

EU and EMU Entry: A Monetary Policy Regime Change for Austria?

Economic and Monetary Union (EMU) has changed the monetary policy regime applicable in Austria in many respects, but the stability orientation of Austria's monetary policy has been maintained. EMU's institutional framework and the actual monetary policymaking of the Eurosystem have secured Austria's legacy of monetary stability at the European level. Decision making at the Oesterreichische Nationalbank (OeNB), which had been shaped by the system of social partnership, is now characterized by a greater degree of formal central bank independence. The assignment of various economic policy goals to specific policymakers or institutions, an approach Austria had already followed under the hard currency regime, was maintained under EMU. Like the hard currency policy, the Eurosystem's monetary policy has a medium- to long-term orientation. EMU stabilized Austria's nominal effective exchange rate even more than the hard currency policy could. Therefore, low domestic inflation and wage moderation play an even more important role in maintaining price competitiveness than in the past. The stable real effective exchange rate bears witness to the success in achieving this up to now. Monetary Conditions Indices and Taylor rules suggest that the monetary policy framework has eased for Austria under EMU. EU and EMU entry may have changed various channels of the monetary policy transmission mechanism.

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1 Introduction

This study examines the impact of ten years of EU membership from 1995 and six years of EMU membership from 1999 on Austria's monetary policy regime, specifically its main strategic features and the interaction with other policy areas, and on monetary policy implementation and its transmission to the economy. Is EMU membership indeed – as is frequently asserted – simply a continuation of the schilling hard currency policy that was pursued during the two preceding decades, or did the introduction of the euro following EU entry and membership in the European Monetary System (EMS) mark a monetary regime change for Austria? This question is important because the stability and credibility of the Austrian schilling represented a valuable asset for Austria's economy, an asset which was “sunk” into the euro (Theurl, 1998).

2 Starting Point: The Late Stage of the Hard Currency Policy in the 1990s

By the beginning of the 1990s, two elements of what was defined as *Austro-*

Keynesianism (Seidl, 1982), which was pursued in the 1960s and 1970s, had remained in place: the schilling hard currency policy and a wage policy negotiated consensually by both sides of industry (the social partners).² The rationale for the hard currency policy of the 1990s was frequently substantiated by arguments based on the formation of expectations, game theory and structural policy. In this context, the reduction of exchange rate uncertainty (and the diminished hedging costs in its wake) was often cited, as was the stabilization of price expectations for business through relatively stable export and import prices and wage moderation, and for employees as well as consumers, given productivity-oriented wage increases and moderate rates of inflation. During this late stage of hard currency policymaking, the *stabilization of expectations* was targeted at stabilizing monetary framework conditions, not at stabilizing the business cycle or cyclical expectations, as it had been in the 1970s.

The hard currency policy did not take the structural adjustment features

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² Klausinger (1998) defines 1982 as the year in which *Austro-Keynesianism* ended and “true” hard currency policy began.

of the Austrian economy as givens, but rather aimed at providing a “*structural stimulus*” – achieving greater real wage flexibility, reforming goods markets and eliciting fiscal policy *discipline* to obtain sustainability. In this respect, the hard currency policy was above all “*tying one’s hands*” and was meant to *signal the credibility of the stability-oriented policy* (Hochreiter et al. 1994, 1995). Because this policy emphasized the stabilization of expectations and because of its rule-based nature, it was sometimes referred to as *Austro-Monetarism* (Handler, 2003; Haberler, 1982; Socher, 1982).

Once *capital movements* had been *fully liberalized* in 1991, the stabilization of expectations in international foreign exchange and capital markets also gained importance. The money supply and money market interest rates merely reflected the imperatives of the exchange rate peg – monetary policy was no longer available as an independent tool of demand management.³ If the market had perceived inconsistencies between the hard currency policy and the economic fundamentals, it could have reacted with sanctions, such as a boost in interest risk premia or, at worst, even a speculative attack on the schilling.

Austria’s entry into the *exchange rate mechanism (ERM) of the EMS* on January 9, 1995, did not entail any change in the hard currency policy (Schubert et al., 2002). Moreover, the entry conditions were carefully chosen to prevent any impression that the ERM entry signaled a regime

change that could have cast doubt on the credibility established through the hard currency policy (Hochreiter et al., 2004). The central parity of the schilling of ATS 13.7167 to the ECU was determined on the basis of the market rate of ATS 703.55 to the Deutsche mark on January 5, 1995, the bilaterally fixed rate that had applied for years. As Austria intended to unilaterally observe the informal Deutsche mark peg, respecting the broad multilateral fluctuation range of the EMS of $\pm 15\%$ did not represent an additional restriction for Austria. The OeNB was careful not to seek a narrow fluctuation band with the Deutsche Bundesbank like the one De Nederlandsche Bank had introduced, as this might possibly have been interpreted as a relaxation of the hard currency policy.

