dependent employment from social security; and WIFO estimate for self-employment.
2/ Microcensus labor force survey by OSTAT.
3/ Seasonal workers mostly.

AUSTRIA: IMPLEMENTING THE *OECD JOBS STRATEGY*—AN OVERVIEW OF PROGRESS

Job strategy proposal	Action taken	OECD assessment/recommendations
I. Increase wage and labor cost flexibility		
· Encourage wage differentiation, greater plant-level bargaining and opening clauses	Greater flexibility agreed by the important metal sector. Changed wage profile for white collar workers.	Encourage the next step toward genuine opening clauses
· Facilitate the employment of older workers and reduce incentives for early retirement	Subsidies introduced for employment of older workers and fines for dismissals.	Encourage wage negotiations that seek to take account of the special situation of older workers. Make unemployment benefits more closely follow opportunity wages
II. Increase working-time flexibility and ease employment security provisions		
· Reform regulations underpinning inflexible working practices	Law governing hours of work liberalized allowing agreement in the metal industry on more flexible organization of working time.	Review effects of regulations and open possibilities for flexible agreements
· Liberalize terms for renewing fixed-term contracts	No action.	Ease restrictions
· Facilitate part-time and casual work	Extension of obligation to pay social security contributions extended to self-employment and to casual jobs.	Review imposition of social contributions with a view to stimulating employment
· Reform dismissal protection	No action.	Proceed with reform
III. Reduce the distortions arising from unemployment insurance and related benefits		
· Reduce the incentives for early retirement	Early retirement on account of unemployment restricted. Additional restrictions will be phased in mainly from 2000.	Consider further means to curb early retirement in the short term and strengthen longer term measures (stricter eligibility criteria, actuarial discounts for pension benefits)
· Reduce unemployment benefits to seasonal workers in the tourist industry	No action.	Proceed with reforms
· Reduce disincentives to take up work in social assistance programs and develop in-work benefits	No action.	Examine possibilities to raise the earnings thresholds for receiving social assistance while lowering benefits rapidly as people re-enter full time employment
· Give greater emphasis to active measures and less to passive measures	Subsidies now paid to employers for employing those on unemployment assistance. For those on leave, a subsidy is paid if an unemployed person is hired to fill the job or if training is taken up. Subsidies introduced for working time reductions which lead to hiring of the unemployed.	Monitor to see whether the restriction to take on unemployed persons is administratively feasible and that leave is not abused and becomes costly for the economy

IV. Improve labor force skills		
· Preserve and restore the attractiveness of the dual vocational training system, clarify its relationship to higher education	Curricula for some apprenticeships revised and new occupations introduced. Health insurance paid by labor office and work hours of apprentices liberalized. Industrial subsidies and procurement contracts to be linked to training.	Continue to revise vocational training curricula and occupations. Avoid attaching subsidies and procurement to training. Extend financial support for youths to select their own relevant training
· Shorten and reform higher education and focus it on more occupational-oriented studies. Extend role of new higher level schools (Polytechnics)	New university law that allows for shorter study periods.	Shorten higher education and make it more occupationally oriented. Continue with reform of universities. Examine potential for moving some study fields to the new higher level schools (Polytechnics)
V. Enhance creation and diffusion of technological know-how		
· Foster venture capital markets and reduce regulatory barriers	Government has encouraged stock exchange to merge with options and futures markets. New single regulator for financial markets. Take-over code introduced.	Encourage linking with international stock exchanges. Tax reform to lower the high effective rate of tax on equity
· Stimulate the diffusion of technology	Technology package still being discussed which seeks to raise level of public R&D. Clusters to be promoted in basic research and employment of scientists in industry subsidized	Continue with reforms of the university and tertiary sector
VI. Support an entrepreneurial climate		
· Facilitate the establishment of new enterprises	Regulations governing commencement of a trade liberalized (*Gewerbeordnung*). New restrictions on opening large-surface shopping centers to protect local shops.	Continue to examine regulatory impediments and improve procedures especially at Länder level. Further liberalization of trades law
· Reform bankruptcy law to facilitate reorganization	Reform to bankruptcy law, changing governance incentives and powers of individual creditors. Reorganization procedures established with financial sanctions for directors if bankruptcy follows.	Monitor effects of reorganization law and avoid labor office being drawn into costly restructuring. Consider extending protection to companies under restructuring
· Planning approvals needs to be simplified	Approval procedures simplified and in some states down to three months.	Monitor the effectiveness of the new procedures and continue reform if necessary
VII. Increasing product market competition		
· Encourage competition in the network sectors	Telecommunications law in force and negotiations proceeding to implement the EU electricity liberalization directive.	Implement the telecommunications law to promote effective competition. Review approach to electricity liberalization based on fifteen single buyers. Greater emphasis on structural adjustment to lower energy prices.
· Lift barriers to entry in the provision of local services and place public and private suppliers on an equal basis	No major changes although a number of entities are being taken off budget.	Abolish preferential treatment of public suppliers. Introduce greater market testing
· Pursue privatization	Creditanstalt privatized and steps made to lower state role in another bank. Tobacco monopoly privatized	Step up privatization and prepare Telekom for sale. Review bar on privatization in the electricity industry
· Establish independent competition authority	No action	Review requirements of EU law and introduce reforms including new competition office

Source: OECD (1998a)

THE SOCIAL-PARTNERSHIP SYSTEM AND THE WAGE-BARGAINING FRAMEWORK

99. Social concertation among the representatives of labor and capital has had a decisive role in the formulation of labor market and economic policies in post-war Austria. This social partnership is formed by a complex web of institutional arrangements that is rather unique. On both sides of the labor market, there is a parallel group of self-governing bodies called chambers with compulsory membership (*Kammer*) and more traditional voluntary organizations, such as trade unions and industrial associations.

100. The chambers are financed mainly through contributions on the wage bill. The different chambers are hierarchically organized in two federal chambers for workers and employers—while farmers have a separate chamber. The chambers represent their members in industrial and administrative committees and are consulted by the government on draft bills.

101. The Austrian federation of trade unions (ÖGB) consists of 14 different unions that are organized along industrial sectors, with the exception of the Union of Salaried Workers which represents all white-collar employees in the private sector. Union membership declined from 47 percent in 1980 to 42 percent in 1993 (excluding retired members). Individual trade unions have some autonomy, but the concentration of authority in the ÖGB appears higher than in most other industrial countries.

102. The institutional centerpiece of the social partnership is the Parity Commission for Wages and Prices, in which the federal chambers, the government, and the ÖGB participate. Four subcommittees are responsible for the centralized surveillance of sectoral wage agreements, price developments and competition policy, wider issues of a social and economic character, and international issues.

103. Wage bargaining is organized at both a centralized level and at the enterprise level. While individual trade unions negotiate their own settlements, the ÖGB formulates general guidelines for wage claims that generally take into account aggregate productivity growth and inflation, as well as labor market conditions and the external balance of the economy. Despite the large number of wage contracts, wage bargaining at the central level appears quite coordinated, with informal forms of coordination and the effective leadership of some unions. In particular, the metal workers union tends to set the tone for collective agreements in other sectors. Three of the largest negotiations cover about one-half of the dependent labor force; and overall, 95 percent of wage and salary earners are covered by collective agreements.

104. A second round of negotiations also takes place at the enterprise level, between management and the work council, on additional wage increases and other work aspects. These negotiations deal, in particular, with effective wage increases over and above the minimum wage rates negotiated at the central level. While enterprise-specific wages below those stipulated in the collective agreement for the sector concerned are illegal, sector unions

and the ÖGB have reportedly refrained from appealing lower wage bargains in the labor courts in a few recent cases.

105. The social partnership and the wage bargaining framework are described in greater detail in OECD (1990, 1997a) and Biffl and Pollan (1995).

III. Fiscal Policies in the Medium and Long Term[1]

A. Introduction

106. The purpose of this chapter is to analyze the medium- to long-term challenges facing Austrian fiscal policy. The discussion tries to answer two main questions. First, what underlying fiscal position is required to respect the Stability and Growth Pact's maximum deficit limit of 3 percent of GDP in "normal" times? In addition to purely cyclical developments, should a margin be added because of uncertainties attached to the implementation of fiscal policies or the need for counter-cyclical fiscal policies? Second, in the longer term, what does the prospective aging of the population imply about the fiscal policy target? In particular, should partial pre-funding of prospective pension expenditures be achieved through a once-and-for-all increase in contributions?

B. Medium-Term Requirements: The Stability and Growth Pact

107. The Stability and Growth Pact (SGP) aims at a medium-term budget position of close to balance or surplus and stipulates a maximum level for budget deficits of EMU participants. General government deficits are defined as excessive when larger than 3 percent of GDP, barring "exceptional circumstances" such as a severe downturn or events outside the government's control. An output decline of 2 percent or more in the year of the breach would, as a rule, be considered as a severe downturn. To avoid sanctions, a country would normally be expected to bring down to 3 percent of GDP or less in the year following that in which an excessive deficit was identified, but the adjustment period may even be longer in the case of "special circumstances". Sanctions would initially take the form of nonremunerated deposits, amounting to between 0.2 percent and 0.5 percent of GDP, depending on the size of the deficit. The deposit would be returned if the excessive deficit was corrected within two years; otherwise it would be converted into a fine.

108. To respect this agreement, it seems to be a reasonable strategy to aim for a structural budget deficit which allows to observe the 3 percent limit given "normal" cyclical developments and provides room for desired countercyclical fiscal policies. Figure III-1 depicts the variation in the output gap since 1970, together with its mean and standard deviation. The output gap was calculated using the production-function approach as presented in chapter I. Based on an estimated fiscal responsiveness of the budget deficit with respect to real output of 0.54, a medium-term deficit target of 1¼ percent of GDP would have prevented breaching the 3 percent limit in all of the 27 years of the observation period. None of these years would have qualified as a "severe downturn."

109. One way to assess the appropriate medium-term target is to consider the output gap as a normally distributed stochastic variable. In this case, the limits of a 95 percent confidence

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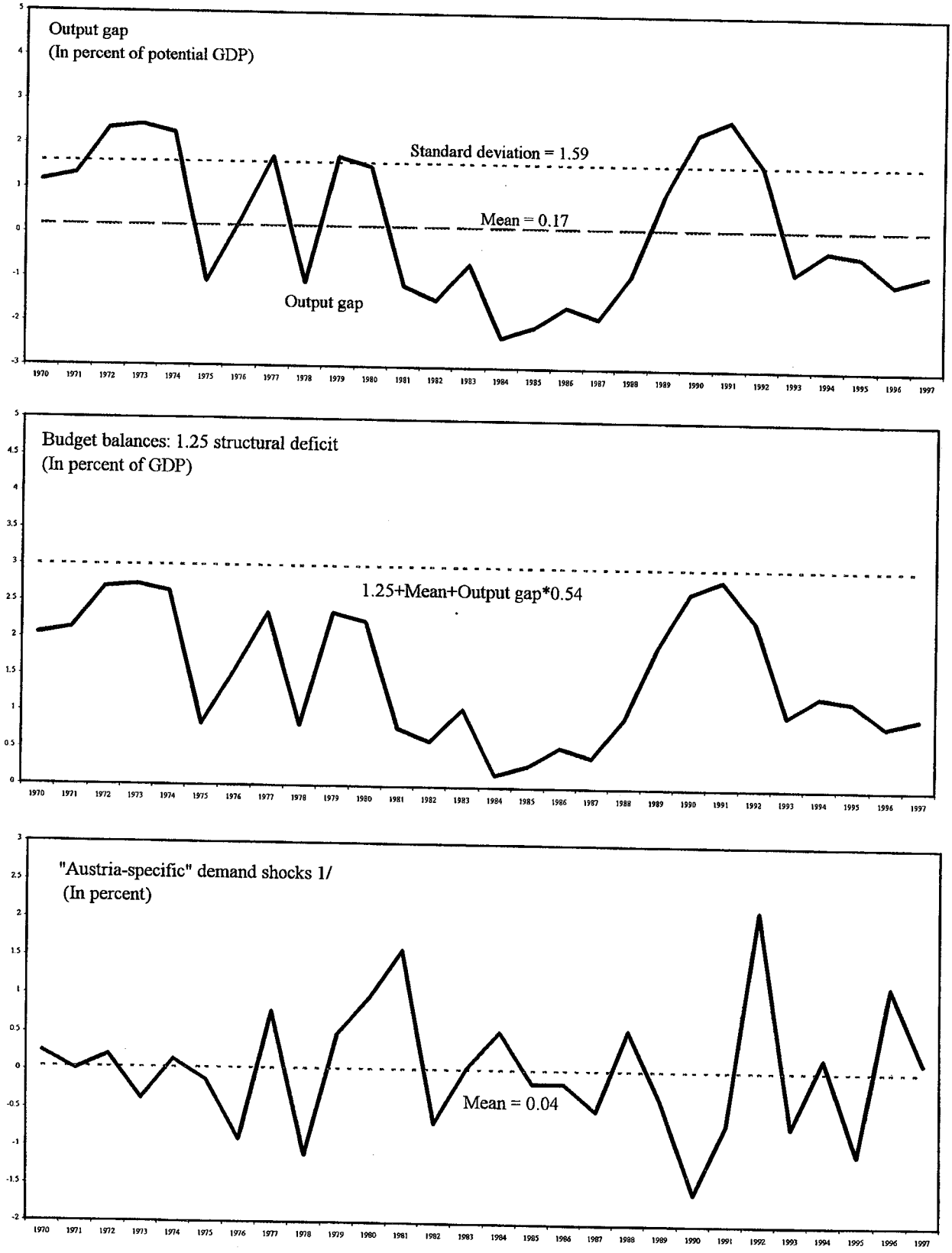
[1]Prepared by Ketil Hviding.

Figure III-1. Austria: Output Gap, Austria-Specific Demand Shocks, and Budget Balances, 1970-97



Source: Staff estimates.

1/ Calculated as the difference between Austria and EU-11 demand disturbances. The demand disturbances were derived from a structural VAR in output growth and unemployment for Austria and EU-11.

interval can be calculated as the sum of the mean of the output gap and the product of 1.96 times the standard deviation. Using the observation period 1970–96, the resulting confidence limit for the output gap is 3.43 percent of GDP. Thus, given a cyclical sensitivity coefficient of 0.54, a structural budget deficit of 1–1½ percent of GDP would be sufficient to prevent the actual budget deficit from exceeding the 3 percent of GDP limit in "normal" times. Based on Monte Carlo simulations to determine the distribution of the output gap, a recent WIFO study comes to a similar conclusion[2].

110. Compared to other European countries, Austria stands out with a relatively low level of fiscal sensitivity to output variations and, more significantly, a low cyclical variability of output (Table III-1 and Swiderski, 1998). As explained in chapters I and II, the low level of output variation seems to be a reflection of a high degree of aggregate real-wage flexibility owing much to the social partnership arrangement. In particular, temporary shocks ("demand shocks") are quickly attenuated, but the Austrian economy also adapts very quickly to supply shocks (see Figure I-10). The relatively low fiscal sensitivity may inter alia reflect a high level of indirect taxes, relatively long payment lags in corporate taxation, and favorable rules for loss write-offs.

111. Prudent fiscal policies may, however, warrant a further reduction in the structural budget deficit. Although the Austrian schilling has been closely linked to the deutsche mark (in what could be called a *de facto* currency union) for more than 20 years, the switch to a broader currency union would warrant the increased use of countercyclical fiscal policies to offset any shocks specific to Austria. Adverse developments in Central and Eastern Europe could be one source for such an asymmetric shock. Owing to the hypothetical nature of these shocks, it is however difficult to quantify with any degree of precision the required additional "prudential margin".

112. An indication of the magnitudes of such shocks can be obtained by analyzing past demand and supply shocks using a method introduced by Blanchard and Quah (1989). In a bi-variate structural vector autoregression of output growth and unemployment, permanent ("supply") shocks were separated from temporary ("demand") shocks. An approximate estimate of Austria-specific shocks was obtained by subtracting EU-11 demand shocks from the demand shocks identified in Austria.[3] Assuming that the demand shocks are normally distributed and independent, the maximum "normal" Austria-specific demand shock amounts to about 1½ percent of GDP (about twice the standard deviation). Considering that only demand shocks should be offset by countercyclical fiscal policies and given a "fiscal multiplier" of around one half percent, countercyclical policies aimed at fully neutralizing such

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[2]Url (1997) estimated the 95 percent confidence limit of the structural budget deficit at 1.25 percent of GDP.

[3]The EU11 comprises all EU countries, except Denmark, Greece, Sweden, and the United Kingdom.

Table III-1. European Union: Automatic Responses of General Government Balances to Real GDP Growth Fluctuations

	Response Parameter Estimates 1/		
	Current (α)	Lagged (β)	Total ($\alpha + \beta$)
Austria	0.50	0.04	0.54
Germany	0.50	0.05	0.55
France	0.53	0.06	0.59
Italy	0.34	0.03	0.37
United Kingdom	0.30	0.44	0.74
Spain	0.60	0.04	0.64
Netherlands	0.68	0.08	0.76
Belgium	0.58	0.03	0.61
Sweden	1.00	0.08	1.08
Denmark	0.67	0.23	0.90
Finland	0.57	0.05	0.62
Greece	0.37	0.02	0.39
Portugal	0.40	0.02	0.42
Ireland	0.49	0.02	0.51
Luxembourg	...	...	...
EU average 2/	0.48	0.11	0.59

Source: IMF Fiscal Affairs Department staff estimates.

1/ Automatic percentage point change in the ratio of general government balance to GDP in response to a 1 percentage point increase in real GDP.

2/ Weighted average excluding Luxembourg.

Austria-specific shocks could—in the case of a large negative demand shock—imply a structural deficit of 3 percent of GDP from a starting point of fiscal balance.

113. The active use of countercyclical policies would thus in some cases lead to a large structural deficit. If used effectively, the cyclical variation in output would also be reduced and no additional prudential margin should be necessary. In practice, fiscal policies are less well targeted or timed. Fiscal expansion is often only implemented when there is strong evidence of an economic recession and the output gap is large. In such a case, even moderate countercyclical fiscal policies would add to the total budget deficit and increase the risk of exceeding the 3 percent limit. Moreover, a bi-variate vector-autoregression based on past GDP growth and unemployment might underestimate the size of actual demand shocks since fiscal or monetary policies (excluded from the model) may already have partly neutralized these shocks.

114. Uncertainties attached to the implementation of the fiscal budget may also warrant some additional "prudential margin". First, given the still high level of government indebtedness, an unexpected increase in interest rates could add a significant amount to the deficit. As a "rule of thumb", a one percentage point increase in the long-term interest rate would increase the budget deficit by 0.15 percent of GDP. To the extent that this increase can be considered as temporary, the optimal fiscal response would be to leave the primary structural deficit unchanged, thus adding to the required margin. Second, the estimate of the fiscal sensitivity parameter (see above) is subject to a significant degree of uncertainty; e.g., for a given output growth the fiscal effect can vary substantially depending on the composition of demand. The implementation of the 1997 budget is a recent example of the type of implementation problems connected to this type of "parameter uncertainty"; due to the combination of weak private consumption and strong export growth, a substantial shortfall of tax income had to be compensated for by discretionary fiscal measures.

115. In sum, the combination of cyclical output variations; the need for increased countercyclical policies; and uncertainties attached to the implementation of fiscal policies, would call for a structural budget balance close to zero, or even a slight surplus.

C. Long-Term Fiscal Requirements: Fiscal Pressures from Population Aging

116. Medium-term considerations apart, the question of whether Austria should aim for a more ambitious fiscal target can be approached by assessing whether current fiscal policies are sustainable in the long term. Such an assessment involves the projection of fiscal revenue—i.e., taxes, social security contributions, and revenue from property—and fiscal expenditure—i.e., wages and salaries of civil servants, purchases of goods and services, social transfers, and capital expenditure. A number of fiscal parameters are assumed constant, such as tax rates, contribution rates, and rules for pension benefits, and the GDP ratios of some expenditure items are kept constant, unless there are clear plans for future changes of any of these parameters. Current fiscal policies are not sustainable if such a projection results in an

ever increasing debt-to-GDP level, thus pushing forward to future generations the cost of fiscal adjustment.

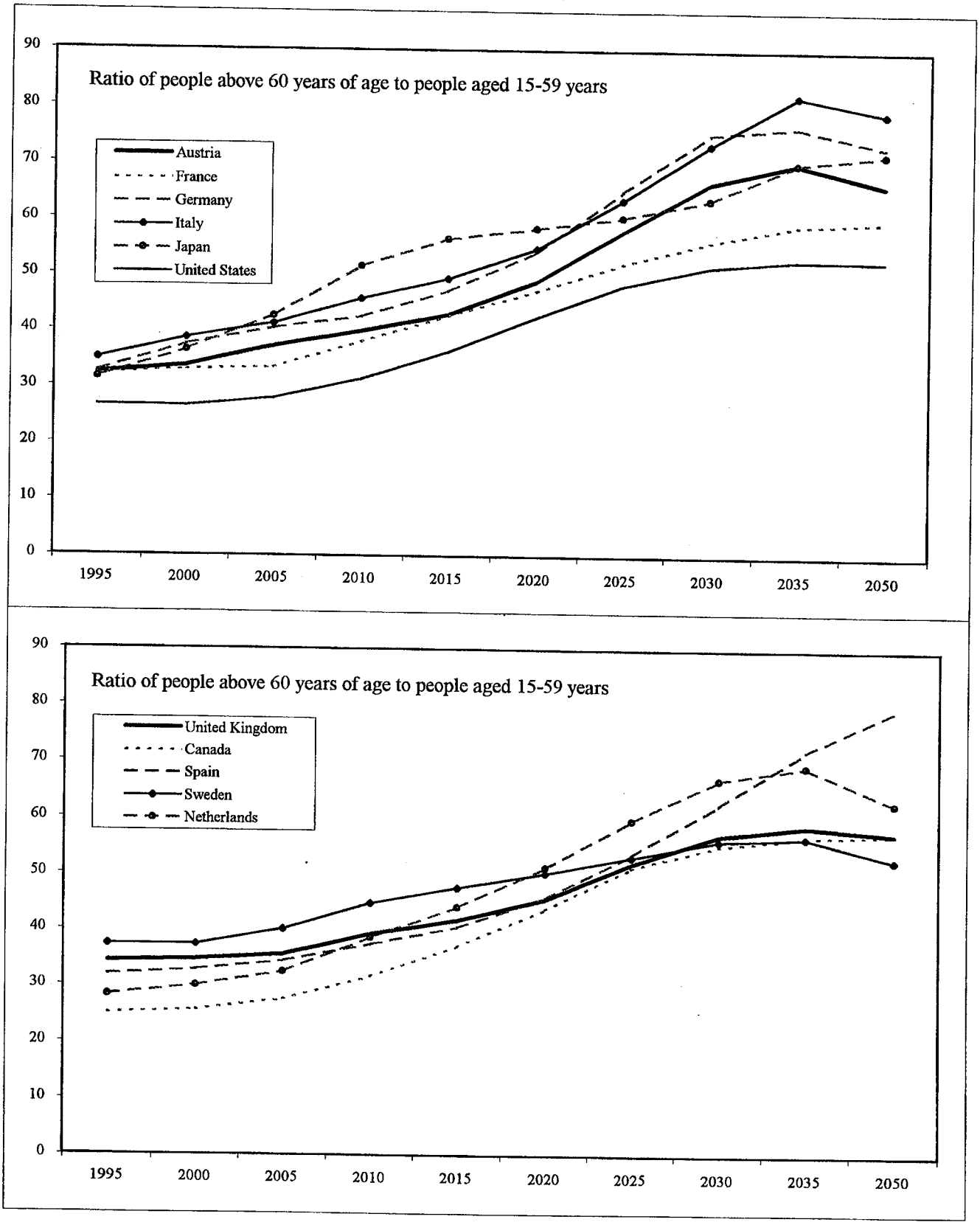
117. In Austria, long-term fiscal policy is complicated by a very generous "pay-as-you-go" pension system. In an international comparison, the Austrian pension system stands out in terms of the very high level of public expenditure—amounting to more than 15 percent of GDP—even when compared with countries with similar old-age demographic dependency ratios (i.e., the ratio of people above 60 years old to those between 15 and 60 years old). Indeed, among 46 countries—including both industrial and developing ones—Austria has *the highest* level of pension expenditure in relation to GDP (Figure III-2). Moreover, pension expenditures are likely to increase rapidly from 2015 to 2030, when the rise in the old-age dependency ratio is expected to accelerate. The projected increase in the old-age dependency ratio is in line with projections for Japan and slightly less than in Germany and Italy, but clearly higher than in countries like the United States, France, and Canada, all countries where the solvency of the public pension system has been an issue for public concern (Figure III-3).

