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Working Paper

Austrian Exchange Rate Policy and European Monetary Integration - Selected Issues

Working Paper, No. 19

Provided in Cooperation with:

Oesterreichische Nationalbank (OeNB), Vienna

Suggested Citation: Hochreiter, Eduard (1995) : Austrian Exchange Rate Policy and European Monetary Integration - Selected Issues, Working Paper, No. 19, Oesterreichische Nationalbank (OeNB), Vienna

This Version is available at:

<https://hdl.handle.net/10419/264612>

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Austria's Hard Currency Policy and European Monetary Integration

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December 1994

Reprinted from De Pecunia Vol. 6, Nr. 3, December 1994, with kind permission from the editor. The author is currently on leave from the Oesterreichische Nationalbank. The author would like to express his gratitude for stimulating discussions and critical comments to Axel Aspetsberger, Patrick Child, Bernard Connolly, Eduard Hochreiter, Helmut Pech, Aurel Schubert, Youko Vilmunen, Thomas Wagner, and Helmut Wittelsberger. He is also indebted to Gerhard Kaltenbeck, Günther Thonabauer, Rudolf Trink, Franz Weninger, and Irmgard Wenko, who were kind enough to provide detailed technical and institutional information on various aspects of the paper. Any remaining errors are nevertheless under the sole responsibility of the author. The opinions expressed in this article represent exclusively the author's views and in no way need to reflect the OeNB's or the European Monetary Institute's official views. Technical assistance by Yves Bouquiaux and Dolly Frix is kindly acknowledged.

CONTENTS

1. Introduction

2. Austrian monetary and exchange rate policy since 1971

- The beginnings: basket orientation and the evolution of the DM-orientation
- The evolution of the "hard currency" approach
- The 80s and 90s: maintaining consistency between the hard currency framework and economic fundamentals

3. Why did the hard currency policy work?

3.1 "Official" theoretical underpinning for the hard currency approach

3.2 International capital movements, institutional features of Austrian financial markets, and the interest rate transmission mechanism

- The gradual liberalization of capital movements in the 80s
- The liberalization of domestic financial markets
- Features of the interest rate transmission process in Austria

3.3 The hard currency policy and the theory of optimum currency areas

- Analytical framework
- Symmetry of shocks
- Mobility of factors of production
- Real exchange rates and economic fundamentals
- Summary

3.4 Credibility

- Central bank independence, the hard currency approach and policy preferences
- The hard currency policy as a rule and signalling device
- When was credibility achieved?

4. Austria and European monetary integration

4.1 Stage Two of EMU

4.2 Stage Three of EMU

5. Lessons for other countries

Annex 1: Chronology of the liberalization of capital movements

Annex 2: Chronology of financial markets regulation/liberalization

Annex 3: Institutional features of the Oesterreichische Nationalbank

Annex 4: Exchange rates 1970-1993

Annex 5: Economic fundamentals in comparison with Germany

Selected bibliography

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Austria's Hard Currency Policy and European Monetary Integration¹⁾

1. Introduction

For the past two decades, Austrian monetary policy has successfully been geared towards keeping the schilling's nominal exchange rate stable vis-à-vis other "hard" European currencies, in particular the German mark. It is therefore sometimes viewed as a pioneer for a monetary union in Europe. Accession to the EU brings considerable *institutional* changes for its exchange rate policy: first, participation in the exchange rate mechanism of the European Monetary System, later on participation in the future European Monetary Union. *Economically* speaking, however, these changes should be of a minor nature.

This paper (1) sketches out the major steps in the evolution of the hard currency approach since its beginnings to the present; (2) tries to extract some reasons for its success, with particular reference to institutional features of Austrian economic policy-making; (3) draws conclusions for Austria's participation in the ERM and European Monetary Union; and (4) raises the question which lessons might be learnt from the Austrian experience for other small open economies' participation in EMU.