However, ERM entry did place the formerly unilateral and voluntary self-commitment within a formal, multilateral and institutional framework with explicit rights and duties (credit facilities, foreign exchange interventions and economic policy consistency). ERM entry also changed the status of the schilling from that of a small, “insignificant currency” (Tichy, 1985) to that of a part of the “EMS cluster” (Liebscher, 2002), putting it more into the limelight in international foreign exchange markets.⁴ This exacerbated the pressure on Austria to orient other economic policy instruments on exchange rate policy requirements. From the second half of the 1990s the need to monitor compli-

³ The hope of obtaining even a small degree of autonomy to reduce interest rates had been given up long before – in 1979, the OeNB had attempted to escape the international interest rate increase after the second oil price shock by not hiking interest rates: this experiment had led to massive capital outflows (see Handler, 1989, p. 43 ff.).

⁴ The OeNB had already felt some pressure to give its currency a more prominent role when the schilling suffered a speculative attack in August 1993 (see e.g. Hochreiter et al., 2004). Moreover, after the government coalition collapsed in October 1995 because it could not agree on further budget consolidation measures, temporary capital outflows resulted (see Handler et al., 1996).

ance with the Maastricht convergence criteria, whose fulfillment was the prerequisite for the introduction of the euro, also formally changed the fiscal policy leeway (Katterl and Köhler-Töglhofer, in this issue).

Hence, adjustments to exogenous shocks had to be made even more strongly through *wage policy* than in the 1980s. Austria managed to achieve necessary real exchange rate adjustments by adapting real wages in negotiations between the two sides of industry. Thus, it was able to retain its Deutsche mark peg without high costs in the form of high unemployment. This concept of monetary policy implied a clear division of responsibilities, with the state in charge of stability policy (securing monetary stability) and the social partners of wage policy (securing high employment) (Klausinger, 1998).⁵

3 EMU Changes the Monetary Policy Regime in Austria

Table 1 summarizes the criteria with which to judge the differences or similarities between the hard currency policy regime and EMU from the Austrian perspective. Some of these criteria are described in more detail below.

For Austria, EMU entry represented a quantum leap in terms of the *size of the monetary area* (population: 1:38; GDP: 1:32). Belonging to this larger monetary area should entail positive network effects for the functions of money compared with the schilling regime (Stenkula, 2003). The euro, the world's second-largest currency (after the U.S. dollar), plays a key role in international financial market and

goods transactions, which reduces exchange rate risk and hedging costs for euro area economic agents.

Even before EMU entry, the OeNB pursued the goal of price stability. However, in EMU *price stability as the primary objective* ahead of other objectives is more clearly established in the Statute of the ESCB and the ECB. This was additionally emphasized by the announcement of a quantitative definition of price stability by the Governing Council of the ECB.

Under the hard currency policy regime, the composition of the formerly highest decision-making body of the OeNB, the General Council (Generalrat), exemplified the principle of consensual policymaking with all social partners being represented. Explicit formal independence was not necessary under this “corporatist” system with its far-reaching consensus about economic policy priorities (Pech, 2002).⁶ By contrast, in the multinational EMU environment, formal rules of *central bank independence* became more important to clearly spell out the objectives and responsibilities of institutions, some of which had been newly established. The “fundamental institution” of common values and a high level of trust in the system were substituted by the “secondary institution” of the Statute of the ESCB and ECB (Theurl, 1998).

As a counterpart to the higher degree of central bank independence in EMU, the informal *ex ante accountability* given by the participation of all social partners in the OeNB's General Council was replaced by a more explicitly defined and legally mandated ex

⁵ Tumpel-Gugerell et al. (2002) describe a “separation model” under which individual economic policy goals are associated with specific policymakers or institutions.

⁶ However, studies on central bank independence concluded that by international standards Austria had enjoyed a high degree of central bank independence also in the past (see e.g. Cukierman et al., 1992).