118. The unfunded nature of the pension system has the effect of exposing the fiscal budget to developments in the ratio of retirees to contributors, which is generally closely linked to the old-age dependency ratio. Thus, the fiscal deficit has to be assessed in relation to the current level of the dependency ratio and the projection of this ratio in the future. Two issues are important in this respect: (i) developments of public debt over a reasonable projection period, say, until 2050; and, on a more fundamental level, (ii) whether the public debt-to-GDP ratio will ever stabilize even when the dependency ratio is projected to decline to a new level more in line with prospective birth and death rates. While the first of these two issues addresses the risk of exceeding a given debt-to-GDP ceiling, the second issue asks the question of whether current fiscal plans are consistent with the key parameters underlying the long-term demographic projections. These projections can then be used to assess the size of the adjustment needed to prevent public debt from increasing beyond a certain "tolerance level," e.g., 60 percent of GDP.

Earlier studies of the public pension system

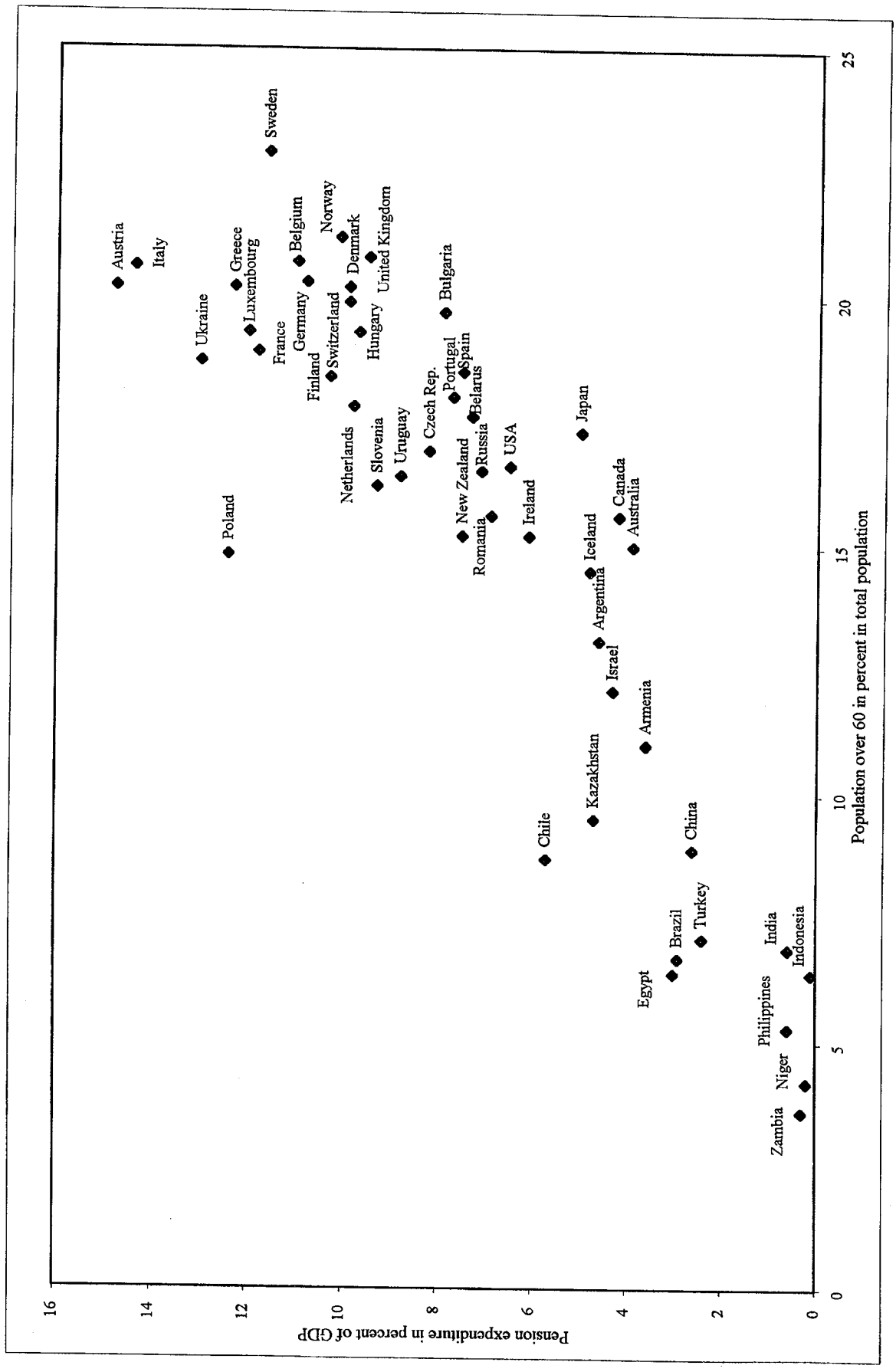
119. The prospective burden of aging on the public pension system in Austria has been analyzed in several studies. Koch and Thimann (1997) presented projections of expenditures and revenues of the two main public pension schemes in Austria, the employee and self-employed pension schemes, excluding pensions for civil servants (which account for about 30 percent of total pension expenditure) and several other, less important pension schemes. According to this study, the fiscal pressures from these pension schemes should increase significantly until 2020 and accelerate thereafter, reaching a peak in 2035. With unchanged contribution rates and benefit rules, pension expenditures were projected to increase from

Figure III-2. Austria: Old Age Dependency Ratios, 1995-2050
(In percent)



Source: World Bank, World Population Projections database.

Figure III-3. Austria: Public Expenditure and Demographics in 46 Countries, 1985-92



Source: World Bank, Averting the Old Age Crisis, Washington 1994.

10¼ percent of GDP to close to 16¼ percent of GDP in 2035[4]; the two pension schemes would exhibit a primary deficit of more than 7 percent of GDP in 2030. The simulations were based on an annual labor productivity growth rate of 1½ percent and an annual inflation rate of 2¼ percent. The participation and unemployment rates were assumed to remain unchanged over the projection period[5].

120. A study by Rürup (1997) commissioned by the Austrian Ministry of Labor, Health, and Social Affairs reached similar conclusions. Covering the same two pension schemes as Koch and Thimann (1997), Rürup estimated that—in a "status quo" scenario—pension expenditures could increase from around 10½ percent of GDP in 2000 to 14¼ percent of GDP in 2030. In this scenario, pension benefit rules were kept unchanged and the resulting "financing gap" was assumed to be closed by a combination of government transfers and increased contributions. The simulations were based on the interaction between the pension system and a large macroeconomic model in which the labor stock was determined as a function of labor demand and the age-gender distribution of the population.[6]

121. The recent pension reform, which passed parliament in November 1997 (Box III-1), goes some way toward correcting these imbalances. It has been estimated that the reform would eventually reduce pension expenditures of the employee and self-employed pension schemes by around 1½ percentage points of GDP. In addition, the budget transfers to the pension fund for federal civil servants would fall by around 0.1 percentage point of GDP. Two thirds of the estimated saving stems from the assumed gradual reduction of the replacement rate by one half of the increase in life expectancy. Although such a reduction is in principle agreed upon, it is not automatic and depends on future legislative action. Without the inclusion of the demographic factor, the total reduction in expenditures would not exceed ½ percentage point of GDP by 2030.

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[4]Population projections were taken from World Bank (1994).

[5]Estimates made at the OECD by Roseveare and others (1996) are in line with the findings in Koch and Thimann (1997). Including only the employee pension system, they estimated that pension expenditures would rise from around 8¾ percent of GDP in 1995 to 14 percent of GDP in 2030. Based on a productivity growth rate of 1½ percent per year and a discount rate of 5 percent of GDP, it was estimated that the net present value (expenditure less contributions) amounted to 93 percent of 1994 GDP.

[6]Although it is difficult to compare the projections in Rürup (1997) with those of Koch and Thimann (1997), the smaller increase in pension expenditure in Rürup (1997) is likely to arise from different labor market assumptions: while Koch and Thimann (1997) assumed constant unemployment and participation rates, Rürup (1997) projected the unemployment rate would fall from 6½ percent in 2000 to 4½ percent in 2030.

Box III-1. The 1997 Pension Reform

After intense negotiations between the social partners, the Austrian parliament passed a pension reform in November 1997. The reform, which will be phased in over some 20 years, introduced:

(i) a gradual extension of the reference period used to calculate individual pension benefits from the best 15 years to the best 18 years for private-sector employees and from the last year to the "best" 18 years for civil servants;

(ii) increased contribution rates for the self-employed and civil servants to 20¼ percent from around 15 percent and 10¾ percent, respectively; and

(iii) increased the penalty for early retirement, from 1.6–1.8 percentage points to a 2 percentage point reduction (up to to a maximum of 10 percentage points) in the replacement rate per year of retirement prior to the statutory retirement age (60 for women and 65 for men);

Assuming, in addition, a still to be legislated reduction in average pensions equal to one-half of the actuarial value of the projected increase in longevity, the reform has been estimated by the Ministry for Labor, Health, and Social Affairs to reduce pension payments of the employee and self-employed pension schemes by 1½ percent of GDP by 2030. Beyond this, the Ministry of Finance has estimated that the need for federal contributions to the federal civil servants pensions would fall by 0.1 percentage point of GDP by 2030.

The increase in the reference period for pension calculations will be phased in gradually from 2003 to 2020, while the increased penalty for early retirement will be effective from 2000. In addition to these measures, the coverage of the public pension system was widened by allowing an "opting in" for lower paid workers and "casual jobs." The compensation for child raising was also increased.

Long-term fiscal projections: 1998–2050 and beyond

122. Long-term fiscal projections of general government accounts is an effective way to assess whether current fiscal plans or trends are sustainable. Careful fiscal projections should reveal future fiscal pressures arising from implicit or contingent liabilities as well as the effects of debt-accumulations on net interest payments. The fiscal projections presented in Table III-2 and Figure III-4 extend the model developed in Koch and Thimann (1997) to include civil service pensions as well as health expenditures. Other

Table III-2. Austria: Baseline Projections: 1995-2050 1/

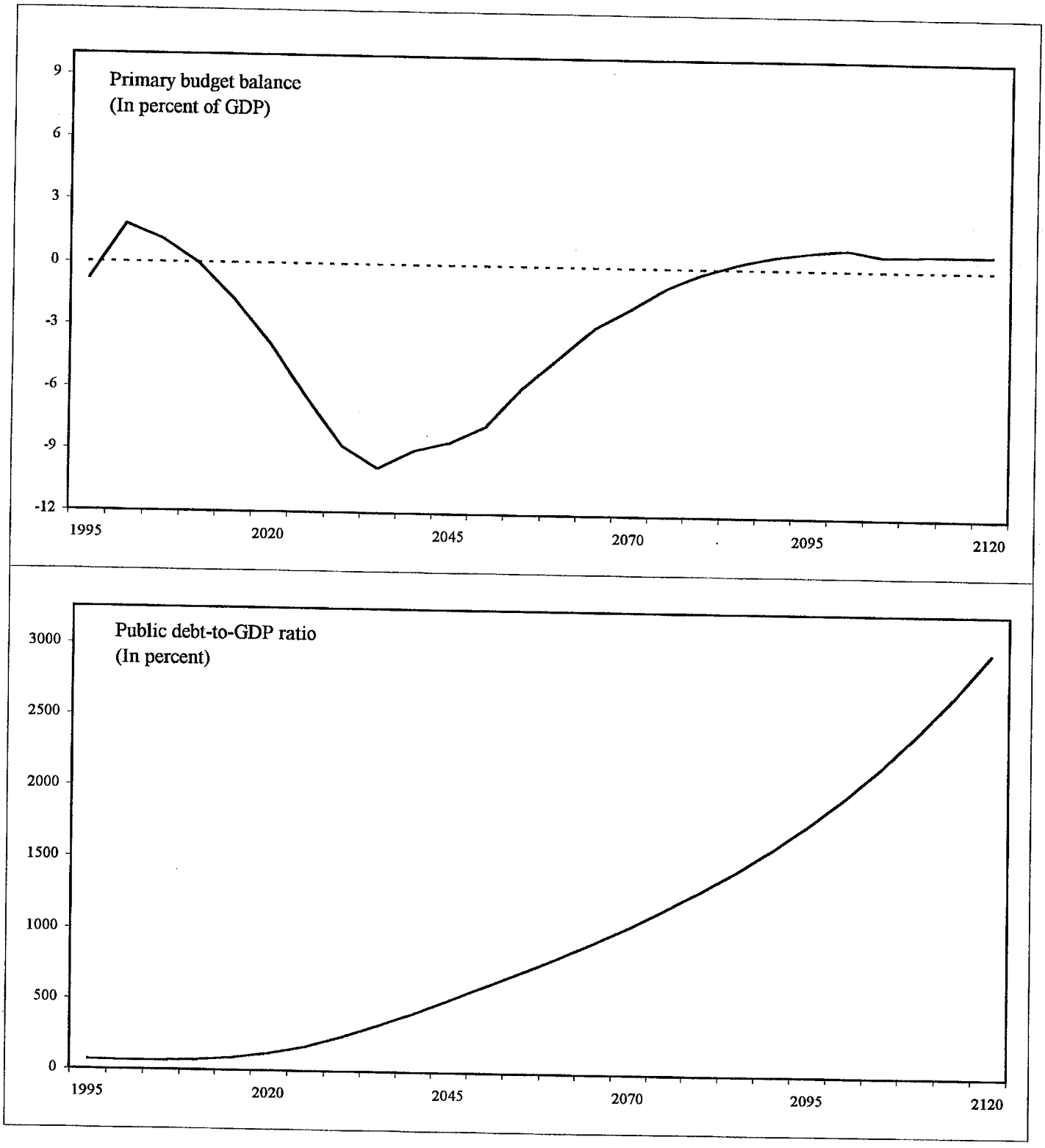
(Percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Revenue	**47.4**	**47.2**	**47.4**	**47.5**	**47.5**	**47.6**	**47.5**
Social security contribution	12.9	13.1	13.3	13.4	13.4	13.5	13.4
Employees pension contribution	*7.5*	*7.6*	*7.6*	*7.7*	*7.6*	*7.6*	*7.6*
Self-employed pension contribution	*0.5*	*0.6*	*0.8*	*0.8*	*0.8*	*0.9*	*0.9*
Civil servants pension contribution	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.1*	*0.9*
Other social security contribution	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*
Other current revenues	34.5	34.1	34.1	34.1	34.1	34.1	34.1
Current expenditure	**48.6**	**45.4**	**46.9**	**53.0**	**63.5**	**72.4**	**81.0**
Pension expenditure	14.8	15.1	17.2	20.6	24.7	25.2	24.1
Employees' scheme	*8.8*	*9.2*	*10.4*	*12.4*	*14.6*	*14.6*	*13.9*
Self-employed	*1.7*	*1.5*	*1.8*	*2.3*	*3.0*	*3.4*	*3.3*
Civil servants	*4.3*	*4.3*	*4.9*	*5.9*	*7.1*	*7.1*	*6.9*
Health care	7.4	7.4	7.4	8.0	9.0	8.8	8.5
Interest on public debt	4.4	4.1	3.4	5.5	10.9	19.5	29.5
Other current expenditures	22.0	18.9	18.9	18.9	18.9	18.9	18.9
Old-age dependency ratio	32.3	33.6	39.9	48.9	66.4	66.2	66.1
Capital transfers	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**
Gross fixed capital formation	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Financial balance	**-5.2**	**-2.3**	**-3.5**	**-9.5**	**-20.0**	**-28.8**	**-37.5**
Public debt	**69.2**	**63.6**	**71.1**	**122.9**	**247.5**	**425.1**	**628.4**
Memorandum items:							
Primary balance	-0.8	1.8	0.0	-4.0	-9.1	-9.3	-8.0
Labor productivity 2/	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Inflation 3/	2.3	2.0	2.0	2.0	2.0	2.0	2.0
Real interest rate 4/	4.3	4.1	3.0	3.0	3.0	3.0	3.0
Old-age dependency ratio	32.3	33.6	39.9	48.9	66.4	66.2	66.1

Sources: Ministry of Finance; and staff estimates.

1/ Including correction for increased life-expectancy.
2/ "Labor augmenting" technical change, percent change.
3/ Percent change in the implicit GDP deflator.
4/ Percent. Average interest rate on government borrowing minus percent change in the implicit GDP deflator.

Figure III-4. Austria: "No Policy Change" Projections, 1998-2120



Source: Staff estimates.

public expenditure and revenue items were assumed to remain constant in relation to GDP. The projection also incorporates the 1997 pension reform and assumes in particular that the replacement rate is reduced in order to compensate for one half of the increased life expectancy.

123. The civil servant pensions were assumed to follow the same developments as other public pensions, and the ratio of civil servant pension expenditures to total public pensions was assumed to remain constant over the projection period[7]. In line with Roseveare and others (1996), health expenditure was assumed to be a function of the projected number of deaths, based on the observation that a large share of health expenditure is concentrated in the years just prior to the death of a person. The ratio of health expenditure to GDP was assumed to increase in line with one half of the increase in the population death ratio (the ratio of the number of deaths to the total population). The projection of public health care costs is, however, quite optimistic since it ignores any future cost pressures from new technologies or the commonly observed positive income elasticity of health care spending. On the relationship between health care costs and aging see World Bank (1994).

124. This "no policy change" scenario suggests that current fiscal policies—as defined above—are clearly unsustainable in the long term. As a result of the increase in public pension expenditure—increasing from around 15 percent of GDP in 2000 to 24¾ percent in 2030— and increasing health care costs (an increase of around 1½ percent of GDP over the same period), the debt-to-GDP ratio would nearly quadruple between 2000 and 2030. The primary fiscal deficit would reach 4 percent of GDP in 2030, while interest payments would amount to about 11 percent of GDP.

125. Looking further ahead, however, the fiscal pressures from aging should decline. It is expected that the dependency ratio will peak in 2040–50 as the demographic hump from the "baby-boom generation" disappears. Although it is extremely difficult to predict the dependency ratio that far ahead, the potential positive effects of its stabilizing at around 45 percent are presented in the last column of Figure III-4. It is assumed that a fall in the dependency ratio would result in a proportional decline in pension expenditure, and that health care expenditure would return to its 2000 level (in percent of GDP). As a result, the primary budget balance would swing to a surplus of around ¾ percent of GDP. Given the previous buildup of debt, however, interest rate costs would contribute to a continuous increase in the fiscal deficit and a spiraling debt-to-GDP ratio.

126. These fiscal projections are quite robust to any change in the assumed birth rates up until around 2020–30. An increase in birth rates would affect the projections, with a delay of about 15 years, i.e., when the newborn begin to reach working age. Thus, a sharp

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[7]This simple assumption was chosen in the absence of any available actuarial study of the civil servant pensions.

rise in the birth rate could only significantly increase contributions from around 2015, and would be partly offset by increased expenditures on child care in the earlier years. Moreover, rough calculations suggest that a 50 percent permanent increase in the birth rate—e.g., to the birth rate experienced in the early 1970s—would decrease the old-age dependency ratio by about 2 percentage points after 15 years, and by around 17 percentage points after 30 years. This compares to a projected increase of 32½ percentage points from 2000 to 2030.

127. Increased immigration would result in a more rapid increase in government revenue, but would also lead to higher pension expenditure when the immigrants retire. Assuming large-scale immigration from 2000 to 2005 (amounting to 2 percent of the work force per year in 2000–05 reaching an accumulative amount of around 10 percent of the labor force in 2005) the net positive effect on the budget could amount to about 1¼ percent of GDP in 2010, rising to about 1¾ percent of GDP in 2020–30, before it would turn negative when the immigrants begin to reach retirement age in 2040 (Table III-3). In this scenario, the positive effect of such immigration on the level of social security contributions would come in two waves: first, there would be the direct effect from the increased work force; this would be followed by a second wave 15–20 years later when the children of the immigrants enter the working-age population. On the basis of the

Table III-3. Increased Immigration: Difference from "No Policy Change"

(Percent of GDP)

	2000	2010	2020	2030	2040	2050
Social security contributions	0.2	1.3	1.6	1.9	1.3	1.0
Pension expenditures	0.0	0.0	0.0	0.5	2.4	2.7
Net effect	0.2	1.3	1.6	1.4	-1.1	-1.6
Memorandum items:						
Immigrants, percent of working-age population	2.0	10.0	11.8	14.3	9.7	7.8
Immigrants, percent of retirees	0.0	0.0	0.0	1.9	9.6	11.0

Source: Fund staff estimates.

rather optimistic assumption that the level of contributions per immigrant is equal to the average level of contributions, pension contributions would increase by 1¼ percent of GDP in 2010 and by 1¾ percent in 2030 relative to "no policy change". By 2040, however, the expenditures on additional pensions for original immigrants would eventually

exceed the increased pension contributions, and the net effect would turn negative by as much as 1–1¾ percent of GDP.

Establishing long-term fiscal sustainability

128. Fiscal sustainability could be achieved in several ways. The most obvious solution would be to delay the adjustment until expenditure is set to increase in 2020–30. In the case of such a delay, the required increase in contributions would, however, be very large: according to the "current services" projections presented above, average contributions would have to rise by 42 percent in 2020 and by 77 percent in 2040 relative to the "no policy change" projection. In adition, around 1½ percent of GDP in additional tax revenue would have to be raised in order to finance the increased health care costs. Alternatively, pension expenditure could be reduced by more than 40 percent in 2040.

129. By contrast, an up-front adjustment would considerably reduce the size of the adjustment needed. By acting early, assets could be accumulated that could be run down later and the interest earning on these assets would reduce future deficits (or increase future surpluses). An up-front increase in the contribution rate would entail a smaller percentage point increase than postponing the increase if the interest rate is higher than the rate of growth of wages and salaries: due to wage growth, a one percentage point increase in current contribution rates is less than a one percent increase in future contribution rates, but this effect is compensated by the return on the additional savings. Thus, the opportunity cost of postponing the adjustment is positive as long as the marginal return on investment (or cost of borrowing) is higher than the rate of growth of aggregate wages and salaries.

130. The effect of postponing the adjustment is compared with an up-front adjustment in Tables III-4 and III-5, and Figures III-5 and III-6. While in the case of the postponement scenario (see Table III-4) general government revenues would have to increase progressively to reach nearly 55 percent of GDP in 2030, Scenario II (see Table III-5 and Figure III-6) assumes a once-and-for-all increase in revenue from taxation or contributions by around 5¼ percent of GDP. On average, permanent costs equal to 1¼ percentage point of GDP would be "saved" by frontloading the adjustment. In both scenarios, the debt-to-GDP ratio reaches 60 percent in 2050.

131. An up-front adjustment could be achieved through a combination of several measures (Table III-6 and Figure III-5): (i) a full adjustment of benefits for increased longevity—compared with only one half in the "no policy change" projection; (ii) an increase in the average retirement age by 3 years; and (iii) an increase in the contribution rate of 5 percentage points. All these measures taken together would result in a small fiscal surplus in 2000–10 and a small deficit in 2020–50 while public debt would fluctuate between 20 percent and 55 percent of GDP. The lengthening of the retirement age would account for 75 percent of the total reduction in pension expenditure (5.6 percent of GDP

Table III-4. Austria: Scenario I: Debt Stabilization

(Percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Revenue	**47.4**	**47.2**	**48.6**	**52.3**	**57.0**	**57.4**	**56.1**
Current expenditure	**48.6**	**45.4**	**46.5**	**50.3**	**54.9**	**55.3**	**54.0**
Pension expenditure	14.8	15.1	17.2	20.6	24.7	25.2	24.1
Health care	7.4	7.4	7.4	7.7	8.2	8.1	8.0
Interest on public debt	4.4	4.0	3.0	3.0	3.1	3.1	3.1
Capital transfer	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**
Financial balance	**-5.2**	**-2.3**	**-1.9**	**-2.0**	**-1.9**	**-1.9**	**-1.9**
Public debt	**69.2**	**62.8**	**60.0**	**60.0**	**60.0**	**60.0**	**60.0**
Memorandum item:							
Primary balance	-0.8	1.8	1.1	1.1	1.1	1.1	1.1

Sources: Ministry of Finance; and staff estimates.