2. Austrian monetary and exchange rate policy since 1971²⁾

- *The beginnings: basket orientation and the evolution of the DM-orientation*

Since World War II, Austria has followed a policy of pegging the exchange rate of the schilling to various external anchors. In the Bretton Woods era, the schilling

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- ¹⁾ I wish to express my gratitude for stimulating discussions and critical comments to Axel Aspetsberger, Patrick Child, Bernard Connolly, Eduard Hochreiter, Helmut Pech, Aurel Schubert, Youko Vilmunen, Thomas Wagner, and Helmut Wittelsberger. I am also indebted to Gerhard Kaltenbeck, Günther Thonabauer, Rudolf Trink, Franz Weninger, and Irmgard Wenko, who were kind enough to provide detailed technical and institutional information on various aspects of the paper. Any remaining errors are nevertheless under the sole responsibility of the author. The opinions expressed in this article represent exclusively the author's views and in no way need to reflect the OeNB's or the European Monetary Institute's official views. Technical assistance by Yves Bouquiaux and Dolly Frix is kindly acknowledged.
- ²⁾ The history of the hard currency policy is well documented. This presentation draws on a number of existing publications. See for instance Handler (1989), Hochreiter/Winckler (1993, 1994), Neck (1993).

remained stable against the US dollar; the schilling-dollar parity remained unchanged between May 1953 and May 1971. This implies that the schilling did not follow the revaluations of the DM in 1961 and 1969, entailing a cumulative devaluation of the schilling against the DM by 11%. In May 1971, the Swiss franc was revalued by 7%, the mark, the Belgian franc and the guilder were floated and the schilling was revalued against the US dollar by 5.05%.

After the end of the dollar's gold convertibility in August 1971, the schilling was pegged to a trade-weighted basket of currencies, accounting for about two-thirds of Austrian foreign trade. The composition of this basket initially represented the nine most important European trading partners; the weights were not published; the composition was frequently adjusted. Gradually, the importance of the DM as a reference currency rose and that of other currencies declined correspondingly.

Austria was never a formal member of the "snake", but between March 1973 and May 1974 autonomously kept the schilling within the snake with a fluctuation margin of $\pm 2.25\%$ and thereafter until July 1976 of $\pm 4.5\%$. Both the widening of the band and the DM orientation after July 1976 have to be seen in the overall context of international exchange rate developments: the depreciation of the snake currencies against the DM implied for the schilling a concomitant weakening against the DM as long as the fluctuation limit was adhered to. This dilemma was resolved first by doubling the band and then by dropping the "snake orientation" altogether.

- *The evolution of the "hard currency" approach*

The decisive period for the evolution of the concept of the "hard currency policy" were the mid and late 70s. Austria's reaction to the first oil price shock was a twofold one. To stimulate domestic demand, fiscal expenditures were increased and wages rose sharply. To counteract inflationary pressures from the oil price hike, the schilling was revalued against the mark by around 4% in 1974. This marked the first important step towards the "hard currency policy".

Domestic adjustment in the following years did not, however, live up to the ambitious exchange rate framework. The current account plunged deeply into deficit, reaching 4.5% of GDP in 1977. The exchange rate policy came under strong criticism, both domestically and internationally (OECD, IMF). Critics in Austria included Chancellor Kreisky, industry, and a number of university professors; supporters of the hard schilling were the Oesterreichische Nationalbank (the central bank of Austria), the Finance Minister and the trade

unions. The "drys" advocated tackling the current account problem through a reduction in absorption relative to income, calling for budget consolidation and wage restraint. As part of the "current account package", the central bank took measures to limit domestic credit growth. Nevertheless, as a gesture of goodwill towards the opponents of the hard currency approach, the schilling was devalued by around 1% against the DM in October 1978 in the context of a realignment within the snake, with the DM being revalued against a number of currencies. This slight break in the hard currency approach was accepted for the sake of broadening domestic support for the policy in the future.

1979 brought the breakthrough for the hard currency policy. The second oil price shock once again shifted the focus of economic policy discussion in Austria to the control of inflationary pressures. As in the case of the first oil price shock, the answer was a (temporary) real revaluation to curb inflationary expectations and to dampen wage increases. Starting with a 1.5 % revaluation against the DM in September 1979 (just in time for the autumn wage round), the schilling appreciated in total by 4.5% between September 1979 and late 1980. Since then the schilling's exchange rate vis-à-vis the DM has been unaltered, with virtually no fluctuations.

The press reacted positively to the 1979 revaluation, which was widely interpreted as confirming policy-makers' commitment to price stability. Public support for the hard currency policy was broadened further by industry dropping its opposition and openly supporting it from late 1979 on.