Monetary Policy Regime before and under EMU

Regime features	Schilling hard currency policy of the 1990s ¹	EMU from January 1, 1999
Size of the monetary area	Small currency, informal monetary union with the Deutsche mark hard currency bloc	Very large euro monetary area, additionally large group of currencies more or less tightly pegged to the euro
Capital movements	From November 4, 1991: completely liberalized capital movements	Completely liberalized capital movements
Exchange rate regime	Could be changed under Article 2 paragraph 3 as well as Article 4 Nationalbank Act and Article 2 Foreign Exchange Act Since the 1980s unilateral, voluntary Deutsche mark peg; since January 9, 1995, ERM participation	May be changed under Article 111 of the Treaty, so far free float
Central bank objective	Maintenance of the value of the Austrian currency both with regard to its domestic purchasing power and to its relationship with stable foreign currencies (Article 2 paragraph 3 Nationalbank Act); due regard for the economic policy of the federal government (Article 4 Nationalbank Act)	Primary objective: Price stability; without prejudice to the objective of price stability: support of the general economic policies in the Community (Article 105 Treaty)
Independence of the monetary policy decision-making body	General Council (Generalrat) is the highest decision-making body; its members represent both sides of industry, the financial sector; business; the State Commissioner has the right to veto (temporarily suspend) illegal decisions of the General Council	Detailed provisions prohibiting Governing Council members from seeking or taking instructions; full-time Governing Council members have minimum terms of office of eight years (ECB Executive Board) or five years (NCB governors); protection against dismissal prior to fulfillment of terms
Monetary financing of governments	Prohibition of lending to the federal government (Article 41 paragraph 1 and Article 42 paragraph 1 Nationalbank Act) including the prohibition of circumventing this provision by open market operations (Article 54 paragraph 3 Nationalbank Act)	Prohibition of credit facilities for the public sector and prohibition of the direct purchase of debt instruments from the public sector (Article 101 Treaty)
Accountability	Supervision by State Commissioner (with a period for objection)	OeNB: Ex post to the Nationalrat ECB: Ex post to European Parliament; European Commission President and President of the Council have observer status in the Governing Council of the ECB
Transparency	High degree of transparency by public announcement of the monetary rule	High degree of transparency (among other things through the announcement of the price stability definition, monetary policy strategy, detailed information about Governing Council meetings, publication of projections)
Responsibility for exchange rate policy	OeNB (Article 2 paragraph 3 Nationalbank Act), coordinated with the federal government's economic policy (Article 4 Nationalbank Act) ²	International: Ecofin/Eurosystem depending on the exchange rate regime (Article 111 Treaty) ERM II: Euro area finance ministers and ECB as well as pre-in finance ministers and NCBs
Interaction with other economic policy areas	Part of a consensual policy package. Individual objectives are assigned to specific policymaking areas. Primacy of exchange rate strategy monetary policy serves as a „nominal anchor;“ „structural reform impulse;“ „disciplining mechanism“	Individual objectives are assigned to specific policymaking areas. Independent monetary policy is complemented by fiscal policy rules, (in some countries) national wage policies and structural reforms
Monetary policy strategy	Exchange rate target. Strict rule Long-term orientation toward stabilization of price expectations	Two-pillar strategy; adapted in spring 2003. Discretionary monetary policy Medium-term orientation toward meeting the announced price stability target
Intermediate monetary policy target	Fixed bilateral nominal exchange rate peg to the Deutsche mark	No intermediate target (M3 growth is a prominent indicator; economic projections and numerous other indicators to forecast inflation)
Monetary policy instruments	Up to 1996: above all standing facilities; 1996 to 1998: Focus shifts increasingly to tender operations, unremunerated minimum reserve holdings	Focus on tender operations, supplemented by standing facilities; no daily money market interventions; remunerated minimum reserve holdings with averaging

Source: OeNB.

¹ The legal material is cited from the Nationalbank Act (NBG) in effect until May 2, 1998. The 1998 amendment of the Nationalbank Act introduced adjustments to Treaty provisions in two stages, first from May 3, 1998, and second from January 1, 1999.

² See also Raschauer (1976).

post accountability. A high degree of *transparency* enables governments and the general public to understand the motivations for the monetary policy decisions made by the independent Eurosystem.

EMU changed the *interaction* of *monetary policy* and other areas of *economic policy*. The hard currency policy was part of a national policy package. Long before EMU, this consensual model had already been subject to major change (Clement, 2001; Lauber, 1997; Klausinger, 1998), as the role of the social partners had been diminishing since the 1980s (Kramer, 2004; Guger, 1998). Nevertheless, the core concept of the hard currency policy remained basically unchallenged even in the late 1980s, and the social partners considered themselves parties to the decision to maintain the policy, not least because they were represented in the OeNB's General Council.

In EMU, monetary policy decisions are taken by the Governing Council of the European Central Bank. The decision-making bodies of the OeNB were adapted to meet the legal convergence requirements of the Treaty establishing the European Community, and the 1984 Nationalbank Act was amended to this effect in 1998, among other things to secure the independence of the Governor of the OeNB in the Governing Council of the ECB (Dvorsky and Lindner, in this issue). Monetary policy is no longer part of a *national* consensus package.

Nonetheless, the practical division of responsibilities between monetary policymaking and the other – national – economic policymaking areas (fiscal policy, structural policy, wage policy) is similar to that under the hard currency regime: Monetary policy is considered a given; the other economic policy areas absorb e.g. asymmetric

shocks wherever possible and sensible. As under the hard currency regime, monetary policy continues to act as an anchor for stability policy in general and is rounded off and secured by a complementary set of rules for other policy areas (e.g. fiscal discipline rules, the Lisbon agenda), partly at the European and partly at the national level.

The two-pillar monetary policy strategy of the Eurosystem is discretionary – there is no intermediate target – whereas the hard currency policy represented a strict monetary policy rule. The hard currency policy and the Eurosystem's strategy concur in that monetary policy should have a medium- to long-term orientation.