Table III-5. Austria: Scenario II: Permanent Revenue Increase 1/

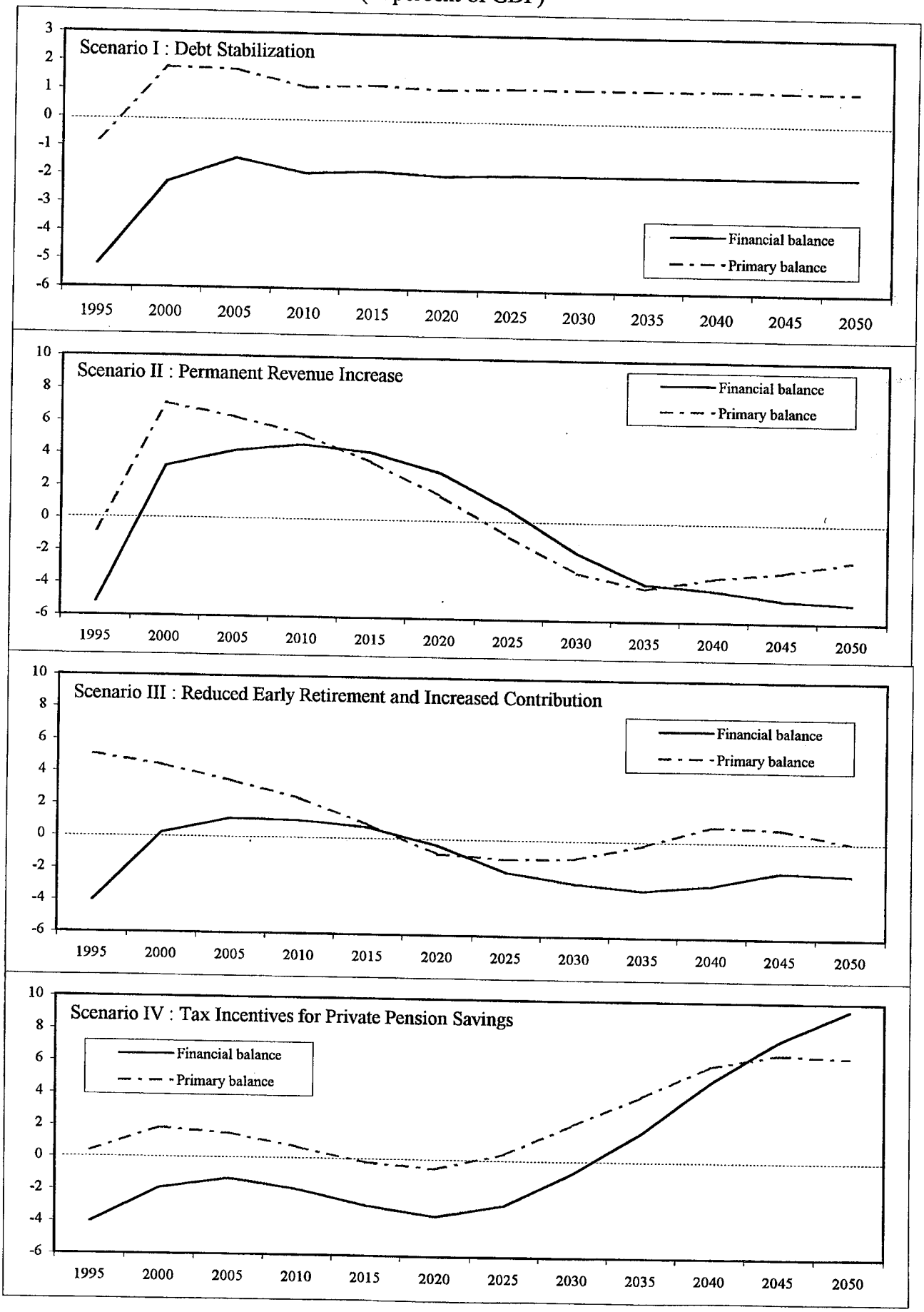
(Percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Revenue	**47.4**	**52.5**	**52.7**	**52.8**	**52.8**	**52.9**	**52.8**
Current expenditure	**48.6**	**45.2**	**44.1**	**45.8**	**50.6**	**53.0**	**53.6**
Pension expenditure	14.8	15.1	17.2	20.6	24.7	25.2	24.1
Health care	7.4	7.4	7.4	7.7	8.2	8.1	8.0
Interest on public debt	4.4	3.9	0.6	-1.4	-1.2	0.7	2.6
Capital transfer	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**
Financial balance	**-5.2**	**3.2**	**4.6**	**3.0**	**-1.8**	**-4.0**	**-4.8**
Public debt	**69.2**	**57.3**	**-0.3**	**-32.8**	**-17.2**	**23.4**	**60.0**
Memorandum item:							
Primary balance	-0.8	7.1	5.2	1.6	-3.1	-3.3	-2.2

Sources: Ministry of Finance; and staff estimates.

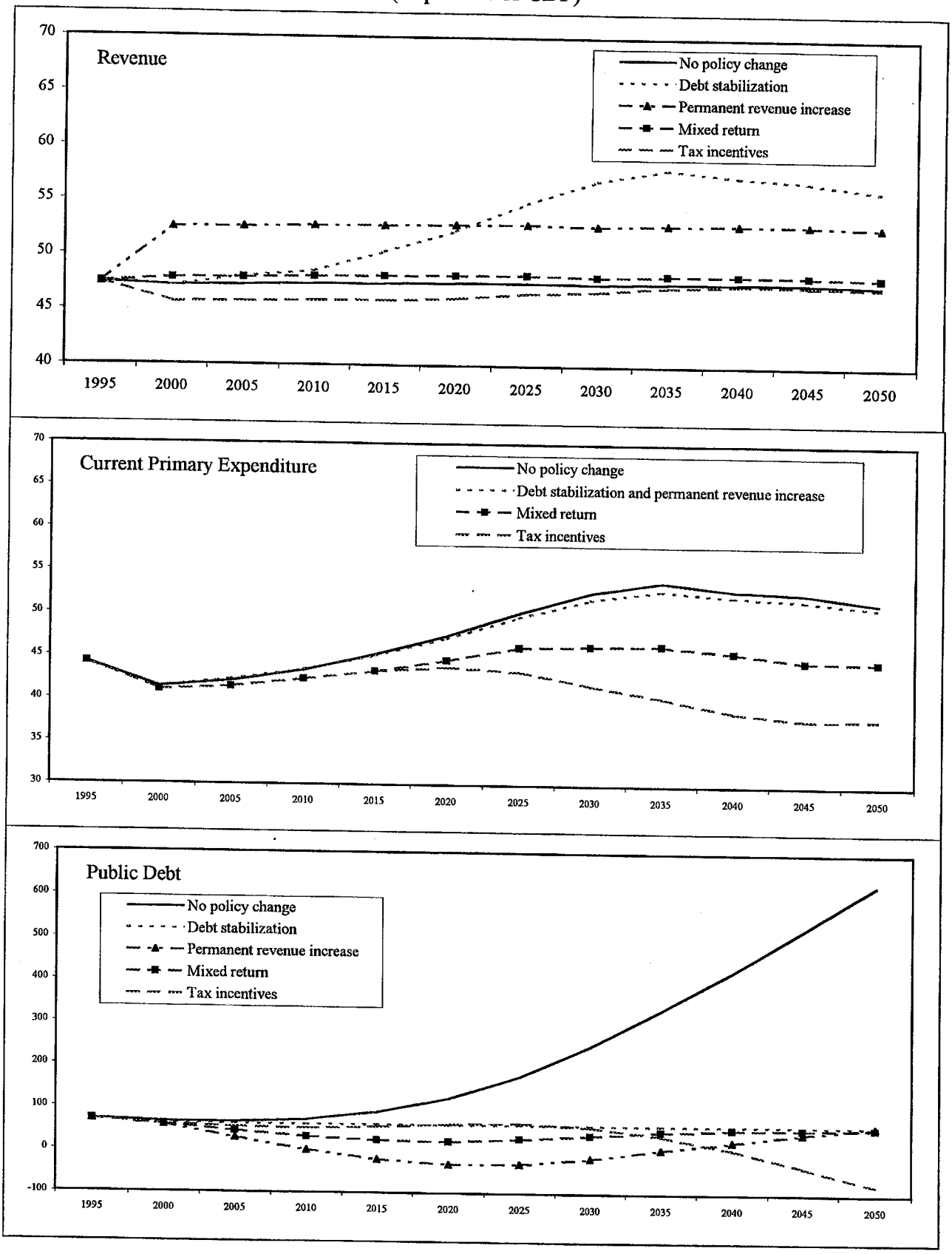
1/ Current revenues increased by 5.2 percent of GDP.

Figure III-5. Austria: Financial Balance and Primary Balance
(In percent of GDP)



Source: Staff estimates.

Figure III-6. Austria: Revenue, Current Primary Expenditure, and Public Debt
(In percent of GDP)



Source: Staff estimates.

Table III-6. Austria: Scenario III: Reduced Early Retirement and Increased Contributions 1/

(Percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Revenue	**47.4**	**47.8**	**48.1**	**48.2**	**48.1**	**48.3**	**48.2**
Current expenditure	**48.6**	**44.8**	**44.2**	**45.8**	**48.0**	**48.2**	**47.4**
Pension expenditure	14.8	14.7	16.0	18.0	19.2	18.7	17.8
Health care	7.4	7.4	7.4	7.7	8.2	8.1	8.0
Interest on public debt	4.4	3.8	1.9	1.1	1.7	2.5	2.7
Capital transfer	**4.0**	**4.1**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**
Financial balance	**-4.0**	**0.2**	**1.1**	**-0.4**	**-2.7**	**-2.7**	**-2.0**
Public debt	**69.2**	**58.4**	**31.1**	**21.1**	**36.6**	**52.3**	**54.8**
Memorandum item:							
Primary balance	5.1	4.4	2.4	-0.9	-1.1	1.0	0.0

Sources: Ministry of Finance; and staff estimates.

1/ Includes the following reforms:
(i) 5 percent increase in average social security contributions.
(ii) Three-year increase in the effective retirement age from 2000.
(iii) Full adjustment for increased longevity.

less than in the "no policy change" projection). The increased adjustment for longevity contributes 18 percent to the reduction in pension expenditures. The increase in the effective retirement age—which at around 57 is very low in Austria—could be achieved by reducing further or even eliminating the current incentives for early retirement (see Appendix III-1). The fiscal effect of reducing the incentives for early retirement is likely to be very large and would, in addition, reduce labor market distortions.

132. The reform proposal presented in Scenario III (see Table III-5 and Figure III-6) would merely change the parameters of the current system, without fundamentally reforming the system itself. Thus, such a reform has been called a "parametric" reform (Jaeger, 1997). More fundamental reforms would consist of moving parts of the system to a private pension system. Such a reform could be mandatory, as in Chile, or voluntary, as in Colombia, Peru, and the United Kingdom.[8] The introduction of private pensions could also be supported by tax incentives, as suggested by Rürup (1997), combined with a progressive reduction in pension benefits. "Privatization" of pension fund management would likely reduce governance problems associated with a large increase in public assets (as in Scenario II) as well as the political temptation to draw on the fund to increase public expenditure. Whether private or public, a move toward a system with a close link between pension liabilities and assets would reduce the system's exposure to unexpected demographic developments.

133. Private pensions could be encouraged by the introduction of tax-sheltered savings accounts. This could become costly in the short run, but such a policy could have the effect of shifting forward tax revenues, which could partly offset the large aging-induced increase in public pension expenditures. If, in addition, public pension benefits were scaled back, the total effect of such a reform package could result in a sharp increase in private pensions without jeopardizing long-term fiscal sustainability. Table III-7 (Scenario IV) suggests that combining such tax-sheltered savings accounts with a removal of incentives for early retirement, full adjustment for increased longevity, and a reduction in future pension benefits would limit the increase in the debt-to-GDP ratio and result in a rapid asset accumulation in the private sector from 2010 onward.

134. Scenario IV is based on tax benefits similar to those provided in the United States Individual Retirement Accounts (IRA) and the Canadian Registered Retirement Saving Plans (RRSP): full deductibility of pension contributions, no taxation of accrued return, but full taxation of pension income (here assumed to be withdrawn as annuities from the

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[8]See Palacios and Whitehouse (1998) for a discussion of the issue of a voluntary switch to a private pension system.

Table III-7. Austria: Scenario IV: Tax Incentives for Private Pension Savings 1/

(Percent of GDP)

	1995	2000	2010	2020	2030	2040	2050
Revenue	**47.4**	**45.7**	**45.9**	**46.1**	**46.8**	**47.5**	**47.3**
Current expenditure	**48.6**	**44.8**	**45.0**	**46.8**	**44.8**	**39.7**	**35.0**
Pension expenditure	14.8	14.7	16.1	17.2	14.6	11.6	11.1
Interest on public debt	4.4	3.8	2.6	3.0	3.0	1.0	-3.0
Financial balance	**-4.0**	**-1.9**	**-1.9**	**-3.5**	**-0.7**	**5.0**	**9.6**
Public debt	**69.2**	**58.9**	**51.0**	**61.6**	**55.9**	**4.8**	**-77.8**
Pension fund assets		**5.0**	**16.3**	**28.5**	**32.9**	**31.2**	**22.3**
Private pension saving		5.0	5.1	5.1	5.1	5.2	5.1
Private annuities		0.0	0.0	0.8	4.6	7.0	6.7
Tax credit		1.5	1.5	1.5	1.5	1.6	1.5
Tax on annuities		0.0	0.0	0.2	0.9	1.4	1.3

Sources: Ministry of Finance and staff estimates.

1/ Includes the following reforms:
(i) Full tax deductibility of pension savings; pensions fully taxable. The tax rate is assumed to be 30 percent of wage-income and 20 percent for annuities.
(ii) Gradual reduction of public pension payments in line with the projected increase in private annuities.
(iii) Full adjustment for increased longevity.
(iv) Three-year increase in the effective retirement age.

age of 60) at a lower average tax rate.[9] In line with Canadian experience, it was assumed that as much as 5 percent of GDP would be invested in such schemes from its introduction in 2000, resulting in a tax loss of 1½ percent of GDP per year (assuming a marginal income tax rate of 30 percent).[10] Thereafter, the share of contributions to the tax-sheltered accounts would be kept constant in relation to public pension contributions. It was also assumed that the savings were made predominately by people aged 25–40, the age group most affected by the reduction in pension benefits from 2020 to 2050 (of an amount equal to the sum of all private annuities).

D. Conclusion

135. The immediate constraint on Austrian fiscal policy is represented by the Stability and Growth Pact's requirement of a maximum deficit of 3 percent of GDP in "normal" times. Based on past output fluctuations, staff estimates suggest that a medium-term target of 1¼ percent would be sufficient to respect this requirement. Prudent fiscal policies would, however, warrant an additional margin with a view to provide some room for countercyclical fiscal policies. The need for a more active countercyclical fiscal policy is likely to increase with Austria's participation in EMU as the ECB's monetary policy may be less appropriate for the Austrian economy than the Bundesbank's monetary policy under the peg to the deutsche mark. In addition, "parameter uncertainty" as well as a possible temporary increase in interest rates would merit some additional margin.

136. While further fiscal effort has to be made to achieve a fiscal position in accordance with these requirements, the main challenge for Austrian fiscal policy arises from population aging. Public expenditure on pensions and health care will increase rapidly in relation to GDP from about 2020 until it reaches a peak in 2040. While a postponement of the fiscal adjustment with incremental reforms as and when required to maintain balance is possible, an up-front once-and-for-all reform would have several advantages. First, reduced interest payments on debt would cut the need for future contribution increases. Second, by establishing a sustainable pension system, retirement planning of individuals would be facilitated, as the uncertainty about the net value of future pension rights would be reduced.

137. In addition to these advantages, a postponement of the necessary adjustment would likely increase the intergenerational imbalance. Although the present simulations do not provide complete intergenerational accounts—which would include the age-incidence of different taxes and public transfers, such as education—some basic conclusions about the intergenerational distribution can nevertheless be drawn. Postponing an increase in the

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[9]Tax sheltered saving accounts are currently available in Austria, but the ceilings are low and depend on the level of income.

[10]See Fougère and Mérette (1998a).

contribution rate until around 2020 while maintaining pension benefits at their current level would leave most workers above the age of 40 relatively unaffected since they can expect to retire around 2020; younger workers, by contrast, would have to pay higher contributions for the same pensions. On the other hand, a decrease in future pensions would shift the burden of adjustment to workers expecting to retire in 2020–50, while an even more widespread distribution of the cost of adjustment could be achieved by an up-front adjustment of taxes or pension expenditure.

138. The simulations suggest that such an up-front adjustment could be achieved by removing the remaining incentives for early retirement with an actuarially fair discount for each additional year of (early) retirement. In addition, such a measure would reduce the distortions in the labor market and increase the labor supply of older people. Other reform proposals, such as the introduction of tax-sheltered pension accounts or privatization, have only been touched upon in this chapter. The example presented in Scenario IV does, however, suggest that a public pension reform could usefully be supplemented by the introduction of an improved regulatory environment for private pensions funds, including limited tax incentives. Incentives for a switch to private pensions could, alternatively, be introduced by allowing workers to reduce their public pension contributions (and future rights) if they invest in private pension accounts.

139. The scenarios presented ignore, however, any macroeconomic repercussions from the prospective aging of the population or arising from the reforms themselves. Although there is some debate about such effects, empirical evidence supports the view that a reduction in government debt and a cut in unfunded pension liabilities tends to increase private capital accumulation,[11] while aging tends to reduce national capital accumulation. Thus, ignoring these effects results in an underestimation of the size of the fiscal problem and the positive effects of reform. General equilibrium simulations with an overlapping-generations model suggest that a permanent up-front reduction in the pension replacement rate of 20 percent, or an equivalent reduction in government debt, would increase GDP per capita by 1–1½ percent by 2020 in France, Japan, and Italy (Hviding and Mérette, 1998). The effects would be even larger if endogenous growth effects, resulting from increased investment, were included (Fougère and Mérette, 1998b).

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[11]See Masson and others (1995) for empirical evidence of the negative effect of public deficits on national savings. OECD (1997) reviews the evidence on saving effects of unfunded pension liabilities.

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INCENTIVES FOR EARLY RETIREMENT

140. The retirement decision depends inter alia on the preference for leisure, health, the net wage rate, and the cost in terms of a decreased pension. When a worker desires to retire early, a pension fund would have to reduce the pension in order to compensate for two factors:

(i) The increase in the expected duration of pension payments. With an average life-expectancy of around 15 years at age 65 and life-expectancy at 64 of 15.95 (the probability of death is assumed equal to 5 percent), a retirement at 64 years of age would increase the expected pension payments by about (15.95/15)-1 = 6.3 percent.

(ii) In addition, in the case of early retirement the wage earner and his employer would pay one year less of pension contributions. In Austria, the value of forgone pension contributions is equal to 22.8 percent of the last year's gross wage.

141. A pension system that allows for an early retirement without compensating for the loss from (i) and (ii) does in effect "subsidize" early retirement. In addition, the worker's choice between retirement and work is distorted resulting in a sub-optimal supply of labor. From the viewpoint of the Austrian pension system, the average incremental loss from one year of early retirement (from 65 to 64) can be calculated using the following formula:

(1A) $$\Delta L = w_0 * 0.228 + w_a * 0.80 * (15.95-15)$$

where ΔL stands for the incremental loss in schilling terms, w_0 is the last salary, and w_a is the base reference salary (the "best" 15 years). As a percentage of standard pensions $P = (w_a * 0.80 * 15)$, the required pension reduction becomes:

(2A) $$\Delta L/P = (w_0/w_a) * 0.228/(0.80 * 15) + (15.95/15-1)$$

which—assuming w_0/w_a equal to 1.2—amounts to close to 8½ percent or, in terms of a compensatory reduction in the replacement rate; e.g., a reduction from 80 percent to 73 percent or around 7 percentage points. This compares to a discount of 2 percentage points a year after the 1997 reform.

142. The calculations above are based on an average individual and could underestimate the incentives for early retirement. In addition to the effects discussed above, there might be adverse selection effects arising from the self-selection of workers with relatively short

life expectancy: the percentage increase in expected pension payments would thus be larger for these workers than for the average worker and would warrant a larger reduction in the replacement rate in order to remove any incentives for early retirement.

IV. European and Global Integration: The Challenges for Austria's Financial Sector[1]

A. Introduction

143. In the 1990s, European and global integration has spurred substantial growth in cross-border financial activities. The EU single market initiatives in banking and other financial services, which have led to more uniform regulation and entry requirements (e.g., the Single Passport[2]), have laid the groundwork for substantial integration of Europe's financial markets. The introduction of the euro will undoubtedly strengthen these incentives toward integration and facilitate their realization, including the gravitation of securities trading to a few financial centers. Profound changes are not underway on the supply side alone. On the demand side, investors are becoming increasingly sophisticated and demand competitive rates of return as they may, at the same time, become less risk averse.

144. These European and international trends will have a significant impact on the financial system in Austria. Financial integration is likely to promote concentration in some segments of the financial system, and fragmentation and specialization in others. Domestic banks will be confronted with increased competition on two fronts: (i) from abroad, as foreign banks will use easier access to expand into the local market, (ii) but also within Austria, as direct financial markets will draw business from banking institutions. Faced with declining interest margins, banks will be forced to reshape and diversify their activities and focus more on efficiency and cost effectiveness. Universal banks will more and more have to compete with specialized international financial institutions. For equity markets, integration and electronic trading mean that stock trading of top corporations will increasingly be centralized at a few international centers, while a second tier of equity markets at the national level may be able to specialize in medium-sized and small corporations. As bond and money markets gain in depth and liquidity, disintermediation will certainly intensify and will attract more investment banking activities.

145. This paper will briefly describe the current structure of the Austrian financial sector and will outline some of the required adjustments for it to stay competitive. It will argue that Austria may in some respects be less well placed than some other European countries to meet financial integration head-on. Although Austrian banks have demonstrated their business acumen in Central and Eastern Europe to take advantage of international opportunities, some domestic weaknesses—mostly structural—would need to be overcome to help exploit potentially fruitful opportunities within Austria, Europe, and beyond.

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[1]Prepared by Burkhard Drees.

[2]The Single Passport grants any bank registered in an EU country the freedom to operate in any other EU country.

- Austria's universal banks lag behind other countries in cost efficiency, although Austrian banks' earnings capacity and efficiency have been improving in recent years. The Austrian banking system is one of the most overbanked with a very high branch density. Since bank financing predominates in the corporate sector, Austria has some of the smallest (relative to its economy's size) debt and equity markets of EU countries.

- In the past, state involvement permeated large segments of the banking sector, dividing it into political spheres of influence and affecting managerial behavior and perhaps holding back needed structural change. Recently, state involvement and political influence have been reduced, among other things by partial privatizations; however, the public sector remains the largest individual shareholder in some important banks.

- Following recent large-scale bank mergers, a remodeling of the domestic banking structure is being implemented, but only slowly and gradually. Consolidation has barely advanced, and synergy effects and cost savings are only hesitantly being exploited.

- Even the largest bank in Austria (Bank Austria) is probably not large enough to be a significant "European player." As the flip side of the coin, the potential efficiency gains may make the larger Austrian banks prone to takeovers by large foreign banks.

- Debt and equity markets are narrow and small, and equity ownership is one of the lowest in Europe. Sources of venture capital for start-up companies are scarce. Markets would need to consolidate and could strengthen their positions by specializing in niche segments. Recent initiatives, such as the merger of the Vienna Stock Exchange and the Austrian Options and Futures Exchange (ÖTOB) and the cooperation agreement with the German Stock Exchange in Frankfurt (Deutsche Börse), should bolster the position of the Vienna Stock Exchange, but may not be enough.

146. On the upside, given the limited scope of the equity market, Austria has a large potential for promoting equity financing, which could provide more funding flexibility to companies and support risk-taking and innovation. A new stock market program (called *fit*) is designed to bring small and medium-sized companies to the exchange. ÖTOB's emphasis on innovative derivative products based on Central and Eastern European financial instruments appears promising. The announced concentration of the German stock exchange's Central and Eastern European trading activities in Vienna could help preserve the vision of Vienna as a financial center for the transition economies.

B. Recent Developments and Prospective Challenges for Austrian Banks

147. On the basis of international comparisons, the Austrian banking system is facing the following challenges: there are too few banks of a European scale; branches are too numerous; and efficiency and profitability are too low. Partly in response to external competitive pressures, and partly owing to domestic political considerations, the Austrian banking system is in transition. Intensive merger activity among the largest banks has profoundly changed the domestic banking landscape. Public ownership in the banking sector is being scaled back as some large banks are being partially privatized and listed on the stock exchange. This transition will pose challenges, but in Austria's stable macroeconomic environment, a sharp change in business practices (toward more risk-taking and ventures in less familiar financial areas) would not be likely. Nonetheless, further consolidation and improvements in efficiency can be expected given increasing competitive pressures, including from abroad. Particularly in light of EU integration in some market segments, the pace of retrenchment of excess capacity will likely have to be accelerated.

Banking structure and profitability

148. Banks play a pivotal role in the Austrian financial system, since bank-intermediated debt is the preferred instrument of corporate finance.[3] As a result, corporate debt ratios (at about three-quarters) are high by international standards. The volume of bank assets relative to GDP (equivalent to 238.4 percent of GDP in 1997) was close to the EU average, but smaller than in Germany (255.8 percent of GDP). By contrast, direct finance in financial markets is insignificant and financial markets are not well developed.