1979 also marked an end to attempts to gear interest rate policy towards domestic needs rather than to the exchange rate target, removing a logical inconsistency in the policy mix.

The establishment of the EMS did not affect the policy stance: there was consensus beforehand between the "dry" policy-makers in Austria that the DM-peg amounted to "de-facto membership"³⁾.

- *The 80s and 90s: maintaining consistency between the hard currency framework and economic fundamentals*

In the early 80s, a series of negative real shocks struck the Austrian economy: on the international side the recession and the debt crisis, on the domestic side the

³⁾ By contrast, the Chamber of Commerce would have preferred the "softer" option of an ECU peg.

structural problems in the large nationalized sector of industry. Insofar as they were country-specific, this called for a real schilling devaluation. The exchange rate peg being meanwhile beyond all dispute, real wage moderation was one of the central features of the policy pursued. The major restructuring in the nationalized industry in the mid-80s, entailing massive layoffs, could be achieved without strikes. The rising budget deficits of the early 80s were curbed considerably through a gradual medium-term consolidation programme, accompanied by far-reaching supply-side-oriented tax reforms. The "consensus policy" traditionally reflected in the social partnership got a new touch from 1986 on by the formation of a "grand coalition" government. In 1989, Austria formally applied for EC membership. From then on, the aim of achieving EC compatibility formed an overall policy guideline. Legislative measures (e.g. in the field of financial markets reform) aimed at adjusting the institutional and legal framework to the opening-up of markets; concerning macroeconomic policy, the perspective of Economic and Monetary Union, and in particular the Maastricht convergence criteria, reassured policy-makers about the continuation of economic, monetary and exchange rate policies pursued so far.

The international recession of the early 90s did not spare Austria, but was comparatively mild by comparison with most European countries. German unification and the opening-up of the former Eastern bloc countries both had positive impacts on the Austrian export industry (the former only initially), thus cushioning the recession in Austria. The recent budgetary slippage is small compared to most European countries; still, Austria at the moment narrowly misses the reference values of the Maastricht excessive deficit convergence criterion.

3. Why did the hard currency policy work?

3.1 "Official" theoretical underpinning for the hard currency approach

The reason why policy evolved the way it did was not because policy-makers came to believe in some formal theoretical model calling for the combination of policy measures, which were then introduced officially as a "new policy regime". Rather, the policy evolved over time through trial and error and by virtue of a pragmatic judgement on policy needs.

The theoretical arguments put forward - ex post - by some experts in justification of the exchange rate strategy went along Keynesian lines, in particular the "Scandinavian" model of inflation. The "Austrian version" of this model can be described as a "reversal" of the purchasing power theory in a two-sector economy (exposed and sheltered sectors): foreign price changes via the fixed exchange rate determine price changes in the exposed sector. Given an exchange rate peg vis-à-vis low inflation currencies, wages in the exposed sector have to adjust downwards for the country to remain competitive. Solidarity among trade unions transforms the wage behaviour to the sheltered sector of the economy, ensuing price stability in the sheltered sector. This line of argument also emphasizes the crucial role of "incomes policy": rather than through increased unemployment, *cooperative* behaviour of the social partners achieves the required downward adjustment of wages and prices. This "*consensus*" policy is supported in Austria by the traditional system of "social partnership" and the general climate of social peace (supported by traditionally low unemployment rates). In game theory terms, the social partnership system may be interpreted as an institutional framework to achieve cooperative solutions and thus to overcome the usual time inconsistency and commitment problems associated with non-cooperative policy games. Such cooperative behaviour depended crucially on the will to overcome the negative historical experience of extreme political divisions in the country during the interwar period and on a handful of leading personalities in the relevant institutions.

In sum, the policy mix of "Austro-Keynesianism" (a catchphrase used in the late 70s/early 80s) comprised an orthodox monetary policy anchored externally through the hard currency approach, a demand-oriented fiscal policy geared towards full employment, a cooperative incomes policy agreed upon between the social partners, and some elements of growth-oriented supply side measures.

Structural arguments were used both by the advocates and opponents of the hard currency policy: while the former argued that the revaluations provided an incentive for Austrian exporters to increase efficiency, the latter criticized the asymmetric strain on the exposed sector of the economy, while outdated structures in the sheltered sector remained unchanged.