4 EMU Stabilizes Austrian Effective Exchange Rate

It was often argued that Austria's participation in EMU would permanently expand its "zone of monetary stability" and that under EMU, countries could no longer resort to "competitive" devaluations, which used to place Austria at a competitive disadvantage. Chart 1 shows that the nominal effective and the real effective exchange rate have in fact stabilized since EMU entry. From the start of Stage Three of EMU in January 1999 until December 2004, Austria's *nominal effective exchange rate* appreciated by nearly 5%, mirroring international developments, but the *real effective exchange rate* as based on the consumer price index (CPI) remained virtually unchanged, given the lower rates of inflation in Austria than in its trade partner countries. The changes in the course of the observation period were relatively small – even the strong fluctuations of the U.S. dollar's exchange rate and of other key currencies against the euro had very little effect on Aus-

Chart 1

Austrian Effective Exchange Rates

1st quarter of 1999 = 100



Source: WIFO.

trian effective exchange rates, as intra-euro area trade predominates Austrian trade.

Table 2 shows that both the long-term and the short-term *variability* of the effective *exchange rates* in Austria has decreased substantially since EMU entry. Thus, EMU contributed more to a noticeable stabilization of external

price relations in Austria than the hard currency policy with its narrower reference zone had been capable of.

This development also clearly shows that low domestic inflation plays an even greater role as a shock absorption mechanism and as a means to maintain price competitiveness than under the hard currency regime.

Table 1

Austrian Exchange Rate Variability before and under EMU

	Austrian nominal effective exchange rate index	Austrian real effective exchange rate index (CPI)
Long-term variability		
1993 to 1998	4.80	3.18
1999 to 2004	2.75	1.99
Short-term volatility		
1993 to 1998	0.82	0.97
1999 to 2004	0.59	0.74

Source: WIFO, basis 1st quarter 1999 = 100.

Variability measures: Long-term standard deviation; short-term standard deviation of the deviation from the moving 12-period average for each of the two subperiods.

The Hard Currency Policy, EMU and the Optimal Currency Area

In assessing a monetary regime, it is quite important to determine whether the currency area is sufficiently homogeneous to conduct a monetary policy suitable for all parts (countries) of the currency area. Drawing on the Optimal Currency Area (OCA) theory (Mundell, 1961), the table below analyzes whether Austria has come closer to fulfilling the OCA criteria after switching from its Deutsche mark peg to participation in the euro area.⁷

The development of Austrian inflation is more highly correlated with that of the euro area than with that of Germany. This applies both to the entire period from 1995 to 2004 and to the two subperiods from 1995 to 1998 and from 1999 to 2004. Hence, a monetary policy geared primarily to price stability for the euro area should fit in well with Austria's needs. It is also interesting to note that in the second subperiod (the last six years) the correlation coefficients rose both against the euro area and against Germany compared with the first subperiod.

The correlation of growth rates is lower than that of inflation rates. Moreover, during the period from 1995 to 1998, Austria's business cycle was more strongly correlated with that of the euro area as a whole than with that of Germany, whereas during the period from 1999 to 2004 the correlation of GDP growth was stronger between Austria and Germany than between Austria and the euro area. Overall, however, both comparisons signal a strengthening of correlations as time progressed. As business cycle divergence between individual countries cannot be taken into account in euro area monetary policymaking, the real adjustment mechanisms to asymmetric shocks by way of wages and prices still play an important role, as they did during the hard currency regime.

Correlation of Inflation (HICP) and GDP Growth¹⁾

	Inflation		Real GDP growth	
	Austria/Germany	Austria/euro area	Austria/Germany	Austria/euro area
1995 to 2004	0.777	0.830	0.608	0.473
1995 to 1998	0.561	0.798	0.169	0.357
1999 to 2004	0.832	0.875	0.756	0.525

Source: Eurostat, OeNB.

¹⁾ Correlation coefficients of the monthly inflation rates and of the annual real GDP growth rates, respectively.

5 The Hard Currency Policy, EMU and Monetary Conditions in Austria

The Eurosystem necessarily targets its monetary policy at the euro area *as a whole*, not at the economic development in individual EMU member countries. Nevertheless, the question may be posed – for analytical purposes – how EMU has influenced the mone-

tary policy framework in individual member countries, in the event, in Austria. The level of *long-term interest rates* has declined in Austria since it joined the EU in 1995. Between 1995 and 1998, the nominal interest rate of the ten-year benchmark bond ran to roughly 6%, whereas it came to 4.75% between 1999 and 2004. The level of real interest rates⁸ dropped even more sharply, falling from 4.8%

⁷ Owing to space constraints, only the synchronization of inflation rates and real GDP are analyzed here. See Stigl-bauer (in this issue) for a discussion of labor mobility and wage flexibility, which play an important role in OCA theory. Janger and Wagner (2004) show that sectoral specialization patterns in Austria and in the EU-15 have been changing only slowly and more or less homogeneously over the past 20 years, which reduces the risk of asymmetric shocks.