149. Austrian banks—being predominantly universal banks—offer a wide variety of banking, payment, and investment services. Nonetheless the sector is fragmented and the degree of concentration is relatively low for a small industrial country. Three groups of banks dominate: (i) savings banks, which have the largest market share (almost 31 percent of total bank assets), comprise not only relatively small banks but also some of the largest banks (including Bank Austria and Erste Bank); (ii) commercial banks (joint stock banks and private banks) hold 28½ percent of all bank assets; and (iii) the cooperative bank sector, with a 25 percent market share, is dominated by (mostly very small) rural credit cooperatives (*Raiffeisenbanken*) with a 20½ percent market share; industrial credit cooperatives (*Volksbanken*) have much less significance. The remainder of the banking sector (some

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[3]By 1995, the contribution of the financial sector to the economy's net value added had risen to 5.2 percent (up from 3.1 percent in 1987) (Oesterreichische Nationalbank (1997)).

15 percent of bank assets) comprises special purpose banks, regional mortgage banks, and building societies (Figure IV-1 and Table IV-1).

150. The pressure for reform and consolidation has in part been diminished by the close relationship of sections of the banking system with the public sector (Attems, 1995). Public ownership in banking has traditionally been an important feature of the Austrian banking system; it is a legacy of post-WWII reconstruction and the lack of sufficiently strong private investors at the time. As a result, even after recent privatization measures, a significant part of the banking system is still either directly publicly owned or backed by the public sector as a guarantor. Most of the savings banks are "owner-free" in the sense that their "owners/ backers" (*Träger*) are either a municipality or a foundation (see Box IV-1). Publicly "owned" savings banks are also backed by a public guarantee (*Gewährträgerhaftung*). In the cooperative banks, depositors are the shareholders, but in practice their level of influence on management is very limited. Due to their corporate governance structure, many savings banks and cooperative banks may be guided primarily by considerations other than profit maximization and cost efficiency. The savings bank sector and the industrial credit cooperative sector (*Volksbanken*) are organized as two-tier systems with Erste Bank and Oesterreichische Volksbank, respectively, as their central institutions that provide services to the local banks. By contrast, the *Raiffeisen* cooperative sector has a three-tier structure of local and regional institutions, and with Raiffeisen Zentralbank (RZB) as the central institution.

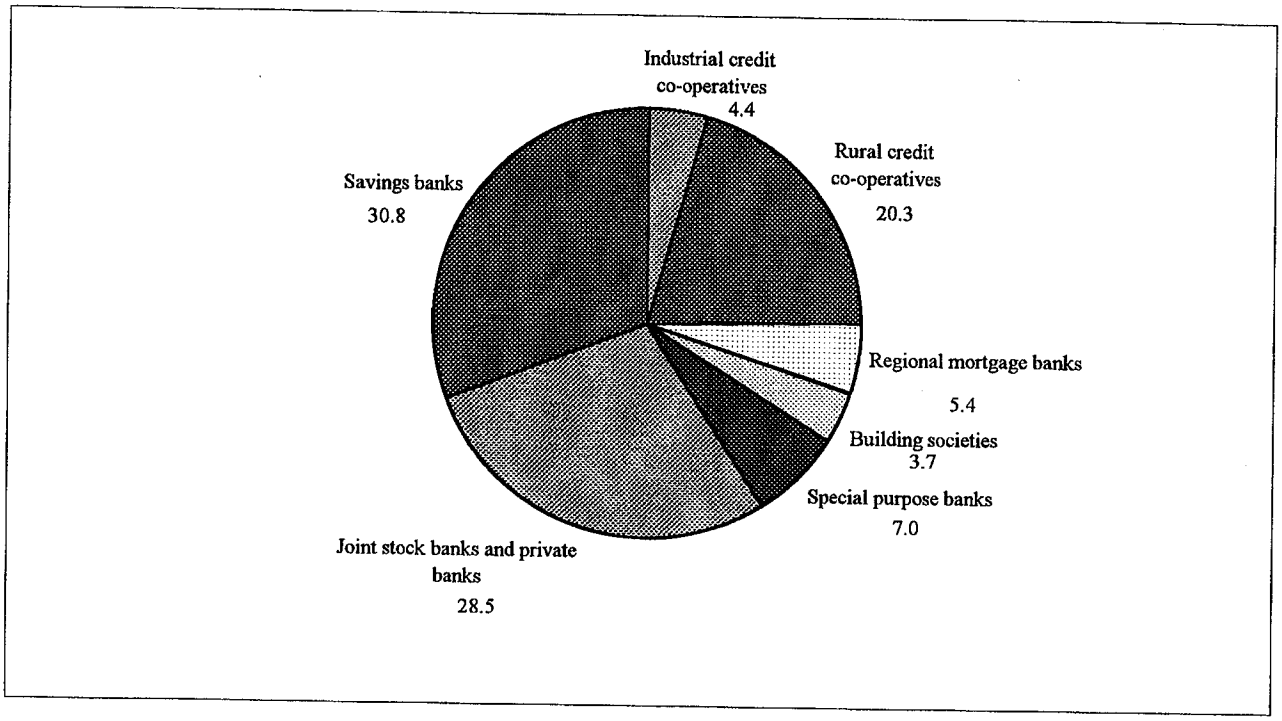
151. The many relatively small savings and cooperative banks focus primarily on (and have a strong position in) retail banking with private customers and small and medium-sized companies; they pride themselves on close contact with the local communities and small local companies. Any large-scale corporate lending or foreign exchange transaction is channeled through their central institutions.

152. The recent merger activity has, however, blurred distinctions, in particular the one between commercial banks and savings banks. The largest savings banks (Bank Austria and Erste Bank) have incorporated as joint stock companies and are managed as commercial banks.

153. Until recently, there was no Austrian bank of a scale sufficiently large to compete successfully in the euro area; Bank Austria's market share was only 13 percent in 1996 (Table IV-2). After the merger with Creditanstalt in 1997, however, the market share doubled to 26 percent, slightly above the EU average of 21 percent, but still low for a small country like Austria. The top five banks in Austria account for less than half of the market (48¼ percent compared with the EU average of 52½ percent), whereas in other small EU countries the top-five market shares ranged from 59 percent in Belgium (in 1994) to 81 percent in the Netherlands and 86 percent in Sweden (in 1995).

154. Foreign banks play a minor role. After Austria liberalized capital movements in 1991 and joined the European Economic Area in 1994 and the EU in 1995, many entry barriers were eliminated. Foreign banks increasingly entered the Austrian market, but they continued

Figure IV-1. Austria: Market Shares
in the Banking Sector, 1997
(In percent of aggregate balance-sheet total)



Source: Oesterreichische Nationalbank.

Table IV-1. Austria: Key Ratios of the Banking System

	1993	1994	1995	1996	1997
Balance sheet ratios					
Capital adequacy ratio 1/		(in percent of risk-weighted assets)			
All banks	...	11.6 (8.7)	11.8 (8.9)	12.3 (9.0)	12.7 (8.9)
Of which:					
Commercial banks	...	11.5 (8.3)	11.9 (8.5)	12.2 (8.5)	11.8 (8.5)
Savings banks	...	11.3 (7.9)	11.4 (8.2)	12.3 (8.6)	13.2 (8.9)
Cooperative banks	...	12.0 (9.3)	12.2 (9.5)	12.2 (9.5)	11.8 (9.0)
Foreign assets		(in percent of balance sheet total)			
All banks	21.0	20.5	21.1	22.2	24.2
Of which:					
Commercial banks	35.4	33.9	34.9	35.7	36.7
Savings banks	24.2	24.1	25.5	27.4	29.3
Cooperative banks	7.0	7.2	8.0	8.6	10.4
Foreign liabilities		(in percent of balance sheet total)			
All banks	22.5	21.9	22.1	24.4	27.5
Of which:					
Commercial banks	40.3	38.5	39.3	42.3	38.3
Savings banks	22.9	23.0	22.8	26.2	29.8
Cooperative banks	8.7	8.4	8.8	9.6	11.5
Foreign currency loans to domestic non-banks		(in percent of loans to domestic non-banks)			
All banks	5.5	5.2	5.5	6.5	8.3
Of which:					
Commercial banks	9.7	7.7	7.9	8.7	12.7
Savings banks	5.4	4.8	4.9	6.2	8.3
Cooperative banks	3.3	3.4	3.6	5.1	7.2
Foreign currency liabilities to domestic non-banks		(in percent of deposits by domestic non-banks)			
All banks	6.8	7.3	7.2	7.4	7.3
Of which:					
Commercial banks	18.3	19.4	17.9	17.5	13.6
Savings banks	5.7	6.6	7.1	7.0	7.0
Cooperative banks	2.5	3.2	3.4	4.8	5.1
Income ratios		(in percent of year-end balance sheet totals)			
Net interest income					
All banks	1.7	1.7	1.7	1.6	1.5
Of which:					
Commercial banks	1.4	1.3	1.3	1.3	1.3
Savings banks	2.0	1.9	1.9	1.8	1.6
Cooperative banks	2.2	2.1	2.1	2.0	1.9
Operating surplus					
All banks	1.0	0.9	0.8	0.9	0.8
Of which:					
Commercial banks	1.0	0.8	0.7	0.7	0.8
Savings banks	1.1	0.8	0.8	0.8	0.8
Cooperative banks	1.2	1.1	1.1	1.1	1.0
Profit before taxes					
All banks	0.4	0.4	0.4	0.5	0.5
Of which:					
Commercial banks	0.4	0.3	0.3	0.3	0.5
Savings banks	0.3	0.4	0.4	0.3	0.3
Cooperative banks	0.6	0.5	0.6	0.6	0.5

Source: Oesterreichische Nationalbank

1/ Ratio of total capital to risk-weighted assets (BIS definition). The "core" capital ratio is in parentheses.

Box IV-1: Ownership Structure of Savings Banks

Savings banks occupy a pivotal role in the Austrian banking system. Historically savings banks were established as a counterweight to private banks to provide access to banking services for low-income citizens. Savings banks in Austria are "owner-free" in the sense that their "owners/backers" (*Träger*) are either a municipality (*Gemeinde*) or a foundation (*Verein*). Those savings banks with backing from municipalities have a public guarantee (*Gewährträgerhaftung*) that is designed to augment the historically low level of equity in such banks. To raise additional equity, some savings banks have been converted into joint-stock companies, with the largest shareholder being a holding company managing the *Träger's* stakes (so-called share management savings banks). Bank Austria, for example, is a joint-stock company in which the City of Vienna holds a significant stake; Erste Bank, by contrast, is a joint-stock savings bank backed by a foundation. At the end of 1996, there were 48 *Gemeinde* savings banks (of which 16 were joint-stock companies) and 29 *Verein* savings banks (with 9 joint-stock companies). Management is appointed by savings bank councils that consist of representatives from the respective *Träger*. A mutual assistance obligation within the saving sector underpins and, in practice, supersedes the public guarantee. Similar mutual assistance arrangements link *Raiffeisen* banks and *Volksbanken*.

	Total assets (end-1996)
Gemeinde savings banks	S 891 billion
Verein savings banks (including Erste/GiroCredit)	S 904 billion
Total savings bank sector	S 1,795 billion

(equivalent to 74 percent of GDP and 31 percent of all bank assets)

Table IV-2. Austria: The Largest Banks in Austria

	1997		1996	
	Balance sheet total	Market share	Balance sheet total	Market share
	(in billions of schillings)	(in percent)	(in billions of schillings)	(in percent)
Bank Austria 1/	1568.5	26.1	742.4	13.1
Creditanstalt	...		648.0	11.5
Erste Bank 2/	576.7	9.6	224.6	4.0
GiroCredit	...		339.0	6.0
Raiffeisen Zentralbank	266.5	4.4	246.5	4.4
Postsparkasse	263.4	4.4	246.4	4.4
BAWAG	250.5	4.2	240.6	4.3
Three-Bank Group	179.0	3.0	166.2	2.9

Source: Annual reports (various issues).

1/ For 1997, after merger with Creditanstalt.
2/ For 1997, after merger with GiroCredit.

to focus on special market segments (such as trade finance), while remaining relatively insignificant in the traditional deposit and loan business. Their overall share in the balance sheet total of the banking sector is still limited (3 percent in 1995).[4] Recently, foreign banks have bought sizable stakes in some large Austrian banks (the German publicly-owned Westdeutsche Landesbank and Bayerische Landesbank, for example, acquired a 9 percent stake in Bank Austria and a 46 percent stake in BAWAG, respectively). Conversely, Austrian banks have established relatively strong positions in Central and Eastern Europe, not only in investment banking but also in commercial banking activities (led by Bank Austria, Creditanstalt, and RZB). The RZB has established a particularly strong position in Central and Eastern Europe. Its seven subsidiaries in Bulgaria, the Czech Republic, Hungary, Croatia, Poland, Russia, and Slovakia have 63 branches and their balance sheet total rose by 38 percent to S 40 billion in 1997 (13 percent of RZB's total assets). Austrian banks are among the most important market participants in stock exchanges in Central and Eastern Europe (Rothensteiner, 1997).

155. Due to the publicly owned and guaranteed or ownerless structure of most institutions, managerial incentives may have in the past been geared primarily toward expansion and dense branch networks rather than rate of return considerations and price competition.[5] Past regulatory restrictions reinforced the incentives to compete in terms of geographical proximity (through a dense branch network) rather than price. Branch proliferation also had the effect of deterring entry by others, in particular foreign banks, into the retail segment.

156. All in all, competition in the banking sector appears to have been relatively low, particularly at the retail level, as evidenced by stable market shares within a fragmented banking structure and by ownership relations that may have discouraged price competition. Extensive public ownership typically also delays entry into and exit from the banking system (Prati and Schinasi, 1997). As a result, Austria is heavily overbanked. With 1,400 customers per banking outlet, it features one of the most extensive branch networks in the world (Figure IV-2).

157. Another related manifestation of managerial incentives can be found in the relatively low profitability and high operating expenses of banking [6] (Figure IV-3). Notwithstanding the decline in interest margins, which have narrowed by ½ percentage point between 1995 and

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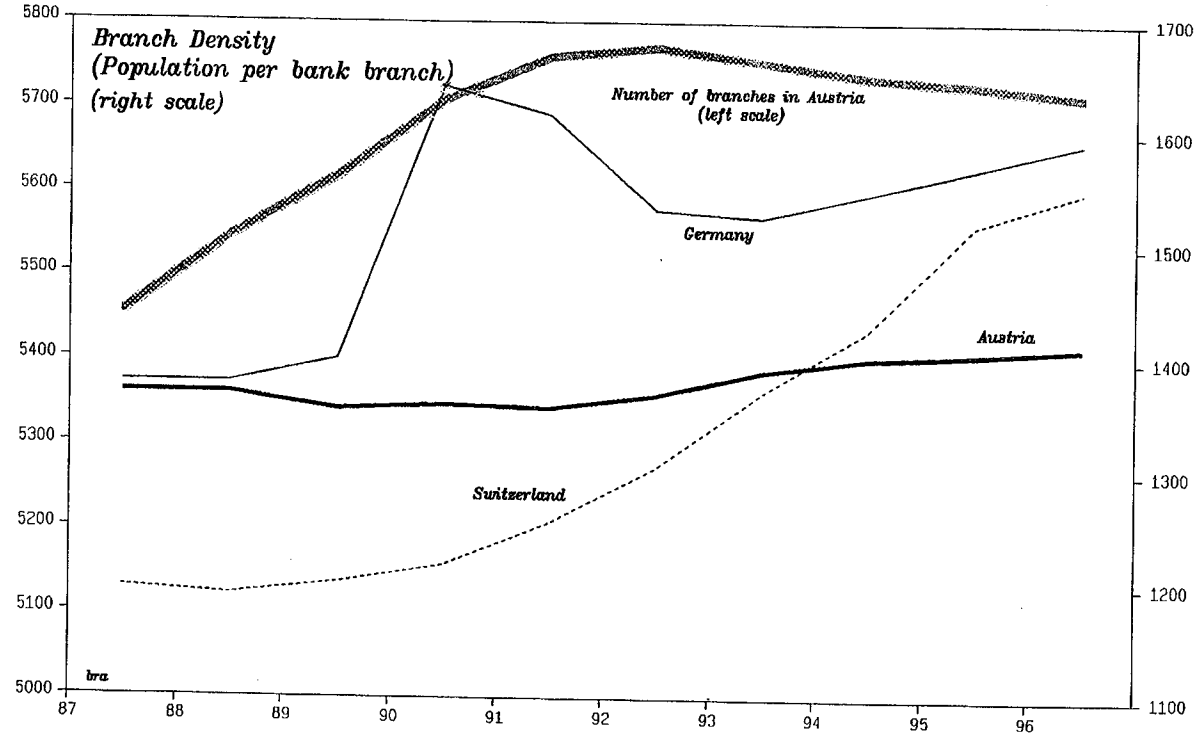
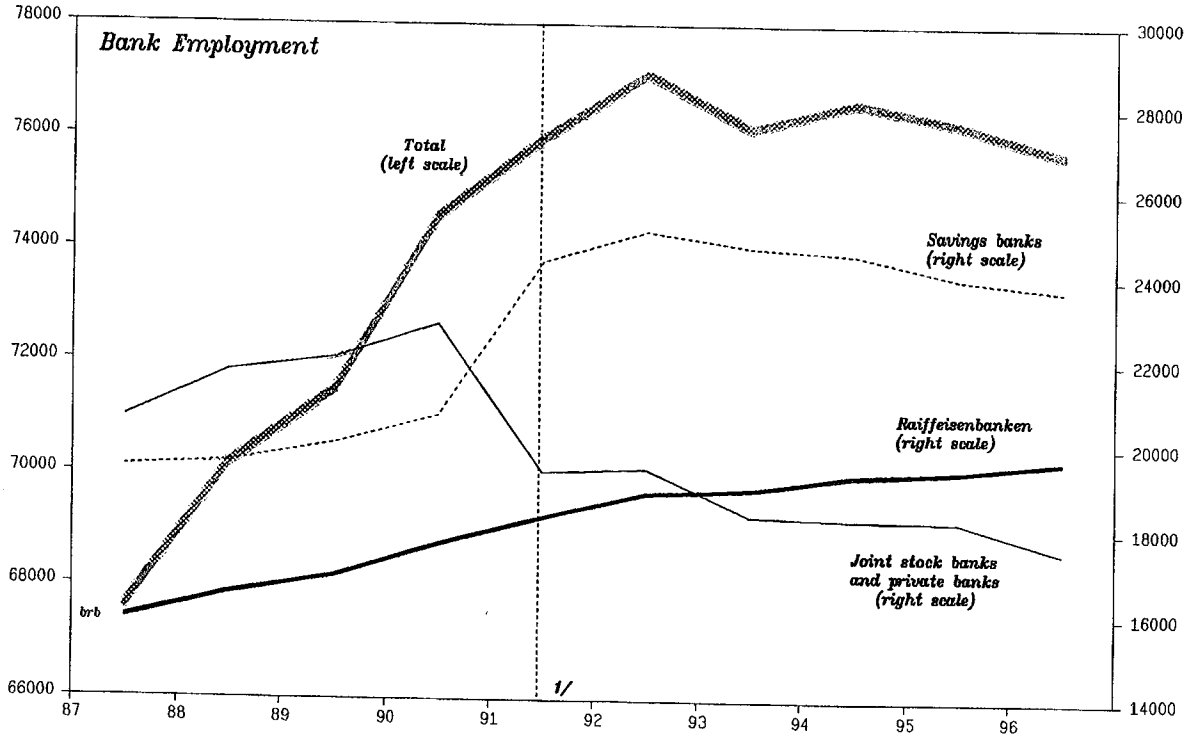
[4]See Mooslechner (1997) for a review; also Tichy (1996).

[5]For a more detailed discussion of managerial incentives and corporate governance issues in banking see Drees and Pazarbasioglu (1998) and Mooslechner (1997).

[6]One might conjecture that small banks are the least profitable, but just the opposite seems to hold. In effect, Mooslechner (1995) found a negative relationship between balance sheet total and profitability in Austria. In Germany as well, net interest margins were the smallest in the size group to which the largest Austrian banks belong (Mooslechner, 1995).

Figure IV-2. Austria: Branch Density and Employment, 1987-96

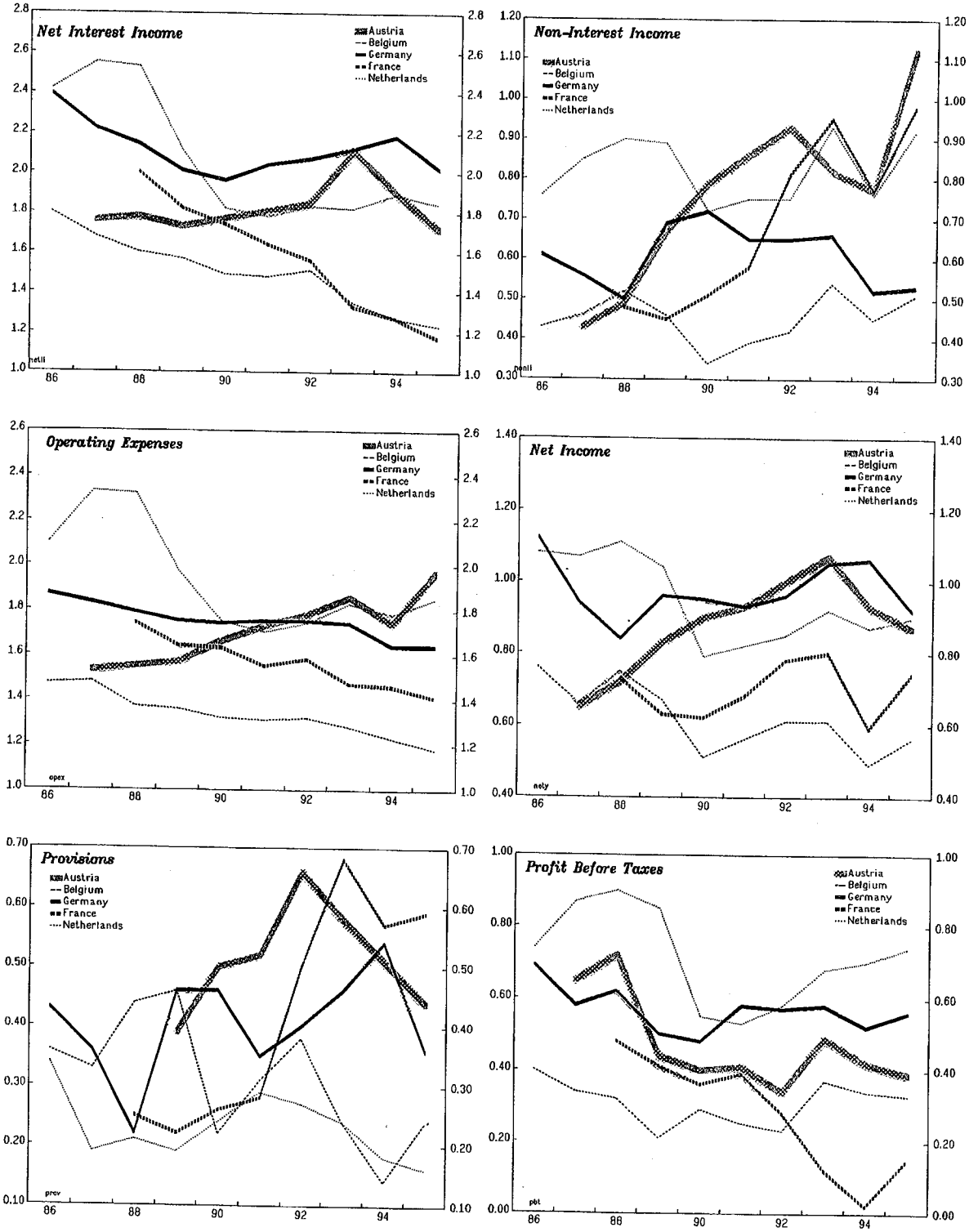




Source: Oesterreichische Nationalbank.
1/ Redesignation from commercial banks to savings banks.

Figure IV-3. Austria: Bank Profitability in International Comparison, 1986-1995

(In percent of balance sheet total)



Source: OECD (1997).

1997 (in the retail segment from 3¼ percentage points to 2¾ percentage points, and overall from 2.6 percentage points to 2.1 percentage points), Austrian banks still rely heavily on net interest income. The share of fee income, however, has been steadily rising as banks have reacted to the declining trend in interest margins.