While Austro-Keynesianism was increasingly criticized and ceased to play its former role as a policy framework from the second half of the 80s on, the hard currency strategy was maintained.

From the second half of the 80s, the central bank's major lines of reasoning in favour of the "schilling's orientation towards stable currencies, in particular the DM", relied *both* on the optimum currency area argument for a small open economy *and* on the benefits of an easy-to-understand nominal exchange rate rule for the "stabilization of positive

expectations". The former argument was usually supported by simple trade pattern considerations. The stabilization-of-expectations argument was seen broadly to refer to domestic price and wage developments, investment decisions, export receipts, and foreign exchange and financial markets. With a view to accession to the EU and the future European monetary union, the fixed exchange rate policy got the additional dimension of being the ideal preparation for the future monetary regime. The following sections deal with these three lines of reasoning in more detail. Before going into these details, however, let me point out some relevant aspects of the international and national financial markets framework within which the hard currency approach was established and pursued.

3.2. International capital movements, institutional features of Austrian financial markets, and the interest rate transmission mechanism

– The gradual liberalization of capital movements in the 80s

The early 70s were marked by foreign exchange market turbulences surrounding the breakdown of the Bretton-Woods system. To counter massive capital inflows and the resulting problems in steering domestic liquidity, recourse was taken to a re-regulation of capital movements.

Later on, in the early 80s, foreign exchange legislation was interpreted by the OeNB in an increasingly liberal way again. Starting from 1986, exchange controls were gradually liberalized. Full liberalization was reached on 4 November 1991 (cf. Annex1).

Liberalization was pursued cautiously and accompanied by the modernization of the domestic financial system (cf. below). These steps and the two tax reforms of 1989 and 1994, slashing corporate tax rates and abolishing property tax, aimed at improving Austria's attractiveness for domestic and foreign investors.

As a result, the full liberalization of capital movements had no negative impact on the capital account : the capital account remained balanced or positive over the last ten years. However, in 1992 and particularly in 1993, triggered by the ERM turbulences, the traditional pattern of long-term capital exports which were, refinanced through short-term capital imports was reversed. Foreign investors' purchases of Austrian bonds, denominated both in foreign currency and in

schilling, increased dramatically, while Austrian investors' purchases of foreign securities stagnated (they had risen in previous years). A brief speculative attack against the schilling in August 1993 was successfully countered, with only moderate intervention volumes and short-term interest rate rises involved⁴); since then, international capital inflows to Austria have boosted foreign reserves to historical highs.

– *The liberalization of domestic financial markets*

To counter inflationary pressures at the beginning of the 70s, the central bank resorted to its traditional instruments: minimum reserve ratios were increased, credit ceilings in terms of growth of deposits were curbed in several steps, open market operations were employed to drain liquidity, the above-mentioned foreign exchange control measures directly limited capital imports, and discount and lombard rate rises signalled the central bank's policy stance. From 1973 onwards, ceilings formulated in terms of credit growth itself became increasingly important and played a major role in the mid and late 70s. Formally being voluntary "gentlemen's agreements", sanctions in the case of non-compliance, in particular a cut-off from the central bank's refinancing facility, rendered this "*Limes*" arrangement highly effective. Apart from banks (including building societies), insurance companies were also covered by the system of gentlemen's agreements. Consumer credits were treated more restrictively than commercial credits, following structural considerations (current account, favouring investment over consumption) but also consumer protection arguments; the latter aspect was also reflected in an advertising ban on consumer credits.

During the 70s, interest rate policy was not yet conceived to be subordinated to exchange rate policy. Long-term nominal interest rates were supposed to be sheltered from short-term market influences. Technically, this policy of "relatively constant nominal interest rates" was pursued by steering the liquidity supply to commercial banks in such a way as to influence banks' domestic bond purchases.

4) The attack was triggered by ill-founded rumours on international financial markets about a schilling weakness. The central bank deliberately refrained from compensating the foreign exchange outflows resulting primarily from banks' hedging operations. The resulting liquidity squeeze on the schilling market made the overnight rate rise temporarily (12 August 1993) to 15 % (from 6.7 % the previous day). After the central bank had sold about DM 2.5 billion at unchanged rates and after it had issued public statements with a firm commitment to the Bank's traditional monetary course, foreign exchange inflows set in the same day. The call money rate went down to 8 %, and by 20 August the original level (6.7 %) was reached again (cf. PECH (1994)).