⁸ The *ex ante* real interest rate – i.e. the interest rate adjusted for inflation expectations – was used to calculate the real interest rate level, with inflation expectations at time *t* corresponding to the average monthly inflation rates from *t+1* to *t+12*.

Chart 2

The Development of GDP (Moving Four-Quarter Average)

and Real Interest Rates in Austria



Source: Statistics Austria, Thomson Financial, OeKB, OeNB.

to some 3%. This is not a purely Austrian phenomenon, but was observable throughout the euro area and in many OECD member countries.

In order to gain a more complete picture abstracting from cyclical differences in interest rate levels, we also compare *real interest rate levels during periods of economic weakness*.⁹ According to the definition used here, there were three periods of economic weakness during the reference period (from the first quarter of 1995 to the third quarter of 1995; from the third quarter of 1996 to the first quarter of 1997; from the first quarter of 2001 to the fourth quarter of 2003). The long-term interest rates during the weak phases of 1995 and 1996–97 came to around 5.7% and 4.7%, respectively; during the phase from 2001 to 2003, they stood at about 3%. At the end of the first cyclical trough, the output

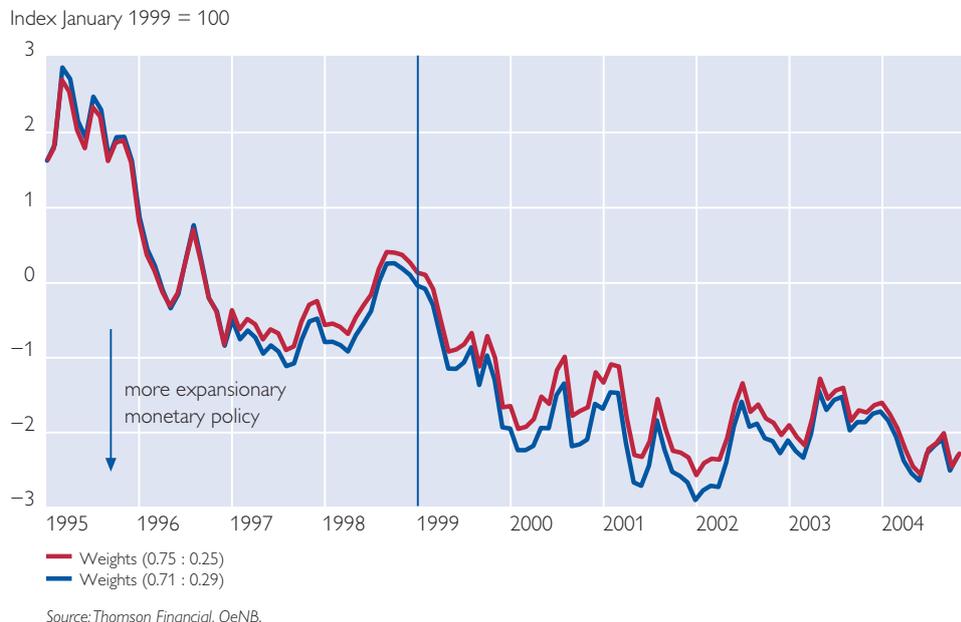
gap was -0.8% ; it came to -2.6% at the end of the second period, and the third phase of economic weakness closed with an output gap of -0.9% . This means that although the weakening in the 1995 and 2001–03 periods was comparable and the second phase of weakness in 1996–97 was much more pronounced, the real interest rate was far higher in the mid-1990s than at the beginning of the 21st century. This frame of reference also spotlights the general decline in the level of real interest rates.

Monetary Conditions Indices (MCIs), which summarize the development of the short-term real interest rate and the real effective exchange rate of the schilling (and later the euro), also signal that the monetary policy framework became more expansionary from 1995. The short-term real interest rate and the real effective exchange rate are

⁹ For the purpose of this study, a period of economic weakness is defined as a period in which real GDP growth (seasonally adjusted) comes to 0.5% or less in more than two consecutive quarters. A period of economic weakness ends when the growth rate is above 0.5% in two consecutive quarters.

Chart 3

Monetary Conditions in Austria



accorded different weights in the calculation of MCIs, depending on the strength of their impact on aggregate demand and consequently on inflation.¹⁰ The decreasing values of both MCIs point to more expansionary monetary policy conditions. Until the beginning of 2001, this expansionary effect was principally a result of the depreciation of the real effective exchange rate; from the beginning of 2001, the slide in interest rates was the predominant influence.