158. Mooslechner (1995) found that the low profitability of Austrian banks during 1987-93—even relative to Germany—was mainly due to high operating expenses. And operating expense ratios have continued to rise subsequently. Overall, banks have been characterized by low production efficiency (measured by the ratio of operating expenses to assets, and assets per staff). There are indications that the efficiency of allocation is primarily hampered by an inefficient use of labor input. In addition to a higher labor intensity, banking services in Austria are provided with a higher capital intensity than in Germany. According to Mooslechner (1995), in the early 1990s personnel expenses per employee were 11 percent higher than in Germany, and administrative expenses per employee were 27 percent above those in Germany. These results seem to indicate ample scope for cost-cutting in the Austrian banking system and also provide evidence that the bank mergers in the early 1990s did not lead to significant cost reductions.

159. Starting in 1991 with a first wave of mergers,[7] the banking system has undergone a reorganization process (Box IV-2: Mergers and Privatization). Public sector ownership has diminished[8] and profit considerations have gained in significance in wider parts of the sector, also as the result of a growing number of large savings banks (including Bank Austria and Erste Bank) incorporating as joint-stock companies. The reorganization has blurred the traditional patterns of political affiliation of banks and has created three large banking groups that are dominating the banking system—the Bank Austria/Creditanstalt, the savings bank sector led by Erste Bank, and the Raiffeisen sector led by the Raiffeisen Zentralbank.

160. Despite the mergers, though, the consolidation and restructuring process in the banking sector, particularly cutbacks in branches and staff, has thus far been slow and gradual. It has not yet resulted in a noticeable reduction in the number of branches or higher efficiency. In fact, some mergers—most prominently the take-over of Creditanstalt by Bank Austria—have obtained political approval only contingent on the explicit commitment to keep the two banks operating as separate entities within Austria and to cut staff only through normal attrition (Randa, 1997). Moreover, in May 1998, banks and bank employee unions reached an agreement to ensure that the introduction of the euro will not cause layoffs.

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[7]As part of this first wave of mergers, Zentralsparkasse combined with financially struggling Länderbank to form Bank Austria, which thus became the largest bank in Austria.

[8]The federal government's ownership share in the seven largest banks declined from 23 percent in 1992 to 7 percent in 1998.

Box IV-2: Mergers and Privatization

In 1991, after the **Länderbank** encountered financial difficulties, it was merged with **Zentralsparkasse** to form the new **Bank Austria**. Bank Austria became the largest bank in Austria, ahead of Creditanstalt. In 1994, Bank Austria's main shareholder, the City of Vienna Holding Company (Anteilsverwaltung Zentralsparkasse, AVZ) acquired the majority at **GiroCredit** (the central institute of the savings bank sector and the third largest bank). This was the first time that an acquisition had crossed the boundaries of political spheres of influence in banking, with GiroCredit having traditionally been in the "black" camp.

Some consolidation has also occurred among regional banks. In mid-1997, the **Raiffeisen Landesbank Niederösterreich** and the **Raiffeisen Landesbank Wien** merged. A different strategy is being pursued by three regional banks, which are listed on the stock exchange. The Bank für Oberösterreich und Salzburg (Oberbank), the Bank für Kärnten und Steiermark (BKS), and the Bank für Tirol and Vorarlberg (BTV) have been cooperating very closely and they are considered one combined bank, the **Three Bank Group**, now the sixth largest bank in Austria.

In early 1997, the federal government sold its stake in **Creditanstalt** (CA) (69.4 percent of voting rights, 48.6 percent of shares) to **Bank Austria** (BA) for S 17.2 billion. A subsequent exchange of Creditanstalt shares for Bank Austria shares increased Bank Austria's voting right share to 98 percent. In the domestic banking market, both banks will continue to operate under separate corporate identities, while their investment banking operations and their activities abroad will be merged.

The federal government's stake in Bank Austria (15.4 percent of shares) has been unwound since mid-1997. A 6 percent share was sold on the stock exchange in small amounts, whereas in February 1998 the remaining stake was sold through a tender offer to Dresdner Kleinwort Benson to be placed widely. As of end-February 1998, the public sector stake in Bank Austria consisted of the AVZ's 37.9 percent of voting rights (26.5 percent of shares).

As part of the political agreement on the acquisition of CA by BA, the City of Vienna Holding Company had to sell its 56.1 percent stake in **GiroCredit** to **Erste SparCasse** for S 8.2 billion. This transaction increased Erste's share in GiroCredit to 82 percent and led to a full integration of GiroCredit into the newly established **Erste Bank**, which thereby became the second largest bank in Austria. The savings bank foundation, Anteilsverwaltung Sparkasse, remains the largest shareholder in Erste Bank with a 43.4 percent stake; savings banks own 9.4 percent, while the remainder is widely held.

The postal savings bank, **Postsparkasse** (PSK), is fully owned by the federal government. During the next two years, it is planned to privatize 49 percent of the share capital. The principal contenders appear to be the Raiffeisen sector and the Bank für Arbeit und Wirtschaft (BAWAG), which is owned by the Austrian Federation of Trade Unions (52.7 percent) and Germany's Bayerische Landesbank (45.7 percent).

Prospective challenges

161. In many European countries, including Austria, regulatory frameworks and institutional arrangements (which also comprise ownership structures) seem to have fostered a cooperative attitude among banks and have supported traditions of tacit understandings among banks, e.g., on deposit and loan conditions (Vives, 1992). In Austria, these implicit arrangements were bolstered by the influence of the major political parties, which has, however, markedly diminished as a result of mergers, privatizations, and more open hiring rules for the management of publicly owned banks.

162. The introduction of the euro is likely to make banking markets more contestable, thus creating more pressure on existing banks (Prati and Schinasi, 1997). Stemming from the tradition of political spheres of influence, a key challenge for the Austrian banking sector will be to manage the transition from a sector that has been characterized by practices that are more bureaucratic than entrepreneurial to a system exposed to more intense competition, both from within and from abroad. Such a transition poses risks as experience in other countries, including the Nordic countries, has demonstrated (Drees and Pazarbasioglu, 1998). A shift toward more competition and a switch in managerial incentives to profit orientation tends to make parts of the banking system infrastructure redundant and reveals excess capacities. In particular, a dense branch network, high staffing levels, and general overcapacity in banking, built up under relatively sheltered conditions of the past, will likely become unsustainable in the future. This, in turn, may prompt—in the new environment of strong competition, greater profit orientation, and more demanding customers—a rush for market share by banks in the attempt to create business for their extensive capacities. Such expansionary strategies have proven to be typically accompanied by more risk taking and by venturing into new business areas where small banks in particular have little experience.

163. To address this challenge, it will be essential to find a way to adjust the banking capacity in an orderly fashion. Estimates indicate that about 500 branches would need to be closed in order to converge to the EU average. Through innovative forms of structuring differentiated branch networks, where relatively numerous service centers offer standardized services, while more advice- (and labor-) intensive services are supplied through specialized (and much less numerous) banking centers, this consolidation process may be brought about with fewer disruptions. To what extent another wave of mergers, especially of local banks, would bring about the needed retrenchment in the sector remains an open question. Recent experience seems to suggest that mergers have thus far not implied fewer branches and substantial reductions in personnel (see also Tichy, 1993).

164. The appropriate retrenchment process will also depend in part on how two competing trends that follow from more openness and financial integration (namely concentration vs. specialization) will play out. The pressure to specialize may be exerted from U.S. and U.K. financial institutions that will increasingly invade continental markets, which are dominated, especially in German-speaking countries, by the notion of *Allfinanz*, which implies an

extension and bundling of banking, investment, and insurance services.[9] Specialization will be felt primarily in wholesale investment banking activities, whereas a broadening of the array of financial services is most likely to affect the way retail banking is conducted.

165. Even though initially competitive pressures stemming from the introduction of the euro and from international integration will affect primarily the wholesale segment of banking markets, gradually competition and cost pressures will also be felt at the retail level. This will also mean that the competitive pressures currently focused on the centers will increasingly reach the regions as well (Berndt, 1997). Smaller savings and cooperative banks will have to find (and implement) appropriate cooperation arrangements, sharing back-office operations, or mergers. The ownerless structure of many of these institutions and municipal ownership of the majority of savings banks could, however, stifle efficient restructuring among small and medium-sized banks.

166. For the largest banks in Austria, the challenges are of a different nature. Their concerns rest on the question of how to gain the "critical mass" perceived to be necessary to survive as a "European player." Large banks are concerned that the common currency could mean a loss of business with large corporations. In the wholesale market, Austrian banks are threatened with losing business on at least two fronts: (i) to foreign banks and (ii) to financial markets as the result of disintermediation. Large corporations (and Austrian subsidiaries of foreign companies) will no longer need access to primary funds in Austrian schillings and are thus likely to pull business from Austrian banks and concentrate their cash management in large global (or European) banks.

167. The generally expected decline in standard banking business will be driven to a large extent by disintermediation (Tichy, 1993). The predominance of bank finance makes the Austrian banking system particularly vulnerable to growing disintermediation. As European financial markets integrate, deepen and become more easily accessible by corporations, direct market financing is likely to become more cost-effective for companies above a certain size. The nature of modern production, which tends to be less capital-intensive and thus less suitable to collateralized debt financing, also favors tapping financial markets directly. Disintermediation will also go hand-in-hand with—and will be boosted by—prospective changes in corporate governance of nonfinancial firms, which point toward more equity orientation and the emergence of a market for corporate control (Mooslechner, 1997). Notwithstanding the future improvements in debt and equity markets in Austria, there are, however, limits to direct finance in markets, since informational imperfections and market incompleteness will continue to provide a raison d'être for banks with local expertise for some time to come. Nonetheless, it appears inevitable that equity and bond markets will gain a

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[9]Allfinanz can even stretch across borders. Germany's Bayerische Landesbank, which holds a significant stake in BAWAG Bank, recently announced that it planned to sell its building society products through BAWAG branches once the euro is introduced (Die Presse 5/7/98).

larger role in the bank-centered financial systems of continental Europe. The open question for banks is whether they can participate in this new trend.

C. Recent Developments and Prospective Challenges for Debt and Equity Markets

168. Smaller financial markets are threatened by bigger financial centers. In particular, in the wake of the introduction of the euro, it is widely expected that large financial centers will attract most of the trading business on debt and equity markets. Vienna's starting position is relatively weak since Austria's financial markets are small. But there are various strategies to counter the threat and to retain some business, mostly the part that is not related to the largest corporations. The most promising strategy appears to be to improve the structure of the markets to retain most of the trading in Austrian equities and, at the same time, to focus on derivative products on Central and Eastern European financial assets. This strategy, though not without risks, will receive a boost from the announced cooperation with the German Stock Exchange in Frankfurt (Deutsche Börse).

Recent developments

169. As in other countries with universal banking systems, bank-intermediated debt finance (rather than equity, commercial paper, or bond financing) has been the preferred source of capital.[10] The historically large role of public ownership of industry (albeit much diminished in recent years) and the sizable segment of largely self-financed small and medium-sized companies (mostly family-owned) also contributed to the limited scope of equity markets. The demand for private equity financing was to some extent crowded out by the traditionally large, though declining, volume of subsidized credit (Attems, 1995; and Helmenstein, 1998).

170. As a result, capital markets in Austria have traditionally been small. The market capitalization of the Vienna stock market (18 percent of GDP in 1997, up from 14 percent in 1995) is one of the lowest in the EU (Figure IV-4). In part due to the narrow base of active institutional investors, liquidity has been viewed as lacking (Rothensteiner, 1997). The relatively small turnover (relative to capitalization) indicates large closely held equity stakes. Only 4 percent of private households owned shares at end-1995—not much changed from 1990—compared with 5½ percent in Germany and 17½ percent in the United Kingdom. The surge in stock prices that characterized many other European stock markets during the past three years has been more muted in Austria (Figure IV-5). The lagging performance has been attributed in part to the sectoral composition of the Austrian stock index, in which dynamic sectors such as the pharmaceutical and automobile industries are underrepresented, and a lack of liquidity.

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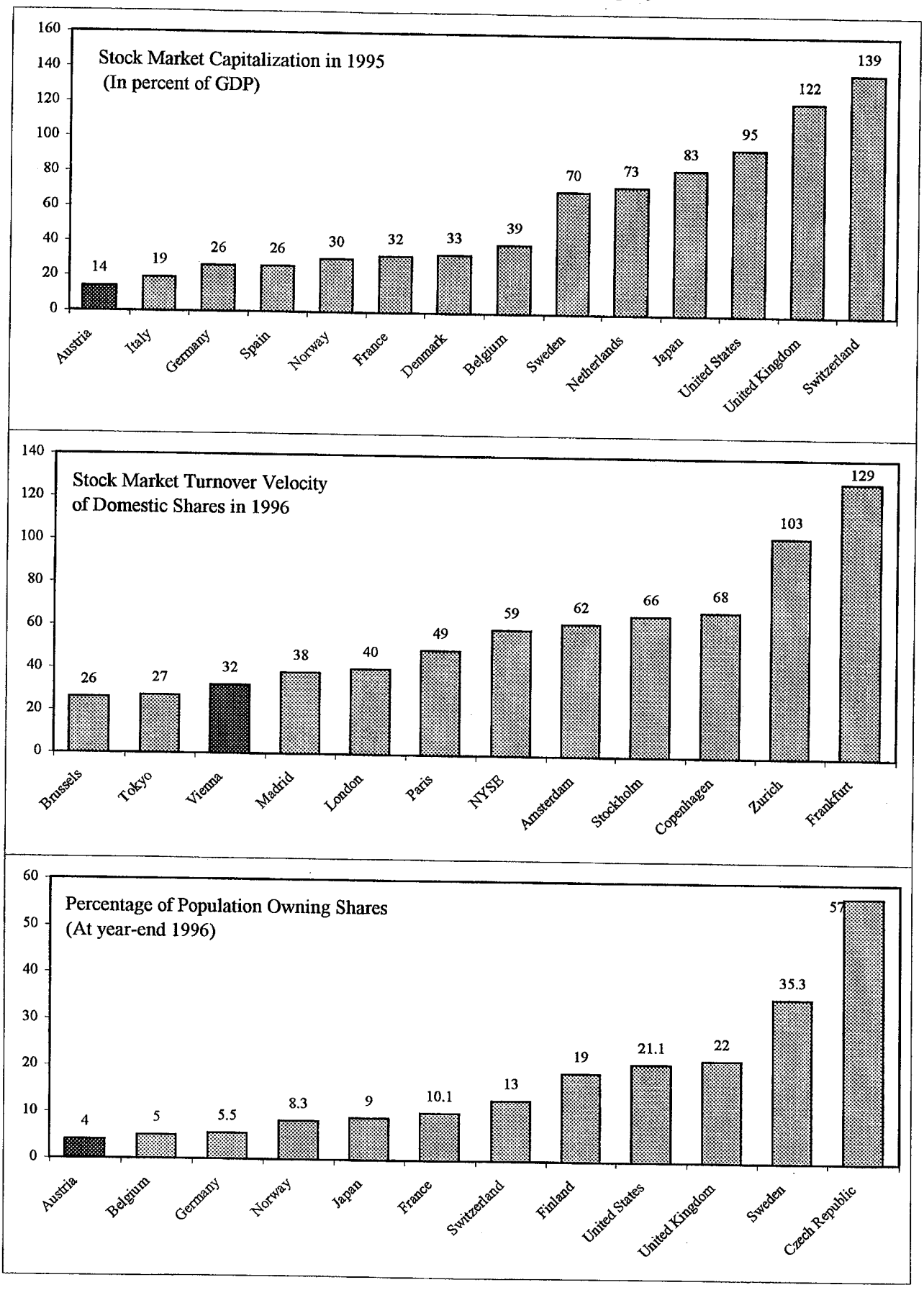
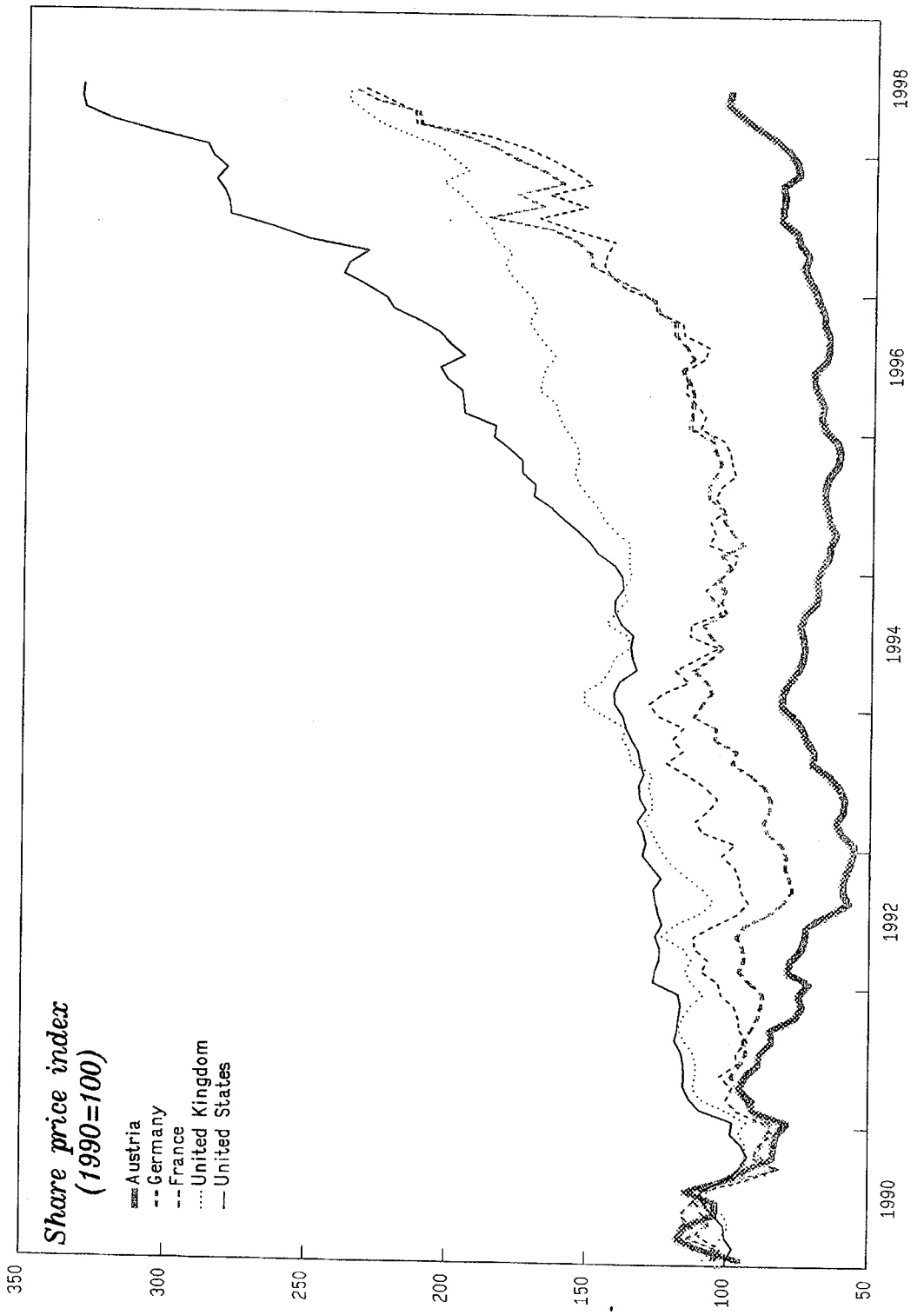
[10]These financial relationships also have influenced corporate governance, which is largely characterized—as in Germany—by insider control (Mooslechner, 1997).

Figure IV-4. Austria: The Austrian Equity Market



Source: Oesterreichische Nationalbank (1997).

Figure IV-5. Austria: Share Price Indices, 1990-98



Source: IMF, International Financial Statistics.

171. The absence of a deep and liquid market for equity capital (and the correspondingly heavy reliance on debt finance) has led to relatively low corporate equity ratios. In fact, the average equity ratio declined from 27 percent in 1955 to 22½ percent in 1990, which was even lower than the average ratio in Germany (26 percent). More and more, however, it is recognized that low equity ratios may impede the capacity to cope with risk and may be an obstacle to innovation, apart from being problematic during cyclical downturns.

172. The bond market (with an outstanding volume equivalent to 64.4 percent of GDP in 1997) is more important than the equity market.[11] But most of the debt traded is issued by financial institutions and public authorities (Figure IV-6). Debt issued by private corporations is exceedingly small.

173. In 1991, the Austrian Options and Futures Exchange (ÖTOB) was established. Since its inception, the volume of contracts (measured by the notional value) traded on the exchange has surged to more than S 900 billion (equivalent to 38 percent of GDP) in 1995 (Figure IV-7). In 1997, the Vienna Stock Exchange and ÖTOB merged and converted from being run by the semi-public Stock Exchange Chamber into a joint-stock company (Wiener Börse AG) with the intent to maximize synergies while preserving the momentum of the innovative Options and Futures Exchange.

174. With the opening of Central and Eastern Europe, Vienna as a financial center was expected to benefit from its first-mover advantage, owing to its close historical and cultural ties to the region. But while Austrian banks established a considerable presence in Central and Eastern Europe, the stock exchange is viewed as having not fully seized the opportunities (Rothensteiner, 1997). By contrast, the Austrian Options and Futures Exchange took the initiative by developing stock price indexes for the Czech Republic, Hungary, Poland, and Slovakia in 1996. It began trading options and futures contracts on these stock indexes as well as on ÖTOB's Central European Clearing House and Exchange Index (CECE index) in 1997. The standardized options and futures contracts, which are denominated in U.S. dollars, are primarily targeted at the hedging demand of international (mainly institutional) investors. The Austrian banks are supplying these products and support liquidity in the market segment; given their strong presence in Central and Eastern Europe, they are well placed for this task.