Considerable losses of foreign reserves in 1979 caused the Bank to abandon this policy, however.

While for a long time money supply had been primarily steered via the central bank's foreign exchange transactions, the liquidity supply through refinancing and open market operations played an increasingly important role towards the end of the 70s. In providing special rediscount and open market lines for the financing of investment and exports, the central bank also pursued structural aims. In line with developments in other countries, the 80s were characterised by a move towards market-oriented monetary policy instruments. Credit ceilings were abolished in 1981. In the course of the past decade, repos have become the major vehicle of domestic liquidity steering. By contrast, the relative importance of the structural "selective" lines of liquidity supply declined. Discount and minimum reserve policy continue to form a "steady base" on which the more flexible open market instruments operate.

The liberal Banking Act of 1979 led to a strong expansion in banks' branch networks, boosting competition and squeezing banks' interest margins and profitability to very low levels by international standards. This development prompted a re-regulation move in the Banking Act of 1986. While the law focused on supervisory aspects (such as increased capital adequacy ratios, rules on maximum exposure etc.), it also provided for the possibility of agreements between banks on deposit rates. In practice, gentlemen's agreements between banks also covered lending rates. These agreements expired in the late 80s/early 90s; the new Banking Act of 1994 no longer mentions them. The European Economic Area has opened up the financial services market to Europe-wide competition.

– *Features of the interest rate transmission process in Austria*

Pech (1994) shows that the interest rate transmission mechanism in Austria is restricted by several factors:

- a high degree of bank intermediation and a small role for the capital market (in line with the tradition of "universal banking"). Capital markets for a long time were hardly developed, access to the bond market was restricted, the stock market was insignificant. Both foreign investment in Austrian securities and Austrian purchases of foreign securities were marginal. This changed in the mid-80s. The stock market boom of 1986 drew sudden attention to this form of financing; in 1987 the Government started issuing its bonds through

market tenders. New stock market and capital market legislation (1989 and 1991) deregulated the domestic capital market while tightening prospectus and reporting requirements according to international standards. The 1993 amendment to the Stock Exchange Act tightened insider regulations, improved the supervision of trading and extended the liability for information provided in the prospectus. A futures and options exchange was set up in 1991. Cross-border transactions in securities have strongly increased in recent years. Nevertheless securitized lending and borrowing still play a less important role than in many other industrialized countries;

- the predominance of small and medium-sized businesses and the limited importance of joint-stock companies. The primary sources of finance for enterprises are therefore internal financing from cash flow and bank credits;
- the - by international standards - comparatively low indebtedness of private households (though rising in the last years). Private indebtedness in terms of GDP reached 36% at the end of the 80s, compared to over 70 % in "high-debt" countries such as the US, the UK or Norway. Furthermore, almost two thirds of household indebtedness can be attributed to housing financing, which to a large extent is granted at preferential terms;
- the importance of subsidized credits. Credit subsidies of various forms have traditionally been used as a tool of structural and social policy in Austria. In 1988, 42 % of all outstanding credits were in some way or another subsidized (cheaper interest, guarantees etc.). However, the share of subsidized bank credits in total bank credits fell from 28 % to 24 % between 1988 and 1991. In 1991, 47 % of all bank loans extended to industry and 11 % of bank credits to small-scale industry and crafts were subsidized. At present, almost three quarters of all housing credits are subsidized or granted in the form of 6 % fixed-rate building society loans (to make such low rates possible, building societies take deposits at relatively low interest rates which carry a bonus by the state, thus raising the interest to a level acceptable for depositors);
- the predominance of lending oriented towards some long-term benchmark interest rate and of fixed-rate lending over money market-oriented lending.
- a low interest elasticity of investment and consumption. Estimates of investment and consumption functions show that interest rates contribute little to explaining investment decisions and private consumption in Austria. The main influences on investment activity appear to be sales and earnings expectations (dependent on the general economic climate) and the existing capital stock and its utilization. For (non-housing) consumer credits, "non-

price" factors such as banks' advertising activities have considerable impact on credit demand; compared to (expectations of) income, changes in lending rates do not have a strong influence on private households' propensity to consume⁵).