An additional indicator used to describe monetary policy is interest rates set according to *Taylor rules*. Taylor (1993) suggests describing the course of nominal interest rates set by monetary policymakers in terms of the deviation of inflation rates from

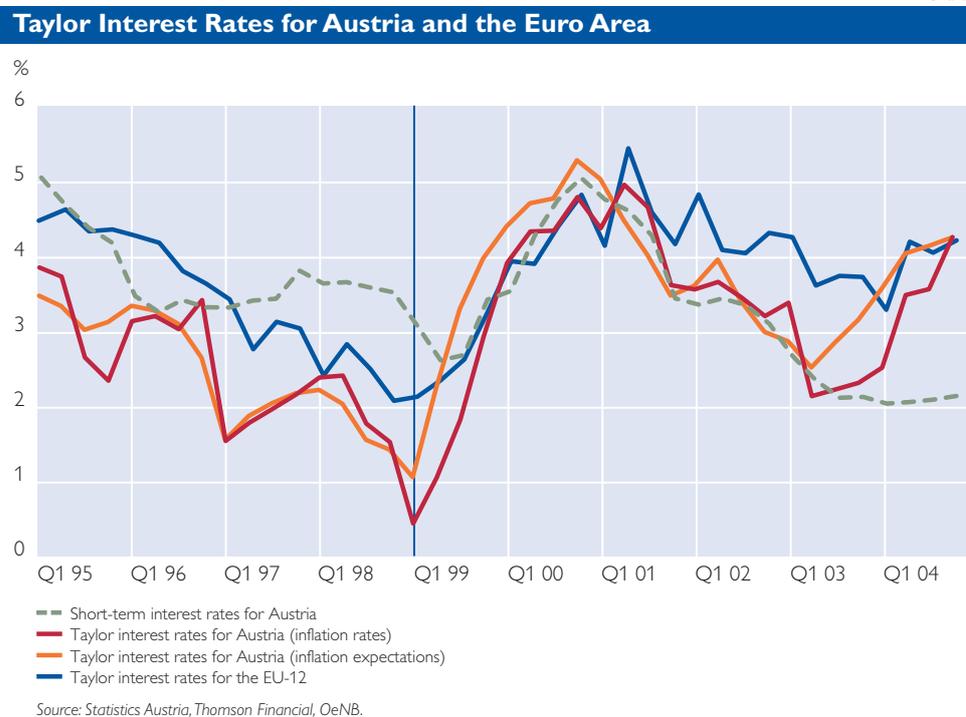
the inflation target (inflation gap) and of real output from trend output (output gap). Along these lines, we use Taylor's original rule (with a weight of 1.5 for the inflation gap and a weight of 0.5 for the output gap) as a simple comparison, identifying any changes in the monetary policy reaction function from the perspective of the development of Austrian inflation and economic activity between the pre-EMU period and during EMU in terms of deviations from the Taylor rule.

Chart 4 shows interest rates according to three different Taylor rules, with one curve representing euro area Taylor interest rates (dark blue line) and two curves representing Taylor interest rates for Austria.¹¹ Chart 4 also shows the short-term

¹⁰ The MCIs shown in chart 3 differ in terms of the weights chosen; this reflects the uncertainty involved in the construction of MCIs. The red line is based on the assumption that the impact of short-term interest rates on demand is three times as strong as that of the effective exchange rate (ratio of weights: 0.75:0.25). This corresponds to the weighting ratio used by the Bank of Canada, the Deutsche Bundesbank and Sveriges Riksbank to calculate the respective national MCIs. Gartner (1998) computed weights of 0.71:0.29 (blue line).

¹¹ Different variables may be used to calculate Taylor interest rates. The inflation gap, e.g., may be based on current or expected inflation rates. Therefore chart 4 shows two different Taylor interest rates for Austria.

Chart 4



money market rate for Austria.¹² A comparison of Taylor interest rates for Austria and the short-term interest rates prevailing between 1995 and 1998 indicates that the actual interest rates prior to EMU membership were higher than the Taylor interest rates, i.e. had a more restrictive impact. At the start of Stage Three of EMU, from 1999 to 2003, the Taylor interest rates were broadly identical with actual interest rates; since the beginning of 2004, actual interest rates have been below those calculated using the Taylor rule. The rise in inflation on account of higher oil prices is the reason Taylor interest rates rose in Austria (and the euro area) at the beginning of 2004. To sum it up, the actual interest rate tended to be higher than Taylor interest rates before the start of EMU;

thereafter, it tended to be at the same level as or below Taylor interest rates. According to this measure, monetary policy had a more expansionary impact on Austria from the beginning of EMU than the hard currency policy did in the years before.

Chart 4 also indicates that Austrian Taylor interest rates have moved closer in line with those of the euro area since the start of EMU. While the average difference amounted to about 1 percentage point between 1995 and 1998, the gap contracted to approximately 0.7 percentage point between 1999 and 2004.¹³ This is consistent with the above-mentioned increased correlation of inflation and GDP developments between Austria and the euro area during EMU as against before EMU.

¹² This time series used the three-month money market rate for Austria as given by the Oesterreichische Kontrollbank (OeKB) for the period from 1995 to 1998 and the three-month EURIBOR rate from January 1999.

¹³ For this comparison, the Taylor rule based on actual inflation rates was used for the euro area and for Austria.