Prospects for debt and equity markets

175. There is growing awareness that the depth, liquidity, and efficiency of debt and equity markets are becoming increasingly important competitive factors crucial for promoting economic growth and innovation. As investment in human capital, training, and R&D becomes more significant, equity financing will gain advantages over debt financing. The limited ability of such investment to serve as collateral and the higher risk involved in new

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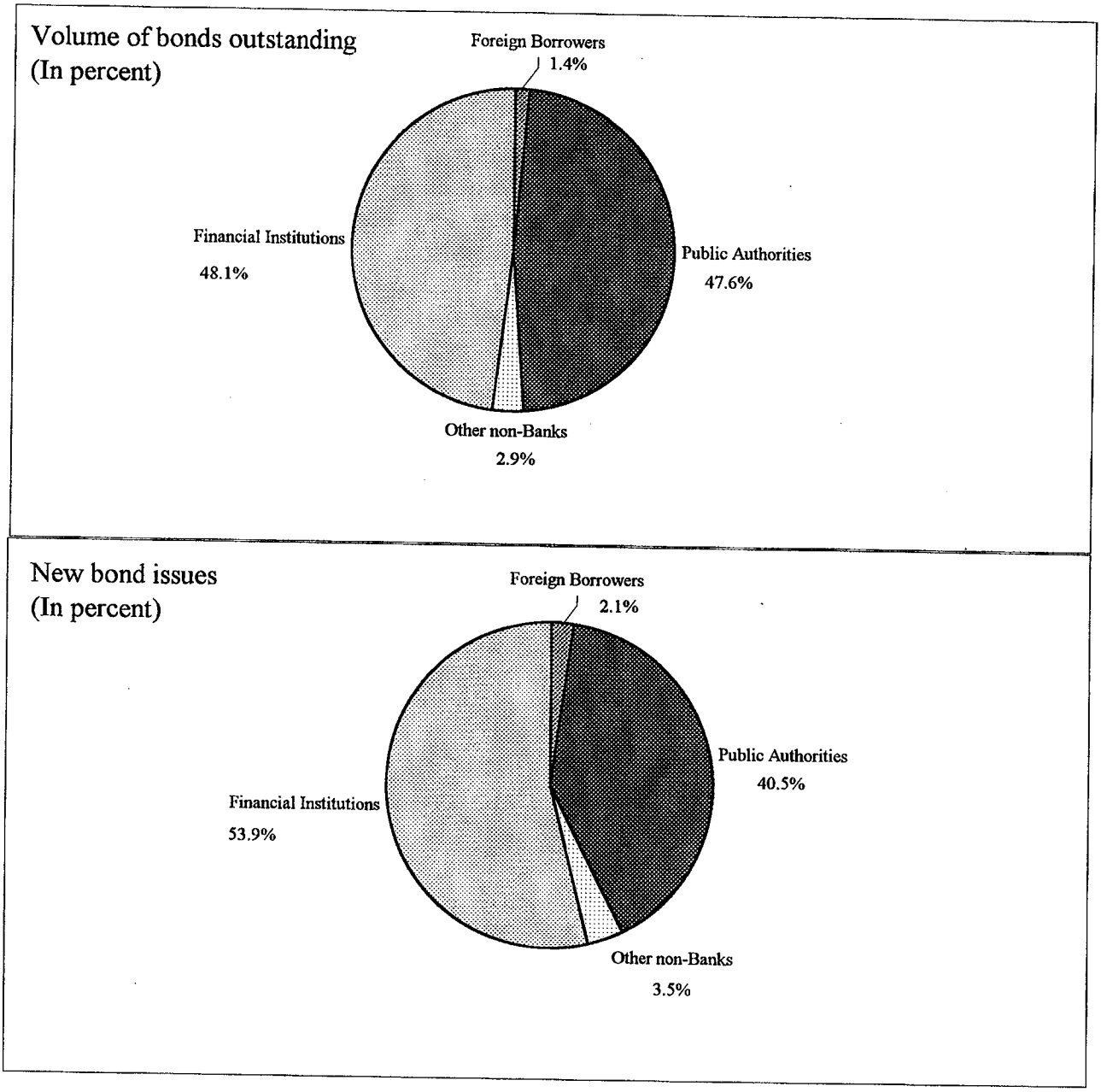
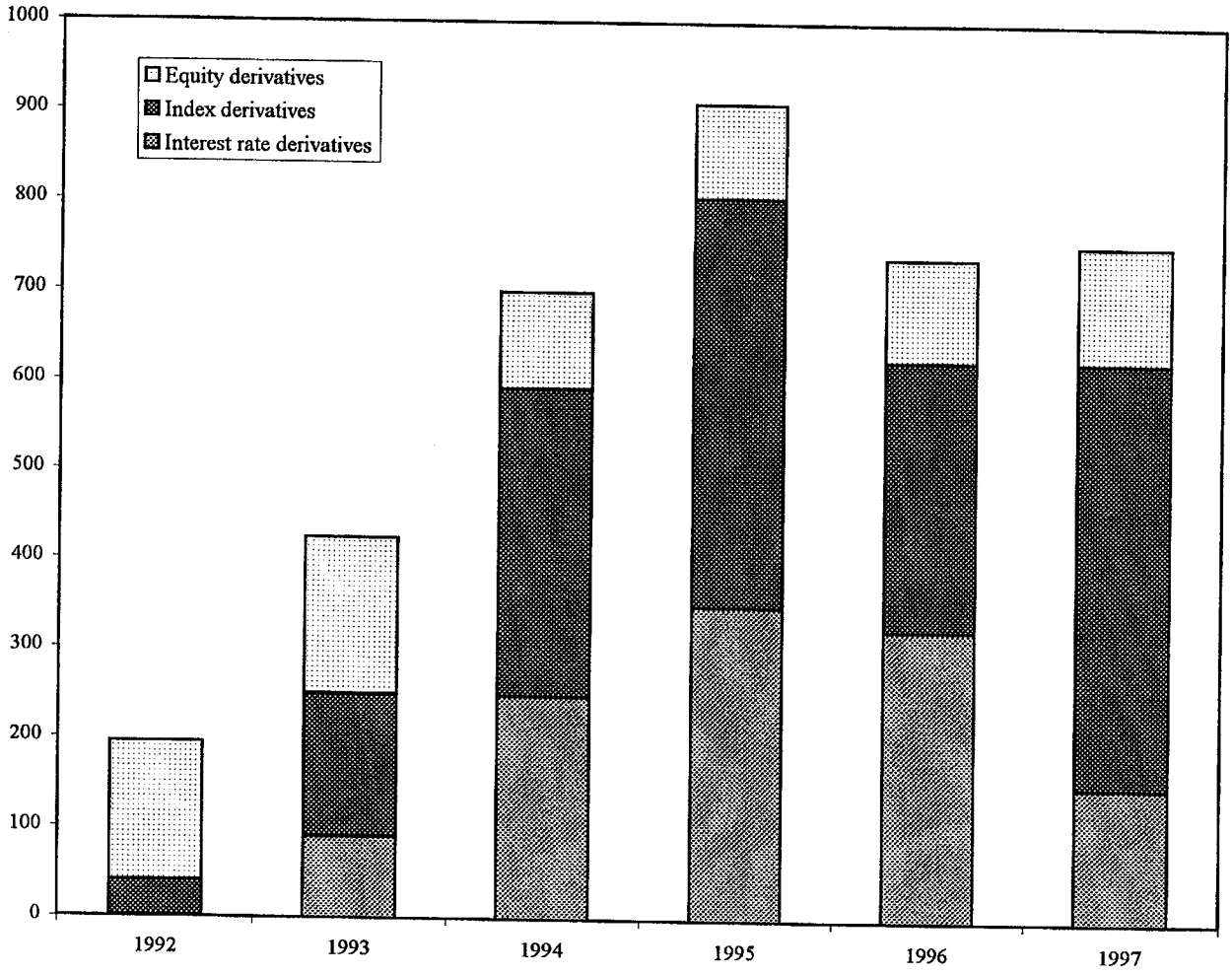
[11]The Austrian bond market is still relatively smaller than the German market, which had a capitalization of 92.4 percent of GDP in 1997.

Figure IV-6. Austria: The Bond Market, 1997



Source: Oesterreichische Nationalbank (1998 a).

Figure IV-7. Austria: Volume of Contracts Traded on OeTOB, 1992-97
(In billions of schillings)



Source: Oesterreichische Nationalbank (1998 b).

technology are likely to complicate debt financing, while arguing in favor of equity financing. Similarly, the diminished role of large capital-intensive industrial conglomerates and the emergence of dynamic small new firms call for an enhanced role for venture capital. It is therefore considered important to facilitate access to the stock market for smaller and medium-sized companies, and for newly established firms. As other such markets in Europe, the Vienna stock exchange has responded by opening a new market segment for smaller companies (called *fit*), and venture capital funds (such as the *Finanzierungsgarantiegesellschaft* (FGG)) have been set up.

176. Besides providing risk capital, equity markets serve to strengthen (and constitute a market for) ownership control. Economies that have reached a certain level of development cannot be expected to be efficient in the long run without developed markets for ownership control (Mooslechner, 1997). The importance of financial markets will also grow as investors become more conscious of rate of return considerations and switch to more sophisticated financial instruments (largely bypassing bank-issued instruments), and as retail investors have to provide on their own for part of their retirement because the public pension system is expected to come under increasing strain and may have to be made less generous.[12]

177. With the introduction of the euro and further inroads by electronic trading, the significance of the location of markets will likely diminish, and this will exert strong competitive pressure on national debt and equity markets. Trade in equities and bonds issued by larger corporations will likely migrate to the largest financial centers, such as London or Frankfurt, and will form a euro-wide equity market. Besides this first tier of markets for top corporations, smaller markets may find opportunities in becoming niche players in a second tier specializing at the national level in smaller, less well-known companies. In fact this reasoning helped spawn the New Markets in France, Germany, and also in Austria.

178. How can Vienna as a financial center position itself in this environment? In principle, financial centers can differentiate themselves through the efficiency of regulation, product competence, and the degree of liquidity (Helmenstein, 1998). As to regulation, the Viennese markets have made considerable progress (Box IV-3). The new Stock Exchange Act of 1993 (*Börsegesetz*) improved the legal framework (e.g., by making insider trading illegal), and an independent market supervisory agency was established in 1997. Recognizing that market-based financial systems require reliable information and accounting systems, laws that would permit corporate accounts based on IAS or U.S. GAAP standards are being drafted.

179. As to product competency, two—not mutually exclusive—strategies could be considered: (i) to establish Vienna as a trading center of Central and Eastern European stocks and (ii) to specialize in derivative products based on transition economy (underlying) financial assets. Despite its economic and cultural proximity, Vienna's chances of becoming the regional center for stock trading look less promising since transactions costs and the efficiency

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[12]Chapter III examines in detail the long-term prospects of the pension system in Austria.

Box IV-3: Key Regulatory Reforms

The **Banking Act** (*Bankwesengesetz*), 1994, incorporated EU banking directives in preparation for Austria's accession to the EU, including the directives on own funds, solvency ratios, and banks' annual accounts. The act also strengthened the cooperation between the Ministry of Finance and the Oesterreichische Nationalbank in banking supervision.

The **First Amendment to the Banking Act**, 1996, implemented *inter alia* EU directives on large loan exposures, deposit guarantees, and the supervision on a consolidated basis.

The **Second Amendment to the Banking Act**, 1997, adopted the EU's directive on investment services and on capital adequacy to cover market risks that arise from securities trading and foreign exchange transactions.

The **Amendment to the Stock Exchange Act** (*Börsegesetz-Novelle*), 1993, outlawed insider trading, introduced a Standard Compliance Code for banks, insurance companies, and other financial institutions, and strengthened investor protection.

The **Amendment to the Stock Exchange Act** (*Börsegesetz-Novelle*), 1997, established the legal basis for the privatization of the Vienna Stock Exchange and its conversion into a joint-stock company.

The Securities Supervision Act (*Wertpapieraufsichtsgesetz*), 1997, created an independent securities supervisory agency.

An **information system**, *Hermes*, was introduced in 1996 for the prompt dissemination of price-sensitive information by companies listed on the stock exchange.

A fully **automated trading system**, EQOS, has been in operation since mid-1996; it includes screen-based trading with automatic execution, using an open public orderbook, which is supplemented by market maker quotes.

The **tax reform** in 1994 abolished the stock exchange turnover tax on dealer transactions and the wealth tax.

of trading in transition economies are converging to Western European standards (Helmenstein, 1997). By contrast, pitching Vienna as a financial center for intelligent derivative products on Central and Eastern European assets could be more promising since it exploits Austria's relative advantages in regional know-how and expertise, the density of regulation, and the existing set of products offered by ÖTOB.

180. The recently announced cooperation agreement with the German Stock Exchange in Frankfurt (Deutsche Börse) is an important step in alleviating concerns that Vienna could lose trade in stocks and bonds of large corporations to Frankfurt and see more of its trading volume in Central and Eastern European stocks and derivatives move to larger financial centers.[13] According to the agreement, all Austrian stocks will be traded exclusively in Vienna; Austrian stocks currently traded in Frankfurt will be delisted there. The Deutsche Börse and the Vienna Stock Exchange will establish in Vienna a Central and Eastern European stock exchange that would handle all trading in transition economy stocks and derivatives. Austria's role as a key financial center for trade in Central and Eastern European stocks, options, and futures would thus be ensured, at least for the time being. Another major element of the agreement envisages the adoption of the new German electronic trading system Xetra in the second half of 1999 (in replacement of EQOS, the Austrian automated trading system) and the introduction of market makers to enhance liquidity. The use of Xetra is expected to cut transactions costs in half and thus bring costs in Vienna (currently a high 1.25 percent of transaction value) in line with other centers.[14]

181. Building on recent progress in market structure and regulation, which introduced the new supervisory agency, strengthened the role of institutional investors by allowing pension funds, and improved price transparency and information flow, the cooperation with the German stock exchange will secure Vienna's position not only as the key market for Austrian financial assets but also in terms of expanding its market potential in Central and Eastern Europe. In order to invest more easily in Central and Eastern European assets, many institutional investors of the EU (such as insurance companies) require a listing at a regulated market within the EU.

182. Skepticism about the future role of national financial centers in the euro area is justified. Although the outlook for Vienna as a regional center has brightened with its cooperation agreement with Frankfurt, challenges remain: pressures to compete internationally and to innovate will certainly intensify. The structure, regulation, and the set of financial instruments being offered will need to be continuously adjusted to the rapidly changing international environment. It should be recognized that strengthening Vienna as a financial center will also provide a boost to the competitiveness of the investment banking activities of Austria's universal banks and could complement their traditional banking activities.

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[13]Der Standard (4/4/98) and Frankfurter Allgemeine Zeitung (4/3/98).

[14]Helmenstein (1997) and Handelsblatt (7/12/97).

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Table A1. Austria: GDP and Expenditure Components

	In billions of schillings at current prices	Percentage changes 1/				
	1997 2/	1993	1994	1995	1996	1997 2/
Total domestic demand	2533.1	0.8	3.7	2.3	1.4	2.4
Private consumption	1412.5	0.7	1.7	2.9	2.4	0.7
Public consumption	487.2	2.7	2.5	0.0	0.1	0.9
Gross fixed investment	607.8	-2.0	8.4	1.9	2.4	3.6
Machinery and equipment 3/	223.1	-7.2	11.0	3.1	3.6	4.2
Construction 3/	350.9	1.7	7.0	0.6	2.8	3.2
Change in stocks and statistical discrepancies 4/	25.6	0.4	0.2	0.2	-0.6	0.9
Foreign balance 4/	-16.2	-0.3	-1.2	-0.3	0.2	0.2
Exports of goods and services	1061.3	-1.3	5.6	6.5	9.3	6.8
Imports of goods and services	1077.5	-0.6	8.3	7.0	8.7	6.4
Gross domestic product	2516.9	0.5	2.5	2.1	1.6	2.5

Source: Austrian Institute of Economic Research (WIFO).

1/ At constant 1983 prices.
2/ Preliminary estimates.
3/ Net of V.A.T.
4/ Change as a percentage of GDP in previous year.

Table A2. Austria: Contribution to Real GDP Growth

	1992	1993	1994	1995	1996	1997 1/
			(In percent 2/)			
Total domestic demand	1.4	0.8	3.7	2.3	1.4	2.4
Private consumption	1.7	0.4	1.0	1.6	1.4	0.4
Public consumption	0.3	0.5	0.4	0.0	0.0	0.2
Gross fixed investment	0.0	-0.5	2.0	0.5	0.6	0.9
Machinery and equipment 3/	-0.4	-0.8	1.1	0.3	0.4	0.5
Construction 3/	0.4	0.2	0.9	0.1	0.4	0.4
Change in stocks and statistical discrepancies	-0.7	0.4	0.2	0.2	-0.6	0.9
Foreign balance	0.0	-0.3	-1.2	-0.3	0.2	0.2
Exports of goods and services	0.8	-0.6	2.6	3.1	4.6	3.6
Imports of goods and services	0.8	-0.3	3.8	3.3	4.4	3.4
Gross domestic product	1.3	0.5	2.5	2.1	1.6	2.5
Memorandum item:						
Final domestic demand	2.0	0.4	3.5	2.1	2.0	1.5

Source: Austrian Institute of Economic Research (WIFO).

1/ Preliminary estimates.
2/ Change as a percentage of GDP in previous year (at constant 1983 prices).
3/ Net of V.A.T.

Table A3. Austria: National Income and its Distribution

	In billions of schillings at current prices					Percentage change				
	1993	1994	1995	1996	1997 1/	1993	1994	1995	1996	1997 1/
Gross domestic product	2,125.4	2,239.5	2,334.3	2,421.6	2,516.9	3.3	5.4	4.2	3.7	3.9
Plus: Net factor income from abroad	-9.4	-8.2	-7.6	-7.6	-3.4	-3.1	-12.8	-7.3	0.0	-55.3
Gross national product	2,116.0	2,231.3	2,326.7	2,414.0	2,513.5	3.3	5.4	4.3	3.8	4.1
Less: Depreciation	-270.1	-288.7	-306.8	-324.7	-344.2	6.9	6.9	6.3	5.8	6.0
Net national product	1,845.9	1,942.6	2,019.9	2,089.3	2,169.3	2.8	5.2	4.0	3.4	3.8
Less: Indirect taxes	-340.0	-356.6	-367.3	-387.5	-410.4	4.4	4.9	3.0	5.5	5.9
Plus: Subsidies	67.6	57.2	69.3	72.9	75.8	7.5	-15.4	21.2	5.2	4.0
National income	1,573.5	1,643.2	1,721.9	1,774.7	1,834.7	2.7	4.4	4.8	3.1	3.4
Gross income from dependent employment	1,151.2	1,195.3	1,237.1	1,251.4	1,276.4	4.2	3.8	3.5	1.2	2.0
Total income from property and entrepreneurship	422.3	447.9	484.8	523.3	558.3	-1.0	6.1	8.2	7.9	6.7
Net personal disposable income	1,314.0	1,396.1	1,459.0	1,505.2	1,533.3	2.9	6.2	4.5	3.2	1.9
Gross income from dependent employment	1,151.2	1,195.3	1,237.1	1,251.4	1,276.4	4.2	3.8	3.5	1.2	2.0
Personal income from property and entrepreneurship	382.0	406.1	446.8	494.4	523.0	-3.9	6.3	10.0	10.7	5.8
Current transfers from government	463.4	493.9	511.4	526.2	532.0	11.5	6.6	3.5	2.9	1.1
Less: Direct taxes	-267.9	-265.8	-286.5	-305.9	-330.6	7.2	-0.8	7.8	6.8	8.1
Less: Social security contributions	-280.0	-300.5	-315.8	-327.8	-335.9	6.7	7.3	5.1	3.8	2.5
Other, net	-134.7	-132.9	-134.0	-133.1	-131.6	4.8	-1.3	0.8	-0.7	-1.1
Private consumption	1,194.1	1,254.6	1,310.2	1,375.4	1,412.5	4.0	5.1	4.4	5.0	2.7
Personal saving	119.9	141.5	148.8	129.8	120.8	-7.6	18.0	5.2	-12.8	-6.9
Memorandum items:										
Household saving ratio 2/	9.1	10.1	10.2	8.6	7.9					
Wages and salaries	931.5	966.7	1,002.6	1,015.4	1,034.9	3.9	3.8	3.7	1.3	1.9
Public sector	727.8	752.2	779.8	789.6	...	3.1	3.4	3.7	1.3	...
Private sector	203.7	214.5	222.8	225.8	...	6.9	5.3	3.9	1.3	...
Real net personal disposable income 3/	988.7	1,017.3	1,047.3	1,054.1	1,053.0	-0.4	2.9	2.9	0.6	-0.1

Source: Austrian Institute of Economic Research (WIFO).

1/ Preliminary estimates.

2/ In percent of net personal disposable income.

3/ Net personal disposable income deflated by private consumption deflator (constant 1983 prices).

Table A4. Austria: Gross Domestic Product by Sector

	In percent of GDP	Percentage changes 1/				
	1997 2/	1993	1994	1995	1996	1997 2/
Agriculture and forestry	2.7	-0.2	5.1	-3.5	2.0	1.6
Industry	32.3	-1.0	3.4	0.8	1.5	3.9
Mining and quarrying	0.5	-2.0	-9.0	4.4	-2.1	-7.5
Manufacturing	22.4	-2.3	3.3	0.9	1.3	4.6
Energy and water supply	2.7	1.8	-1.3	1.4	0.0	2.7
Construction	6.7	2.5	7.6	-0.2	2.9	3.0
Services	55.8	1.2	2.4	3.4	1.9	2.0
Wholesale and retail trade	13.6	-0.5	1.3	6.2	1.2	2.1
Transport and communication	6.5	3.9	5.8	4.9	4.2	2.9
Finance and insurance	7.4	10.6	-8.7	5.6	2.3	2.8
Real estate and business services	10.8	0.4	3.7	3.9	3.3	2.5
Restaurants, hotels, and other accommodations	3.9	-1.5	-1.0	-1.4	-2.4	0.4
Other market services	4.1	2.8	1.5	3.4	3.6	2.0
Government services	12.9	2.6	2.2	0.7	0.2	0.9
Private non-profit services	1.8	-2.2	4.9	0.4	1.4	1.4
Less: Imputed bank service charges	-5.2	12.2	-11.1	6.8	0.7	2.4
Import duties	0.6	-0.9	3.6	-7.0	13.2	6.7
Value added tax	8.6	2.8	-1.1	1.1	-0.4	0.7
Gross domestic product	100.0	0.5	2.5	2.1	1.6	2.5

Source: Austrian Institute of Economic Research (WIFO).

1/ At constant 1983 prices.
2/ Preliminary estimates

Table A5. Austria: Labor Market

	1993	1994	1995	1996	1997 1/
	(In thousands unless otherwise indicated)				
Population	7,992	8,030	8,047	8,059	...
Working age population 2/	5,188	5,210	5,222	5,237	...
Labor force	3,668	3,667	3,655	3,646	3,656
Dependent employment	3,055	3,071	3,068	3,047	3,056
Self-employment	391	381	371	368	367
Unemployment	222	215	216	231	233
Unemployment rate					
In percent of total labor force	6.1	5.9	5.9	6.3	6.4
In percent of dependent labor force	6.8	6.5	6.6	7.0	7.1
Standardized unemployment rate					
In percent of total labor force 3/	...	3.8	3.8	4.4	4.4
Vacancies	33	30	25	19	19
Foreign workers	278	291	300	300	299
Memorandum items:					
Labor force participation rate 4/	70.7	70.4	70.0	69.6	...
Employment rate 4/	66.4	66.3	65.9	65.2	...
Foreign workers 5/	7.6	7.9	8.2	8.2	8.2

Source: Austrian Institute of Economic Research (WIFO).

1/ Preliminary estimates.
2/ Population of age 16 to 64.
3/ Based on Eurostat.
4/ In percent of working age population.
5/ In percent of total labor force.

Table A6. Austria: Prices, Wages, and Productivity

	1993	1994	1995	1996	1997 1/
	(Annual percentage changes)				
GDP deflator	2.8	2.8	2.1	2.1	1.4
Private consumption deflator	3.3	3.3	1.5	2.5	2.0
Deflator of exports of goods and services	0.7	1.0	0.9	0.4	0.5
Deflator of imports of goods and services	0.7	0.8	1.0	1.2	1.1
Terms of trade for goods and services	-0.1	0.2	-0.1	-0.8	-0.6
Consumer price index	3.6	3.0	2.2	1.9	1.3
EU-harmonized index	...	...	...	...	1.2
Wholesale price index	-0.4	1.3	0.3	0.0	...
Gross wages and salaries per employee	4.1	3.3	3.2	1.7	1.5
Contractual wages	4.9	3.5	3.4	2.4	1.8
Average monthly earnings in industry 2/ 3/	4.9	4.1	4.5	...	...
Average hourly earnings					
Industry 2/ 3/	4.6	4.3	4.2	...	...
Construction 2/ 4/	6.0	5.7	3.2	...	...
GDP per employed person	0.8	2.4	2.4	2.3	2.3
Unit labor costs					
Total economy	3.6	1.3	1.4	-0.5	-0.5
Manufacturing	0.9	-3.6	-0.6	-1.0	-3.8

Source: Austrian Institute of Economic Research (WIFO).

1/ Preliminary estimates.
2/ Series discontinued in 1996.
3/ Mining and manufacturing, excluding small-scale industries.
4/ Building and civil engineering.

Table A7. Austria: Federal Budget—Administrative Basis

(In billions of schillings)

	Outturn 1994	Outturn 1995	Outturn 1996	Expected Budget 1997	Budget Outturn 1998	Budget 1998	Proposal 1999
Revenue	626.6	646.7	665.4	679.2	765.4	686.8	697.5
Taxes before revenue sharing	524.5	521.2	585.7	631.6	623.9	667.7	681.0
Wage tax	134.8	150.2	160.5	183.3	183.2	188.0	198.0
Taxes on other income and profits	57.0	61.0	80.7	89.0	86.8	88.2	90.0
Value-added tax	202.6	179.9	204.1	213.0	207.2	223.0	233.0
Major excise taxes 1/	39.3	43.7	48.5	47.2	47.9	50.0	50.5
Other taxes	90.8	86.4	91.9	99.1	98.8	118.5	109.6
Minus: Tax sharing transfers	**166.1**	**156.6**	**175.3**	**178.4**	**179.2**	**184.9**	**192.7**
Minus: Transfers to EU budget	**0.0**	**18.8**	**26.9**	**30.1**	**31.5**	**30.2**	**31.5**
Taxes after revenue sharing	358.4	345.8	383.5	423.2	413.2	452.6	456.9
Tax transfers to federal funds	19.3	19.7	19.5	19.8	19.6	20.0	20.5
Tax-like revenue 2/	79.5	82.6	84.1	87.8	85.7	87.0	90.5
Federal enterprises	65.2	66.2	25.7	0.7	0.7	0.7	0.7
Other revenue 3/	104.3	132.3	152.6	147.8	246.1	126.5	128.9
Expenditure	731.4	764.6	754.8	747.2	832.6	754.1	767.7
Wages and salaries 4/	136.5	140.3	137.7	134.3	137.0	138.8	142.8
Pensions 5/	66.9	48.8	42.7	39.8	39.1	40.1	43.1
Current expenditure on goods 6/	65.8	66.5	64.5	65.6	62.2	67.1	65.9
Gross investment	24.3	25.5	20.8	12.5	10.3	11.4	11.0
Transfer payments	294.5	343.2	352.4	357.7	361.9	372.6	378.0
Family allowances	69.2	67.2	65.8	62.1	62.4	59.8	60.5
Unemployment benefits	32.8	32.8	34.6	35.6	33.1	32.9	32.8
Transfers to the social security system 7/	73.4	86.9	92.4	86.7	97.3	102.2	103.6
Transfers to enterprises 8/	31.5	45.3	52.7	59.9	55.4	57.7	59.1
Other transfers 9/	87.6	111.0	106.9	113.4	113.7	120.0	121.9
Interest 10/	86.1	98.4	100.1	103.4	100.0	104.4	107.5
Other expenditure 3/ 11/	57.3	41.8	36.6	33.9	122.1	19.7	19.5
Net balance	-104.8	-117.9	-89.4	-68.0	-67.2	-67.3	-70.1
(in percent of GDP)	*(4.7)*	*(5.0)*	*(3.7)*	*(2.7)*	*(2.7)*	*(2.6)*	*(2.6)*
Memorandum items:							
Revenue, adjusted 12/	602.3	621.2	634.9	651.4	653.7	658.3	...
(percentage change) 13/	*(4.6)*	*(3.1)*	*(2.2)*	*(2.1)*	*(3.0)*	*(1.1)*	*(...)*
Expenditure, adjusted 12/	707.1	739.1	724.3	719.3	720.9	725.6	...
(percentage change) 13/	*(4.9)*	*(4.5)*	*(-2.0)*	*(-0.7)*	*(-0.5)*	*(0.9)*	*(...)*
Gross domestic product	2,239.5	2,334.3	2,421.6	2,480.5	2,516.9	2,617.6	2,735.4
(percentage change) 13/	*(6.5)*	*(5.2)*	*(3.7)*	*(2.9)*	*(3.9)*	*(4.0)*	*(4.5)*
Financing Account 14/							
Revenue	225.9	322.7	219.5	255.9	234.5	299.3	...
Expenditure	121.1	204.8	130.2	187.9	167.3	232.0	...
Surplus	104.8	117.9	89.4	68.0	67.2	67.3	...
Gross redemption of debt	67.1	118.6	107.6	96.6	96.1	147.3	...
Military expenditure	20.5	20.7	20.9	21.2	21.4	21.7	21.8
Education expenditure	43.4	50.1	53.5	...	...	...	...
Primary	25.3	26.6	28.2	...	...	...	...
Secondary	12.0	12.9	13.8	...	...	...	...

Source: Ministry of Finance.
1/ Mineral oil and tobacco taxes.
2/ Mainly contributions to unemployment insurance and to the fund for family allowances.
3/ Including S 83 billion from accrued revenues from the sale of the usufruct of ASFINAG.
4/ Including contribution to salaries of teachers employed by the states.
5/ Pensions of federal civil servants and contribution to pensions of teachers employed by the states.
6/ Including investment expenditure on defense.
7/ Mainly to the general pension system (ASVG; schilling 68.1 billion is the 1996 expected outturn).
8/ Including agriculture.
9/ Including transfers to other levels of government and including reserve operations by federal funds.
10/ Including commissions and management fees and provision for interest on zero-coupon bonds; also including interest on swap transactions.
11/ Including reserve operations except federal funds.
12/ Adjusted for double counting, excluding swap transactions.
13/1998's change over 1997 expected outturn.
14/ Revenue and expenditure in connection with public debt and cash bridging credits.

Table A8. Austria: Federal Budget—Cash Basis 1/

(In billions of schillings)

	1994 Outturn	1995 Outturn	1996 Outturn	1997 Budget	1997 Expected Outturn	1998 Budget
Revenue 1/	580.0	584.3	604.7	635.7	631.5	640.6
(percentage change)	*(3.5)*	*(0.7)*	*(3.5)*	*(5.2)*	*(4.4)*	*(0.1)*
Taxes before revenue sharing	524.5	521.2	585.7	631.6	623.9	667.7
Wage tax	134.8	150.2	160.5	183.3	183.2	188.0
Taxes on other income and profits	57.0	61.0	80.7	89.0	86.8	88.2
Value-added tax	202.6	179.9	204.1	213.0	207.2	223.0
Major excise taxes 2/	39.3	43.7	48.5	47.2	47.9	50.0
Other taxes	90.8	86.4	91.9	99.1	98.8	118.5
Minus: Tax sharing transfers	**166.1**	**156.6**	**175.3**	**178.4**	**179.2**	**184.9**
Minus: Transfers to EU budget	**0.0**	**18.8**	**26.9**	**30.1**	**31.5**	**30.2**
Taxes after revenue sharing	358.4	345.8	383.5	423.2	413.2	452.6
Tax transfers to federal funds	19.3	19.7	19.5	19.8	19.6	20.0
Tax-like revenue 3/	79.5	82.6	84.1	87.8	85.7	87.0
Federal enterprises	63.9	65.1	25.7	0.7	0.7	0.7
Other revenue	59.0	71.1	91.9	104.2	112.2	80.4
Expenditure 1/	679.9	710.2	696.9	704.4	696.3	709.1
(percentage change)	*(2.4)*	*(4.5)*	*(-1.9)*	*(1.1)*	*(-0.1)*	*(0.2)*
Wages and salaries 4/	136.5	140.3	137.7	134.3	137.0	138.8
Pensions 5/	66.9	48.8	42.7	39.8	39.1	40.1
Current expenditure on goods 6/	65.6	66.5	64.5	65.6	62.2	67.1
Gross investment	24.3	25.5	20.8	12.5	10.3	11.4
Transfer payments	282.3	320.7	322.4	335.0	336.3	346.5
Family allowances	62.1	57.5	56.5	53.8	54.1	51.5
Unemployment benefits	32.8	32.8	34.6	35.6	33.1	32.9
Transfers to the social security system 7/	73.4	86.9	92.4	86.7	97.3	102.2
Transfers to enterprises 8/	31.5	45.3	52.7	59.9	55.4	57.7
Other transfers 9/	82.5	98.2	86.2	99.0	96.3	102.2
Interest 10/	77.5	84.1	88.5	94.8	89.9	92.5
Other expenditure	26.9	24.4	20.3	22.4	21.4	12.7
Net balance	-99.8	-125.9	-92.2	-68.7	-64.8	-68.5
(in percent of GDP)	*(4.4)*	*(5.3)*	*(3.8)*	*(2.8)*	*(2.6)*	*(2.6)*
Memorandum items:						
Tax-to-GDP ratio 11/	16.0	14.7	15.8	17.1	16.4	17.3
Expenditure-to-GDP ratio	30.3	30.1	28.8	28.4	27.7	27.1
Gross domestic product	2,239.5	2,334.7	2,421.6	2,480.5	2,516.9	2,617.6
(percentage change)	*(6.5)*	*(5.2)*	*(3.7)*	*(2.4)*	*(3.9)*	*(4.0)*

Source: Ministry of Finance.

1/ Adjusted for double counting.

2/ Mineral oil and tobacco taxes.

3/ Mainly contributions to unemployment insurance and to the fund for family allowances.

4/ Including contribution to salaries of teachers employed by the states.

5/ Pensions of federal civil servants and contribution to pensions of teachers employed by the states.

6/ Including investment expenditure on defense.

7/ Mainly to the general pension system (ASVG; schilling 68.7 billion is the 1997 expected outturn).

8/ Including agriculture.

9/ Including transfers to other levels of government; from 1995, also including transfers to the EU.

10/ Including commissions and management fees and provision for interest on zero-coupon bonds; excluding interest on swap transactions.

11/ Taxes after revenue sharing as a percent of GDP.

Table A11. Austria: Federal Government Assistance to Enterprises and Agriculture

(In billions of schillings)

	1991	1992	1993	1994	1995	1996	1997	1998 1/	Budget Proposal 1999
Assistance to industrial enterprises	10.70	8.41	9.58	13.06	9.88	9.97	11.55	9.65	9.85
Investment	2.59	2.28	2.47	2.41	1.59	1.78	2.06	1.55	1.05
Environmental protection	1.84	0.65	0.95	3.46	0.65	0.57	0.49	0.64	0.61
Research and development	0.92	0.75	0.90	0.91	1.54	1.34	1.48	1.61	1.50
Implementation of labor market programs	5.29	4.59	5.20	6.19	6.09	6.27	7.41	5.46	5.81
Calls on guarantees	0.06	0.14	0.06	0.09	--	--	--	--	--
Assistance to agriculture	9.18	10.49	9.99	11.59	28.14	25.11	22.01	20.51	19.02
Investment	2.92	3.70	4.28	4.21	10.09	12.22	11.28	11.36	10.98
Price support	6.26	6.79	5.70	7.38	18.05	12.89	10.73	9.15	8.04
Total	19.88	18.89	19.56	24.64	38.02	35.08	33.56	30.16	28.87
(Percent change)	*(15.5)*	*(-5.0)*	*(3.5)*	*(26.0)*	*(54.3)*	*(-7.7)*	*(-4.3)*	*(-10.1)*	*(-4.3)*

Source: Ministry of Finance.
1/ Expected outturn.

Table A12. Austria: Derivation of the Deficit of the Federal Sector on a National Accounts Basis

(In billions of schillings)

	1994	1995	1996	1997 1/	1998 2/
Federal deficit, administrative basis	104.8	117.9	89.4	67.2	67.3
Plus: 3/					
Reserves (net)	-6.8	8.0	2.0	-2.4	0.0
Securities (net)	-1.5	--	1.9 }		
Participations (net)	-0.7	3.0	1.8 }	3.2	0.4
ÖIAG (industrial holding company)	-1.3	4.9	1.0	0.7	1.8
Loans and guarantees (net)	-7.9	-8.6	4.8	0.8	-3.5
Temporal adjustments	14.3	-10.6	3.1	-2.5	6.3
Other	5.0	5.8	1.1	-1.3	-1.0
Plus:					
Net borrowing of federal funds and ASFINAG 4/	3.0	1.6	1.8	0.0	0.0
Net deficit of the federal sector on a national accounts basis	109.0	115.3	107.1	65.8	67.7

Sources: Austrian Central Statistical Office(ÖSTAT); and Ministry of Finance.
1/ Expected outturn.
2/ According to budget.
3/ +: Expenditure greater than receipts.
4/ ASFINAG is a special fund that finances investment in transportation infrastructure. It was taken off budget in 1997.

Table A10. Austria: Debt and Debt Service of the Federal Government

	Total debt	Domestic debt 1/	Foreign debt 1/	Total debt in percent of GDP	Foreign debt in percent of total debt	Debt service			Interest payments 2/ 3/
						Interest 2/	Repayment	Total	In percent of federal tax revenue
	In billions of schillings, at end of year					In billions of schillings			
1976	133.8	98.8	35.0	18.5	26.1	9.0	10.7	19.8	8.8
1977	164.6	117.2	47.4	20.7	28.8	10.7	12.0	22.7	9.3
1978	199.2	139.1	60.0	23.6	30.1	13.8	15.8	29.6	11.3
1979	230.9	167.2	63.7	25.1	27.6	15.7	18.0	33.7	11.7
1980	261.2	188.5	72.6	26.3	27.8	17.8	18.2	36.0	12.4
1981	295.3	200.7	94.6	28.0	32.0	20.7	24.2	45.0	13.0
1982	341.6	233.2	108.4	30.1	31.7	25.7	25.2	50.9	15.7
1983	416.2	290.6	125.6	34.6	30.2	27.4	25.5	52.9	15.7
1984	469.8	350.8	119.0	36.7	25.3	33.8	32.8	66.6	17.5
1985	525.6	406.9	118.7	38.9	22.6	38.0	31.7	69.7	18.3
1986	616.9	492.3	124.6	43.4	20.2	41.9	33.6	75.5	18.6
1987	697.5	572.8	124.7	47.1	17.9	48.8	35.1	83.2	21.5
1988	746.7	615.9	130.8	47.7	17.5	51.4	39.3	90.6	20.1 4/
1989	800.2	674.3	125.8	47.8	15.7	54.5	34.7	89.2	20.7
1990	861.6	726.2	135.4	47.5	15.7	60.6	32.9	93.5	21.0
1991	937.7	789.3	148.5	48.2	15.8	68.1	32.7	100.8	21.4
1992	992.0	819.9	172.1	48.2	17.3	73.6	42.2	115.8	21.2
1993	1,109.0	896.2	212.9	52.2	19.2	75.8	54.9	130.7	22.4
1994	1,225.6	964.7	260.9	54.7	21.3	77.5	67.1	144.5	21.6
1995	1,342.4	1,051.3	291.1	57.5	21.7	84.1	118.6	202.6	24.3
1996	1,396.9	1,100.8	296.0	57.7	21.2	88.5	107.6	196.1	23.1
1997 5/	1,475.9	1,171.0	304.9	58.6	20.7	89.9	96.1	186.0	21.2
1998 6/	1,543.2	1,219.4	323.8	59.0	21.0	91.3	147.3	238.6	20.2
1999 7/	1,613.2	1,287.2	326.0	59.0	20.2	98.4	164.9	263.3	21.5

Source: Ministry of Finance.

1/ Schilling ("domestic debt") and foreign currency ("foreign debt") denominated debt. The value of foreign debt is adjusted for changes in exchange rates.

2/ On a cash basis.

3/ Tax revenues after revenue sharing.

4/ For 1988 and after, this ratio is not comparable with previous years owing to changes in accounting practice.

5/ Expected outturn.

6/ Budget.

7/ Budget proposal.

Table A9. Austria: Financing of the Federal Deficit

(In billions of schillings)

	1994	1995	1996	1997 1/
Net deficit, administrative basis	104.8	117.9	89.4	67.2
Debt repayment	67.1	118.6	107.6	96.1
Gross financing	171.9	236.5	197.0	163.3
Change in cash balances 2/	21.1	0.0	-23.8	
Changes in reserves 3/	-6.8	8.0	2.0	2.0
Other	0.6	1.9	11.2	
Gross financing requirement	185.6	246.4	186.4	165.3
Schilling	126.1	180.7	152.4	...
Bonds and notes	101.4	115.1	106.4	...
Bills	11.5	23.7	31.2	...
Other long-term loans	12.3	42.0	14.8	...
Credit from central bank	0.9	0.0	0.0	...
Foreign currency	59.5	65.6	34.0	...
Debt repayment	-67.1	-118.6	-107.6	-96.1
Net financing requirement	118.5	127.8	78.8	69.2
Valuation adjustment on foreign currency debt 4/	0.8	-5.8	-12.0	9.8
Increase in gross debt	119.3	122.0	66.8	79.0

Source: Ministry of Finance.
1/ Expected outturn.
2/ Decrease: -.
3/ Increase: -.
4/ Profit: -.

Table A13. Austria: General Government Assets and Liabilities

(In billions of schillings, end of period)

	1992	1993	1994	1995	1996	1997 1/
Financial assets						
Federal government	102.5	92.8	129.1	128.1	121.8	...
States (without Vienna)	207.1	222.9	239.4	244.0	289.0	...
Municipalities (including Vienna)	74.2	75.2	78.8	83.2	82.5	...
Total financial assets	383.7	390.9	447.3	455.3	463.3	...
Bank deposits	67.0	61.2	89.3	90.1	68.2	...
Securities	14.4	15.2	27.3	20.8	45.3	...
Loans	302.3	314.4	330.7	344.4	404.8	...
Liabilities						
Federal government 2/	1,077.8	1,206.2	1,318.9	1,433.0	1,495.5	1,473.4
States (without Vienna)	41.3	45.4	49.6	62.7	62.8	62.5
Municipalities (including Vienna)	72.3	80.2	95.7	119.5	123.9	127.0
Total liabilities	1,191.3	1,331.8	1,464.2	1,615.2	1,682.3	1,662.9
(In percent of GDP)	*(57. 9)*	(62.7)	*(65.4)*	*(69.2)*	*(69.5)*	*(66.1)*
Total net financial debt 3/	807.6	941.0	1,016.9	1,159.9	1,187.8	...
(In percent of GDP)	*(39.3)*	*(44.3)*	*(45.4)*	*(49.7)*	*(49.1)*	...
Memorandum items:						
Net financial debt 4/						
Federal government	975.3	1,113.4	1,189.8	1,304.9	1,373.7	...
States (without Vienna)	-167.6	-171.4	-189.8	-181.3	-226.6	...
Municipalities (including Vienna)	-1.9	5.0	16.9	33.6	41.4	...
Federal government guarantees 5/	644.7	676.7	661.6	682.3	704.9	...

Source: Ministry of Finance.

1/ Preliminary. For guarantees, September 1997.
2/ Data for federal government include ASFINAG (until 1997) and federal funds.
3/ Total financial liabilities less total financial assets.
4/ Difference between financial assets and liabilities.
5/ Of which S 515 billion in export guarantees, in September 1997.

Table A14. General Government Finances - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/	1999 5/
Current revenue	1064.2	1106.9	1159.7	1208.0	1239.7	1288.8
Direct taxes on households	265.8	286.5	305.9	330.6	338.3	357.3
Corporate direct taxes	33.4	41.2	57.6	57.9	58.0	58.5
Indirect taxes	356.6	341.4	360.2	378.7	399.6	416.6
Income from property and enterprises	46.1	50.7	42.6	40.1	30.0	30.0
Social security contributions	300.5	315.8	327.9	335.9	347.1	358.4
Imputed pension fund contributions	54.4	55.6	53.5	52.9	54.5	55.6
Other current revenue	7.4	15.6	12.0	11.9	12.2	12.5
Current expenditure	1079.7	1134.7	1165.6	1180.6	1210.8	1260.5
Public consumption	425.9	440.3	448.3	456.8	468.8	484.2
Wages and salaries	287.4	298.4	301.3	304.7	315.2	323.1
Current expenditures for goods and services	138.6	141.9	146.9	152.1	153.6	161.1
Interest on public debt	91.1	102.4	106.1	103.6	105.2	109.7
Subsidies	58.2	63.1	64.7	64.4	63.0	63.0
Social security benefits	247.3	262.2	274.1	282.9	302.0	320.1
Pensions for the civil servants	96.0	100.5	103.5	105.0	108.0	110.7
Social assistance grants	150.7	148.8	150.1	145.9	140.0	148.0
Other current expenditure	11.1	16.4	19.7	22.3	24.1	24.8
Capital expenditure	93.7	93.5	90.2	89.7	94.6	97.1
Gross fixed capital formation 6/	72.9	66.1	66.7	65.6	68.0	68.0
Depreciation	-15.1	-15.7	-16.2	-16.8	-17.3	-17.8
Capital transfers, net	35.9	43.1	39.7	40.9	43.9	46.9
Total expenditure	1173.4	1228.1	1255.7	1270.3	1305.4	1357.6
Financial balance	-109.2	-121.3	-96.0	-62.2	-65.6	-68.8
(In percent of GDP)	*-4.9*	*-5.2*	*-4.0*	*-2.5*	*-2.5*	*2.5*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA79).

2/ Preliminary.

3/ Expected outturn.

4/ Official projection as of early March 1998.

5/ Budget proposal.

6/ Including the acquisition of real estate.

Table A15. Austria: Federal Government Finances - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/	1999 5/
Current revenue	546.2	580.6	608.6	635.3	643.8	674.0
Direct taxes on households	185.2	207.7	215.0	234.7	245.7	253.7
Corporate direct taxes	25.9	33.5	50.0	50.2	44.0	50.0
Indirect taxes	245.1	229.9	243.5	261.4	281.0	290.8
Income from property and enterprises	31.9	36.6	29.4	28.2	16.4	17.7
Social security contributions	12.0	13.5	16.2	17.6	18.2	18.8
Imputed pension fund contributions	26.1	26.7	24.5	23.4	25.0	26.5
Current transfers from government units	15.6	19.8	20.9	10.4	4.0	7.0
Other current revenue	4.4	13.0	9.2	9.4	9.5	9.5
Current expenditure	600.2	634.4	656.9	655.4	659.3	689.3
Public consumption	148.1	153.8	154.2	157.8	160.0	164.0
Wages and salaries	112.2	115.6	116.2	116.9	118.7	120.5
Current expenditures for goods and services	35.9	38.2	38.1	40.9	41.3	43.5
Interest on public debt	82.1	91.8	95.4	92.6	92.7	96.0
Subsidies	41.9	47.3	48.5	43.1	41.0	41.0
Pensions for the civil servants	58.9	62.0	64.2	64.9	66.0	67.3
Social assistance benefits	112.9	109.9	108.5	102.9	97.0	100.1
Transfers to other governments	151.3	159.8	173.4	179.2	186.0	203.7
Other current expenditure	4.9	9.8	12.7	15.0	16.6	17.2
Capital expenditure	54.9	61.5	58.8	45.6	52.1	55.1
Gross fixed capital formation 6/	16.3	14.7	13.3	9.9	10.4	11.6
Depreciation (-)	-3.4	-3.6	-3.7	-3.8	-3.9	-4.0
Capital transfers, net	42.0	50.4	49.2	39.5	45.6	47.5
Total expenditure	655.1	695.9	715.7	701.0	711.5	744.4
Financial balance	-109.0	-115.3	-107.1	-65.7	-67.7	-70.5
(In percent of GDP)	*-4.9*	*-4.9*	*-4.4*	*-2.6*	*-2.6*	*-2.6*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA79).

2/ Prelimenary.

3/ Expected outturn.

4/ Official projections as of early 1998.

5/ Budget proposal.

6/ Including the acquisition of real estate.

Table A16. Austria: Local Government and Social Security Funds Finances - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/	1999 5/
Current revenue	704.7	726.8	766.3	813.1	847.5	885.5
Direct taxes on households	80.6	78.8	90.9	96.0	92.6	103.6
Corporate direct taxes	7.5	7.6	7.6	7.7	14.0	8.5
Indirect taxes	111.5	111.5	116.7	117.3	118.6	125.8
Income from property and enterprises	14.1	14.1	13.2	11.9	13.6	12.3
Social security contributions	288.5	302.4	311.7	318.3	328.9	339.6
Imputed pension fund contributions	28.4	28.9	29.1	29.5	29.5	29.1
Transfers from governments	171.1	180.9	194.3	230.0	247.6	263.6
Other current revenue	3.0	2.6	2.8	2.4	2.7	3.0
Current expenditure	666.1	701.0	723.8	765.6	803.0	841.8
Public consumption	277.8	286.5	294.0	298.9	308.8	320.2
Wages and salaries	175.2	182.8	185.1	187.7	196.5	202.6
Current expenditures for goods and services	102.7	103.7	108.9	111.2	112.2	117.6
Interest on public debt	9.0	10.6	10.7	11.0	12.5	13.7
Subsidies	16.3	15.8	16.2	21.4	22.0	22.0
Social security benefits	247.3	262.2	274.1	282.9	302.0	320.1
Civil service pensions	37.0	38.5	39.3	40.1	42.0	43.4
Social assistance grants	37.8	38.9	41.6	43.0	43.0	47.9
Transfers to other government	34.8	41.9	40.8	61.0	65.3	66.9
Other current expenditure	6.1	6.7	7.0	7.3	7.5	7.6
Capital expenditure	38.8	31.9	31.4	44.1	42.5	42.0
Gross fixed capital formation 6/	56.6	51.4	53.4	55.7	57.6	56.4
Depreciation (-)	-11.6	-12.1	-12.6	-13.0	-13.4	-13.8
Capital transfers, net	-6.1	-7.3	-9.4	1.4	-1.7	-0.6
Total expenditure	704.9	732.9	755.2	809.7	845.5	883.8
Financial balance	-0.2	-6.1	11.1	3.5	2.0	1.7
(in percent of GDP)	*0.0*	*-0.3*	*0.5*	*0.1*	*0.1*	*0.1*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA79).

2/ Prelimenary.

3/ Expected outturn.

4/ Official projections as of early 1998.

5/ Budget proposal.

6/ Including the acquisition of real estate.

Table A17. Provincial Government Finances (excluding Vienna) - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/
Current revenue	166.3	167.6	180.1	212.6	222.5
Direct taxes on households	37.6	37.6	43.3	45.6	46.4
Corporate direct taxes	4.1	4.8	5.0	5.1	5.9
Indirect taxes	37.1	34.2	36.6	36.8	37.2
Income from property and enterpr.	4.2	4.5	4.8	4.2	4.7
Social security contributions	3.8	4.4	4.8	4.8	5.7
Imputed pension fund contributions	14.4	14.7	14.7	14.9	14.8
Transfers from other governments	64.2	66.6	70.1	100.5	106.9
Other current revenue	0.9	0.8	0.9	0.7	0.9
Current expenditure	158.7	167.4	177.0	196.9	206.3
Public consumption	95.3	98.9	104.5	125.9	131.2
Wages and salaries	89.8	93.4	97.1	101.0	105.0
Current expenditures for goods and services	5.5	5.5	7.4	24.9	26.2
Interest on public debt	3.0	3.4	3.4	3.5	4.0
Subsidies	5.4	4.4	5.0	4.5	4.8
Pensions for the civil servants	18.3	19.1	19.5	19.8	20.8
Social assistance pensions	26.7	27.1	29.3	30.3	30.3
Current transfers to government units	10.0	14.4	15.2	12.7	14.7
Other current expenditure	0.1	0.1	0.1	0.2	0.5
Capital expenditure	-0.3	-5.7	-2.1	10.6	14.6
Capital transfer, net	-8.5	-9.4	-8.8	3.0	6.8
Gross fixed capital formation 5/	10.5	6.1	9.2	10.2	10.5
Depreciation	-2.3	-2.4	-2.5	-2.6	-2.7
Total expenditure	158.4	161.7	174.9	207.5	220.7
Financial balance	7.9	5.8	5.2	5.1	1.8
(In percent of GDP)	*0.4*	*0.3*	*0.2*	*0.2*	*0.1*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA79).