6 EU Membership, the Euro and the Monetary Policy Transmission Mechanism in Austria

The impact of membership in the EU's Single Market and Austria's subsequent EMU membership on the different monetary policy transmission channels cannot be precisely quantified. After all, Austria's economic performance and inflation in the last decade were determined not just by monetary policy, but also by numerous other factors. Additionally, many of the changes brought about by EU and EMU membership are part of a process that already started before 1995. In particular, the process of deregulation and innovation in the financial sector – which may well have been speeded up by EU entry (Waschiczek, in this issue) left its mark on the structure of the financial market and hence on the transmission mechanism. Subject to these caveats, we attempt to assess just how EU membership may have influenced the various monetary policy transmission channels.

The study by van Els et al. (2001), which compares the results of simulations of transmission channels for seven euro area countries including

Austria, represents a good starting point for an analysis of potential changes in the *interest rate channel*. The analysis is based on macroeconomic models which were constructed for the period before 1994 and after 1999. As is customary for large macroeconomic models, the interest rate channel is split into a direct substitution channel (deferment of consumer spending as a result of higher interest rates) and a capital cost channel (dampened investment in consumer goods and dampened consumer spending as a result of the higher cost of capital in the wake of a rise in interest rates).

According to the simulation results, the *direct substitution channel*, which directly influences consumer spending, now contributes substantially more to the reduction of real GDP in Austria than prior to 1994 (table 2). This result may be explained by the stronger reaction of households to interest rate changes as shown in the more recent model; this reaction is consistent with the heightened interest rate sensitivity Austrians have developed over the past decade. The outcome is hardly surprising, given the financial market liberalization meas-

Table 2

The Impact of an Interest Rate Increase by 100 Basis Points on Real GDP

in Austria

percentage points

	Reaction after the				
	first year	second year	third year	fourth year	fifth year
Direct substitution channel					
BIS (1995)	-0.03	-0.02	0.03	0.00	0.00
WGEM (2001)	-0.03	-0.12	-0.19	-0.19	-0.17
Cost-of-capital channel					
BIS (1995)	0.00	-0.08	-0.04	0.03	0.00
WGEM (2001)	-0.02	-0.02	-0.01	-0.01	-0.01
Wealth channel					
BIS (1995)	0.00	0.02	-0.01	-0.03	-0.01
WGEM (2001)	-0.03	-0.10	-0.11	-0.09	-0.08

Source: van Els et al. (2001).

ures taken in Austria in the past ten years and the rise in lending to households (chart 5).

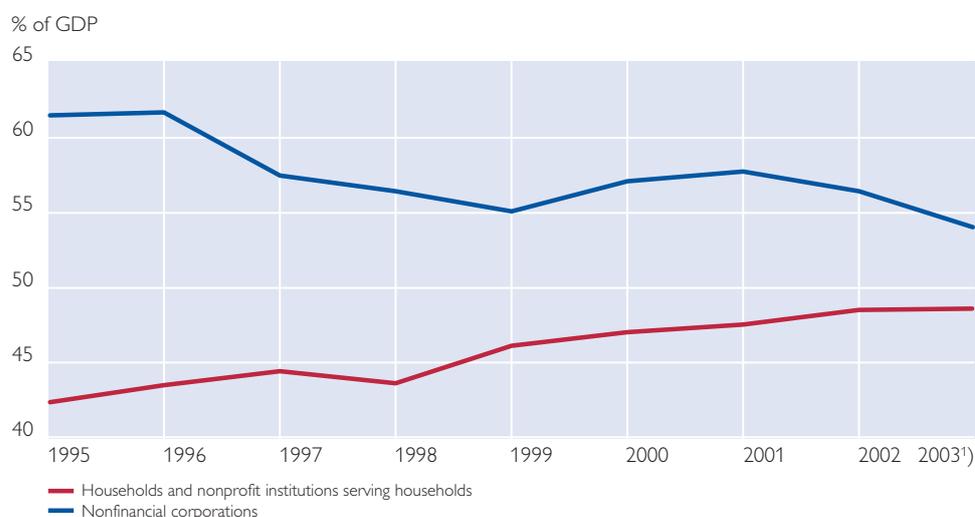
Conversely, the effect of the *cost of capital* on investment is much smaller in the new model than in the old model. This may be due to the lower pass-through effect to long-term interest rates. The speed and strength of the interest rate pass-through depend on many factors related to the structure of financial markets and intensity of competition in the financial system as well as on whether banks consider the current monetary policy stance to be permanent or not. There are indications that the transmission of interest rate developments to banks' retail interest rates has changed. De Bondt (2002) finds that before EU membership, a 100 basis point change in money market rates translated into a change by 68 basis points in banks' retail rates after three months. In 2000, however, a 100 basis point hike in the policy rate produced a rise in banks' retail interest rates of only 18 basis points after three months. Since EU entry, the consolida-

tion of the Austrian banking sector has speeded up, but financial market integration has also intensified competition in this sector.

Empirical research points out the significance of the *credit channel* for the monetary policy transmission process in Austria. Bank lending is the single most important source of external financing for Austrian companies. No data that would allow a direct comparison of the transmission mechanism before and after EU entry are available for the credit channel. Two studies by Valderrama (2001a and 2001b) provide a basis for comparisons. Valderrama (2001a) estimates an investment demand equation with financial factors for the period from 1979 to 1999, whereas Valderrama (2001b) analyzes the period from 1994 to 1999. Although the predictive power of such a comparison is limited because the estimated models differ somewhat, it may be established that the sensitivity of investment to financial factors came to 0.200 for the longer period and to 0.285 for the

Chart 5

Households' and Nonfinancial Corporations' Financial Liabilities



Source: OeNB.
1) Preliminary data.

shorter period. It follows that the importance of the credit channel will tend to have increased on account of EU membership.

Valderrama (2003) shows that in Austria, investment demand of companies that are dependent on bank lending but do not have a well-established relationship with a house bank is more strongly influenced by financial factors (financial accelerator effect). However, the higher sensitivity observed by Valderrama (2001b) cannot be explained by the higher dependence on bank loans, as their share in total financing of nonfinancial corporations has declined overall since 1995 (chart 5). A weakening of the house bank principle could possibly have caused the credit channel to strengthen. Despite the relatively great importance of bank lending as a source of external financing, the tradition of relationship banking in countries like Austria and Germany weakened the credit channel in these countries. The effects of EU membership on relationship banking are ambiguous, though. On the one hand, heightened competition could prevent banks from incurring the expense of collecting information about borrowers, who could easily switch to another bank. On the other hand, banks would have an advantage retaining smaller businesses, as large companies have easier access to other sources of finance.

Due to the traditionally very low stock market capitalization in Austria, the *wealth channel* has not been considered important.¹⁴ While stock market capitalization expanded substantially in Austria in the second half of the 1980s

and again at the beginning of the new millennium, it is still very low by international standards. However, domestic market capitalization is not a suitable indicator of investment in equities. By eliminating exchange rate risk, EMU entry facilitated diversification into the equities of euro area countries. Although no data for comparison are available for the period prior to 1995, the composition of households' and nonfinancial corporations' financial assets has clearly changed. Above all, companies invested more heavily in foreign equities. The importance of the wealth channel is thus likely to be on the rise in Austria. Consumption and investment decisions in Austria may also be influenced by the reaction of foreign stock markets to interest rate developments. Van Els et al. (2001) also observe a growing importance of the wealth channel in Austria (table 2).¹⁵

7 Summary

Whereas the hard currency policy was part of a national consensual policy package, EMU transferred monetary policymaking to the European level. Decision making at the Oesterreichische Nationalbank, which had been shaped by the system of social partnership, is now characterized by a greater degree of formal central bank independence. At the same time, the system of informal ex ante accountability practiced in Austria prior to EMU membership was replaced by greater transparency about the principles and motives governing monetary policy decisions. The assignment of various economic policy goals to specific poli-

¹⁴ Rajan and Zingales (2003).

¹⁵ Note, however, that the simulation models are based on different definitions of "wealth." The model used for the period before 1994 defines wealth exclusively as money holdings, whereas the model for the more recent period also covers bonds and equities.

cymakers or institutions, an approach already followed under the hard currency regime, was maintained under EMU. Like the hard currency policy, the Eurosystem's monetary policy has a medium- to long-term orientation. The establishment of (internal) price stability as the primary objective of monetary policy was confirmed by the Maastricht Treaty and the announcement of a quantitative definition of price stability. Wage policy continues to play a central role as a shock absorption mechanism.

EMU stabilized Austria's effective exchange rates and hence the external environment for prices even more than the hard currency policy could. The more stable effective exchange rate in EMU underlines the important role low domestic inflation plays in maintaining price competitiveness. In this respect, the fact that inflation was lower in Austria than in its trade partner countries kept the Austrian real effective exchange rate at the end of 2004 unchanged from that at the start of Stage Three of EMU despite the depreciation of the U.S. dollar.

Both Monetary Condition Indices as well as Taylor rules suggest that the monetary conditions for Austria have turned more expansionary under EMU than in the four years preceding

the start of EMU. Inflation and real GDP growth in Austria and in the euro area have become more closely synchronized. Hence, along the lines of the OCA theory, the single monetary policy of the Eurosystem is also able to fulfill Austria's specific needs.

The interest elasticity of private consumption may have risen, reflecting a generally heightened awareness of interest rate developments. By contrast, the transmission of key interest rate changes to long-term interest rates appears to have weakened against the background of intensified competition in the financial sector. The credit channel, which is empirically relevant for Austria, may have strengthened, perhaps partly because of the shift away from the tradition of relationship banking. Higher investment in domestic and foreign equities suggests that the asset price channel should be gaining significance.

EMU has changed the monetary policy regime in Austria in many respects, but the basic stability orientation of monetary policymaking has remained in place. EMU's institutional framework and the actual monetary policymaking of the Eurosystem have secured Austria's legacy of monetary stability at the European level.

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