2/ Prelimenary.

3/ Including the acquisition of real estate.

4/ Official projections as of early 1998.

5/ Including the acquisition of real estate.

Table A18. Austria: Municipal Government Finances (including Vienna) - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/
Current revenues	165.2	167.5	177.0	180.7	185.6
Direct taxes on households	43.0	41.2	47.7	50.3	51.2
Corporate direct taxes	3.4	2.9	2.6	2.6	3.1
Indirect taxes	74.4	77.3	80.1	80.5	81.4
Income from property and enterprises	7.5	7.6	6.6	5.8	6.4
Social security contributions	3.1	3.3	3.5	3.8	4.5
Imputed pension fund contributions	11.5	11.8	11.8	11.9	11.9
Transfers from other government	20.6	22.0	23.2	24.5	25.7
Other current revenue	1.6	1.4	1.6	1.3	1.4
Current expenditure	136.6	140.6	144.0	149.3	150.0
Public consumption	86.1	86.5	89.4	87.1	90.8
Wages and salaries	71.0	73.8	76.8	79.8	83.0
Current expenditures for goods and services	15.1	12.7	12.7	7.3	7.7
Interest on public debt	5.5	6.3	6.5	6.7	7.7
Subsidies	3.8	4.0	3.9	10.0	10.7
Social security benefits	0.0	0.0	0.0	0.0	0.0
Pensions for the civil servants	16.2	16.8	17.1	17.4	18.2
Social assistance grants	11.1	11.7	12.3	12.7	12.7
Transfers to other governments	14.0	15.1	14.6	15.3	17.6
Other current expenditure	0.1	0.1	0.1	0.1	0.0
Capital expenditure	38.1	35.6	32.4	33.1	35.5
Capital transfers, net	2.1	3.0	-0.3	-1.6	-0.5
Gross fixed capital formation 5/	44.8	41.8	42.1	44.5	46.1
Depreciation (-)	-8.8	-9.2	-9.5	-9.8	-10.1
Total expenditure	174.7	176.2	176.4	182.4	185.4
Financial balance	-9.5	-8.7	0.7	-1.6	0.2
(in percent of GDP)	*-0.4*	*-0.4*	*0.0*	*-0.1*	*0.0*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA79).

2/ Prelimenary.

3/ Including the acquisition of real estate.

4/ Official projections as of early 1998.

5/ Including the acquisition of real estate.

Table A19. Austria: Social Security Fund Finances - National Accounts Basis 1/

(In billions of schillings)

	1994	1995	1996 2/	1997 3/	1998 4/
Current revenue	373.2	391.8	409.2	419.7	439.4
Direct taxes on households	--	--	--	--	--
Corporate direct taxes	--	--	--	--	--
Indirect taxes	--	--	--	--	--
Income from property and enterprises	2.4	2.1	1.8	1.9	2.5
Social security contributions	281.7	294.7	303.4	309.7	318.8
Imputed pension fund contributions	2.4	2.5	2.6	2.7	2.8
Transfers from other governments	86.3	92.2	101.0	105.0	115.0
Other current revenue	0.5	0.4	0.4	0.4	0.4
Current expenditure	370.8	393.0	408.0	419.3	439.1
Public consumption	96.5	101.1	105.3	85.9	86.8
Wages and salaries	14.9	15.5	16.0	16.6	17.1
Current expenditures for goods and services	81.6	85.6	89.3	69.3	69.6
Interest on public debt	0.6	0.9	0.8	0.8	0.8
Subsidies	7.2	7.4	7.3	6.8	6.5
Social security benefits	247.3	262.2	274.1	282.9	302.0
Pensions for the civil servants	2.6	2.7	2.8	2.9	3.0
Social assistance grants	0.0	0.0	0.0	0.0	0.0
Transfers to other governments	10.9	12.3	11.0	33.0	33.0
Other current expenditure	5.9	6.5	6.8	7.0	7.0
Capital expenditure	1.1	-0.1	0.3	0.4	0.4
Capital transfers, net	0.3	-1.0	-0.4	0.0	0.0
Gross fixed capital formation 5/	1.3	1.4	1.2	1.0	1.0
Depreciation	-0.6	-0.6	-0.6	-0.6	-0.6
Total expenditure	371.9	392.9	408.3	419.7	439.4
Financial balance	1.3	-1.1	0.9	0.0	0.0
(in percent of GDP)	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*

Source: Ministry of Finance.

1/ Based on the European System of Accounts, version 1979 (ESA 79).

2/ Prelimenary.

3/ Expected outturn.

4/ Official projections as of early 1998.

5/ Including the acquisition of real estate.

Table A20. Austria: Growth of Monetary Aggregates and Main Counterparts

(Percentage change year on year)

	Monetary aggregates			Main counterparts 3/ [(1)+(2)-(3)-(4) = M3 growth]			
	Monetary base (extended) 1/	M1 2/	M3 2/	Lending to domestic nonbanks (1)	Net external claims (2)	Liquidity creation from domestic sources (3)	Other 4/ (4)
1989	5.5	3.4	6.9	12.0	-1.1	3.3	0.7
1990	5.9	5.4	7.3	12.9	-0.4	5.5	-0.3
1991	6.1	8.2	7.7	10.9	-0.7	3.8	-1.3
1992	4.6	6.2	4.0	8.0	0.7	5.3	-0.6
1993	4.8	10.9	3.9	6.3	5.3	7.2	0.5
1994	5.1	6.3	5.4	10.4	0.4	4.5	0.8
1995	5.4	15.1	4.8	9.3	2.3	5.6	1.3
1996	5.3	5.4	1.8	6.2	-2.2	2.4	-0.2
1997	2.5	4.9	1.2	6.6	-4.2	1.9	-0.7
1997							
January	3.9	6.5	2.8	7.2	-3.5	1.7	-0.8
February	3.1	6.9	2.2	7.8	-4.0	2.8	-1.2
March	3.0	4.6	1.5	7.1	-2.3	2.1	1.2
April	2.2	4.7	0.9	7.3	-3.6	2.2	0.6
May	2.1	4.4	1.6	7.8	-4.0	1.5	0.7
June	2.2	6.7	2.6	7.4	-3.6	2.2	-1.0
July	1.6	5.8	2.7	7.4	-1.8	3.2	-0.3
August	2.3	5.8	2.7	7.7	-2.3	1.8	0.9
September	2.6	6.4	2.5	7.5	-1.2	2.2	1.6
October	2.8	5.5	2.2	7.7	-2.1	0.8	2.6
November	2.6	3.3	1.9	7.8	-2.8	1.1	2.0
December	2.1	4.9	1.2	6.7	-4.2	1.9	-0.6
1998							
January	1.0	4.7	1.1	6.3	-2.1	1.4	1.7
February	0.5	4.1	0.3	4.9	-2.6	1.4	0.6
March	-0.2	6.1	1.8	5.5	-2.1	2.3	-0.7
April	-0.3	...	...	...	...	...	...

Sources: Austrian National Bank; and International Monetary Fund, *International Financial Statistics*.

1/ Annual or monthly averages.

2/ End of period.

3/ Growth in percent of money supply (M3) of the previous period.

4/ Interbank fluctuations and statistical discrepancies.

Table A21. Austria: Interest Rates

	Discount Rates 1/			Call Money Rates 2/			3-Month Money Rates 2/			Government Bond Yields 2/			Stock Market Index Dec.31.1967=100
	Austria	Germany	Differential	Austria	Germany	Differential	Austria	Germany	Differential	Austria	Germany	Differentials	Austria (WBI)
1991	8.0	8.0	0.0	9.1	8.9	0.2	9.3	9.2	0.2	8.6	8.4	0.1	418.9
1992	8.0	8.2	-0.2	9.3	9.4	-0.1	9.3	9.4	-0.1	8.1	7.8	0.3	348.5
1993	5.2	5.8	-0.5	7.1	7.5	-0.4	6.9	7.2	-0.3	6.7	6.5	0.2	483.7
1994	4.5	4.5	0.0	5.0	5.3	-0.4	5.0	5.3	-0.3	7.0	6.8	0.2	429.6
1995	3.0	3.0	0.0	4.3	4.5	-0.2	4.5	4.5	-0.0	7.1	6.8	0.3	387.4
1996	2.5	2.5	0.0	3.2	3.3	-0.1	3.2	3.3	-0.0	6.3	6.2	0.1	429.2
1997	2.5	2.5	0.0	3.3	3.2	0.1	3.4	3.3	0.1	5.7	5.7	0.0	475.7
1996													
January	3.0	3.0	0.0	3.7	3.6	0.1	3.6	3.6	0.1	6.2	5.9	0.3	425.0
February	3.0	3.0	0.0	3.0	3.3	-0.3	3.2	3.3	-0.1	6.5	6.2	0.3	417.8
March	3.0	3.0	0.0	3.2	3.4	-0.2	3.2	3.3	-0.1	6.6	6.4	0.1	414.9
April	2.5	2.5	0.0	2.9	3.4	-0.5	3.1	3.3	-0.1	6.4	6.4	0.1	431.6
May	2.5	2.5	0.0	3.0	3.3	-0.3	3.1	3.3	-0.2	6.5	6.5	0.0	444.2
June	2.5	2.5	0.0	3.2	3.3	-0.2	3.2	3.3	-0.1	6.7	6.6	0.1	422.8
July	2.5	2.5	0.0	3.4	3.3	0.1	3.3	3.3	0.0	6.6	6.5	0.1	403.0
August	2.5	2.5	0.0	3.3	3.3	0.1	3.3	3.3	0.0	6.4	6.3	0.1	405.8
September	2.5	2.5	0.0	3.1	3.1	0.0	3.2	3.1	0.1	6.3	6.2	0.1	408.2
October	2.5	2.5	0.0	3.1	3.0	0.1	3.2	3.1	0.1	6.1	6.0	0.1	410.5
November	2.5	2.5	0.0	3.2	3.1	0.1	3.2	3.2	0.0	6.0	5.9	0.1	423.9
December	2.5	2.5	0.0	3.2	3.0	0.1	3.2	3.2	0.0	5.9	5.8	0.1	429.2
1997													
January	2.5	2.5	0.0	3.1	3.1	0.1	3.2	3.1	0.1	5.9	5.8	0.0	475.7
February	2.5	2.5	0.0	3.1	3.1	-0.0	3.2	3.1	0.1	5.6	5.6	0.0	453.8
March	2.5	2.5	0.0	3.2	3.1	0.1	3.2	3.2	0.0	5.7	5.8	-0.0	456.1
April	2.5	2.5	0.0	3.3	3.1	0.2	3.3	3.2	0.1	5.9	5.9	0.0	451.6
May	2.5	2.5	0.0	3.2	3.0	0.2	3.3	3.1	0.1	5.8	5.8	-0.0	471.9
June	2.5	2.5	0.0	3.2	3.0	0.2	3.3	3.1	0.2	5.8	5.8	0.0	477.7
July	2.5	2.5	0.0	3.3	3.0	0.2	3.3	3.1	0.1	5.6	5.6	0.0	528.5
August	2.5	2.5	0.0	3.2	3.1	0.1	3.3	3.2	0.1	5.7	5.7	0.1	489.5
September	2.5	2.5	0.0	3.3	3.1	0.2	3.3	3.3	0.1	5.6	5.6	0.0	512.9
October	2.5	2.5	0.0	3.4	3.4	-0.0	3.6	3.6	0.1	5.6	5.6	0.0	481.2
November	2.5	2.5	0.0	3.4	3.4	-0.0	3.8	3.7	0.1	5.6	5.6	0.1	459.5
December	2.5	2.5	0.0	3.5	3.4	0.0	3.8	3.7	0.1	5.4	5.3	0.1	487.0
1998													
January	2.5	2.5	0.0	3.4	3.4	-0.0	3.6	3.5	0.1	5.2	5.1	0.1	511.7
February	2.5	2.5	0.0	3.4	3.5	-0.1	3.6	3.5	0.1	5.1	5.0	0.1	550.7
March	2.5	2.5	0.0	3.4	3.5	-0.1	3.5	3.5	0.0	5.0	4.9	0.1	580.7
April	2.5	2.5	0.0	3.4	3.4	-0.0	3.6	3.6	-0.0	5.0	4.9	0.1	608.9
May	2.5	2.5	0.0	3.4	3.4	-0.0	3.6	3.6	0.0	5.1	5.0	0.1	635.7

Sources: Austrian National Bank, Statistisches Monatsheft (various issues); Deutsche Bundesbank, Monatsbericht (various issues); and IMF, International Financial Statistics.
1/ End of period.
2/ Period averages.

Table A22. Austria: Exchange Rate Developments

	Schillings /SDR	Schillings /U.S. dollar	Schillings /deutsche mark	Effective exchange rate indices 1/ Nominal 2/	Effective exchange rate indices 1/ Real 3/	SDR/ Schilling	U.S. $/ Schilling	Deutsche mark/ Schilling	Effective exchange rate indices 1/ Nominal 2/	Effective exchange rate indices 1/ Real 3/
	(Period averages)					(Percentage change from previous period) 4/				
1990	15.4	11.4	7.0	100.0	100.0	10.4	16.4	0.1	2.2	-2.0
1991	16.0	11.7	7.0	99.6	96.7	-3.8	-2.6	0.2	-0.4	-3.3
1992	15.5	11.0	7.0	101.3	97.1	3.4	6.2	-0.2	1.7	0.5
1993	16.2	11.6	7.0	104.0	97.3	-4.8	-5.5	-0.2	2.6	0.2
1994	16.3	11.4	7.0	103.9	94.6	-0.5	1.8	0.2	-0.0	-2.7
1995	15.3	10.1	7.0	106.9	91.1	6.9	13.3	-0.1	2.9	-3.7
1996	15.4	10.6	7.0	105.2	86.2	-0.5	-4.8	-0.1	-1.6	-5.3
1997	16.8	12.2	7.0	102.9	83.8	-8.4	-13.3	0.1	-2.2	-2.9
1993										
I	15.8	11.5	7.0	104.3	99.6	-3.4	-5.3	-0.2	0.8	1.3
II	16.1	11.4	7.0	103.6	97.0	-1.5	1.0	-0.0	-0.7	-2.6
III	16.6	11.8	7.0	103.6	96.5	-2.9	-3.6	0.0	0.0	-0.5
IV	16.5	11.8	7.0	104.3	96.0	0.4	-0.2	-0.1	0.6	-0.5
1994										
I	16.8	12.1	7.0	103.2	93.2	-1.9	-2.4	0.1	-1.0	-3.0
II	16.5	11.7	7.0	103.5	94.9	1.7	3.7	0.0	0.3	1.8
III	16.0	11.0	7.0	104.5	95.6	3.2	6.3	-0.1	0.9	0.8
IV	15.9	10.9	7.0	104.6	94.9	0.6	1.1	-0.1	0.1	-0.8
1995										
I	15.5	10.4	7.0	106.5	92.3	2.6	4.5	0.3	1.8	-2.7
II	15.4	9.8	7.0	107.6	92.5	1.1	6.1	-0.1	1.1	0.2
III	15.3	10.1	7.0	106.8	90.9	0.7	-2.5	0.0	-0.8	-1.7
IV	15.0	10.0	7.0	106.9	88.8	2.1	0.5	-0.2	0.1	-2.2
1996										
I	15.1	10.3	7.0	106.2	87.3	-1.2	-2.9	0.1	-0.7	-1.8
II	15.5	10.7	7.0	105.0	86.0	-2.3	-3.6	-0.0	-1.1	-1.5
III	15.3	10.5	7.0	105.2	86.3	1.2	1.6	-0.0	0.1	0.4
IV	15.5	10.8	7.0	104.5	85.4	-1.6	-2.1	-0.0	-0.6	-1.0
1997										
I	16.2	11.7	7.0	103.8	84.2	-4.2	-7.8	0.0	-0.7	-1.4
II	16.7	12.1	7.0	103.2	83.5	-2.7	-3.2	-0.0	-0.6	-0.9
III	17.3	12.7	7.0	102.0	83.4	-3.8	-5.2	0.0	-1.1	-0.0
IV	16.9	12.4	7.0	102.6	83.9	2.7	3.0	-0.1	0.5	0.5
1998										
I	17.2	12.8	7.0	102.3	83.8	-1.9	-3.4	0.0	-0.2	-0.1

Sources: Austrian Institute of Economic Research (WIFO); and IMF, International Financial Statistics.
1/ 1990 = 100.
2/ Trade weighted 17 countries.
3/ Relative normalized unit labor costs in manufacturing, adjusted for exchange rate changes.
4/ Percent changes for bilateral rates are based on average exchange rates expressed in terms of units of foreign currency per schilling, with the exception of the first three columns, which are average rates expressed in terms of schillings per unit of foreign currency.

Table A23. Austria: Balance of Payments Summary

(In billions of schillings)

	1992	1993	1994	1995	1996	1997
Current account balance	-1.6	-8.2	-20.6	-47.0	-43.4	-47.7
(Percent of GDP)	*-0.1*	*-0.4*	*-0.9*	*-2.0*	*-1.8*	*-1.9*
Goods and services balance 1/	10.0	4.5	-12.4	-25.3	-32.4	-29.6
Trade balance 2/	-68.0	-74.4	-78.9	-72.7	-77.5	-78.3
Exports	622.9	615.9	615.9	648.9	775.1	863.0
Imports	690.9	690.9	690.4	721.6	852.5	941.3
Balance on investment income	-13.1	-11.5	-10.8	-10.0	-8.9	-6.8
Tourism balance	67.4	61.4	42.8	29.5	22.7	18.8
Receipts	159.6	157.5	150.2	147.1	147.5	150.4
Expenditure	92.2	96.1	107.4	117.5	124.8	131.6
Other services, net	23.7	29.0	34.5	27.9	31.3	36.7
Transfers balance	-11.6	-12.7	-8.3	-21.7	-10.9	-18.0
Capital account balance	21.1	40.4	33.7	65.0	48.0	15.2
Long-term capital	7.9	75.3	9.3	78.9	-9.5	-20.7
Credits	-72.4	-47.9	-71.8	-97.6	-128.9	-180.1
Debits	80.3	123.2	81.2	176.5	119.5	159.4
Of which						
Direct investment	-10.3	-5.7	1.3	-4.1	25.8	3.5
Claims	-20.6	-17.1	-13.7	-10.5	-14.9	-17.7
Liabilities	10.3	11.4	15.0	6.4	40.6	21.2
Portfolio investment	37.7	99.5	1.4	101.9	-9.7	-12.3
Claims	-29.8	-20.4	-48.9	-29.8	-81.4	-127.3
Liabilities	67.5	119.9	50.3	131.7	71.6	115.0
Short-term capital, net	13.2	-34.9	24.4	-13.9	57.5	35.9
Reserve creation and valuation changes	2.2	7.6	-4.8	5.8	20.3	27.5
Memorandum item:						
Change in official reserves	30.0	34.2	5.5	20.1	31.3	-6.2

Source: Austrian National Bank.

1/ For 1995, 1996, and 1997 based on payments data.

2/ Includes transit trade and services closely linked to merchandise trade.

Table A24. Austria: Capital Account Overview

(In billions of schillings)

	1992	1993	1994	1995	1996	1997
Long term capital						
Direct investment	-10.3	-5.7	1.3	-4.1	25.8	3.5
Credits	-20.6	-17.1	-13.7	-10.5	-14.9	-17.7
Debits	10.3	11.4	15.0	6.4	40.6	21.2
Securities	37.7	99.5	1.4	101.9	-9.7	-12.3
Credits	-29.8	-20.4	-48.9	-29.8	-81.4	-127.3
Debits	67.5	119.9	50.3	131.7	71.6	115.0
Credit	-13.6	1.4	-1.0	-6.2	-23.1	-49.5
Credits	-13.1	-2.0	-8.8	-24.7	-30.5	-46.7
Debits	-0.4	3.4	7.8	18.5	7.4	-2.8
Other	-6.1	-19.9	7.6	-12.7	-3.0	37.5
Credits	-8.9	-8.5	-0.4	-32.5	-2.2	11.6
Debits	2.8	-11.5	8.0	19.8	-0.2	25.9
Total	7.9	75.3	9.3	78.9	-9.5	-20.7
Credits	-72.4	-47.9	-71.9	-97.6	-128.9	-180.1
Debits	80.3	123.2	81.2	176.5	119.5	159.4
Short term capital						
Deposits and credit	-22.4	-13.0	12.4	-8.0	64.0	22.9
Credits	-58.1	-57.2	-27.8	-50.6	11.4	-2.0
Debits	35.7	44.2	50.6	42.6	52.6	24.9
Money market paper	32.9	-28.9	-3.2	-6.4	-19.2	18.4
Credits	-0.1	-1.6	-2.6	1.3	-6.7	4.3
Debits	33.0	-27.3	-0.6	-7.7	-12.5	14.1
Trade credit	-1.5	1.6	3.0	0.6	9.8	2.0
Credits	1.0	2.0	-4.0	3.6	10.8	6.0
Debits	-2.5	-0.4	7.0	-3.0	-1.0	-4.0
Other	4.2	5.4	1.9	-0.1	2.9	-7.4
Credits	1.1	2.8	-2.4	-4.8	5.7	-10.4
Debits	3.1	2.6	4.3	4.7	-2.8	3.1
Total	13.2	-34.9	24.4	-13.9	57.5	35.9
Credits	-56.0	-54.0	-36.8	-50.4	21.2	-2.2
Debits	69.2	19.1	61.2	36.6	36.3	38.1
Capital account balance	21.1	40.4	33.7	65.0	48.0	15.2
Credits	-128.4	-101.9	-108.7	-148.0	-107.7	-182.3
Debits	149.5	142.3	142.4	213.0	155.7	197.5

Source: Austrian National Bank.

Table A25. Austria: International Investment Position

(In billions of schillings; end of period)

	1992	1993	1994	1995	1996
Assets	1,333.8	1,482.2	1,540.5	1,617.5	1,773.4
Direct investment abroad	77.0	98.5	103.0	118.0	130.0
Portfolio investment	191.5	208.6	249.9	278.0	367.2
Shares	39.0	45.3	54.2	59.2	70.7
Bonds	152.5	162.5	194.5	217.1	294.1
Others	0.0	0.9	1.2	1.7	2.4
Other investment	848.5	911.6	899.8	958.9	982.9
Loans	746.0	810.5	798.7	849.6	881.7
Other	102.5	101.2	101.1	109.3	101.3
Foreign exchange reserves	216.9	263.4	287.8	262.5	293.2
Liabilities	1,452.8	1,622.2	1,706.1	1,914.5	2,073.2
Direct investment in Austria	127.4	138.4	145.3	176.9	200.0
Portfolio investment	633.8	751.6	763.3	903.9	961.6
Shares	29.9	43.6	59.0	70.5	99.2
Bonds	603.8	708.0	703.0	832.1	861.2
Others	0.0	0.0	1.3	1.3	1.2
Other investment	691.5	732.1	797.3	833.6	911.5
Loans	611.4	650.3	709.3	739.3	828.5
Others	80.1	81.8	88.0	94.3	83.0
Net investment position	-118.9	-140.0	-165.6	-297.1	-299.8
(in percent of GDP)	*(-5.8)*	*(-6.6)*	*(-7.4)*	*(-12.7)*	*(-12.4)*

Source: Austrian National Bank, *Monthly Report*, January 1998.

Table A26. Austria: Official Development Assistance

(In millions of schillings)

	1992	1993	1994	1995	1996	1997 1/
Bilateral ODA	4,620	4,777	6,117	5,643	4,360	...
(As a percent of total)	75.6	75.5	81.8	73.0	74.0	...
Grants 2/	3,867	3,881	4,044	3,800	3,733	...
Loans	753	896	2,073	1,643	627	...
Multilateral ODA	1,489	1,550	1,365	2,088	1,533	...
(As a percent of total)	24.4	24.5	18.2	27.0	26.0	...
European Union	--	--	--	850	995	...
International financial institutions	1,153	1,141	963	863	133	...
United Nations and others	336	409	402	375	403	...
Total	6,110	6,326	7,482	7,731	5,893	6,708
(Percent change)	-4.6	3.6	18.3	3.3	-23.8	0.1
(As a percent of GNP)	0.30	0.30	0.33	0.33	0.24	0.26

Source: Ministry of Finance.
1/ Provisional.
2/ Includes humanitarian and technical assistance.