These factors contributed to the apparent robustness of the real economy with respect to short-term interest rates.

It should also be emphasized that the hard currency approach itself has markedly influenced the framework determining the interest rate transformation process in Austria. In particular, by establishing a credible exchange rate peg to the DM and thus achieving (near) zero interest rate differentials against the anchor currency, Austria managed to import Germany's exceptionally stable - by international comparison - real and nominal interest rates. In this way, the sometimes perceived policy dilemma - protection of an exchange rate goal entailing larger interest rate fluctuations - did not materialize in the case of Austria. For investors, the stable monetary framework implied by the exchange rate peg may have made (the already comparatively modest) interest rate fluctuations more acceptable as merely "transitory" episodes in the long-term stability-oriented framework.

3.3 The hard currency policy and the theory of optimum currency areas

- *Analytical framework*

To what degree was the DM-peg in line with the traditional notion of an optimum currency area (OCA)? The OCA literature⁶) seeks to answer the question under which conditions the abandonment of the option of changing the nominal exchange rate involves no macroeconomic costs. Basically, the answer is that (1) countries should not be too different in terms of exposure to asymmetric shocks, their economic structure (and thus reaction to even symmetric shocks) and productivity growth. Any such differences may call for temporary or permanent adjustments in relative factor prices. (2) Therefore, adjustment mechanisms must be in place insofar as such differences exist. If the nominal exchange rate is not

⁵) For more details on institutional features and empirical data on all the above points cf. Pech (1994).

⁶) The pioneering articles on the theory of optimum currency areas are Mundell (1961), McKinnon (1963), Kenen (1969), and Tower and Willett (1979).

available (due to a monetary union), the adjustment may occur through the mobility of factors of production (capital and labour) and/or real wage flexibility.

This analysis has been criticized on several accounts. (1) The empirical literature does not support the OCA theory's implicit assumption that exchange rates are driven by (real) unexpected demand shocks, with the theoretical foundation of this assumption also being controversial. In fact, floating exchange rates correspond more or less with the notion of a random walk. (2) Among countries with diversified production structures (i.e. the OCA theory's "one country - one good" assumption is not satisfied), the nominal exchange rate can only incompletely correct inadequate relative prices. (3) Given that domestic wages and prices are likely to react to a devaluation, the nominal exchange rate is unlikely to alter *permanently* the real exchange rate. In other words, the only relevant issue is how much can be won in terms of smoother adjustment dynamics by using the nominal exchange rate tool. (4) The mere availability to politicians of discretionary nominal exchange rate changes is bound to entail welfare costs suggesting that the tool should be abandoned altogether (cf. the discussion on rules versus discretion and the time-inconsistency theory)⁷⁾ (5) Real demand shocks (the kind of shocks that the OCA literature deals with) are over-emphasized. It is predominantly monetary shocks that drive exchange rates. Lifting monetary policy above the sphere of nation states reduces the influence of national policy-makers, eliminates the problems of asymmetric monetary shocks (speculative attacks, inadequately restrictive monetary policies aggravated by risk premiums within a system of adjustable rates), and increases the efficiency of monetary targeting and monetary policy instruments (cf. Bofinger (1994) for points (1), (2) and (5) and De Grauwe (1992), Ch. 2, for points (3) and (4)).

A word should also be said about the role of policy preferences, which are sometimes included among the OCA criteria (e.g., short-term inflation/unemployment tradeoff, a different reliance on the "inflation tax" - cf. e.g., De Grauwe (1992)). Under the assumption of a vertical long-term Phillips curve, the choice between unemployment and inflation does not exist in the long run. Unemployment and growth are determined by the real side of the economy and not through a deliberate choice by policy-makers between inflation and unemployment. Only the short-run adjustment dynamics are subject to policy choice. It is here where policy preferences may play a role. The preferences of the public and/or policy-makers determine how "painful" (in terms of transitory lower

⁷⁾ The argument is that the economy's supply side is affected by expectations about economic policy. The expectation of an accommodating exchange rate policy may induce trade unions to set wage increases without regard to competitiveness. The need for the exchange rate tool may thus become self-generating by its mere existence.

growth or permanently higher inflation) an adjustment process is after an asymmetric shock. To give a simple example, a 2 percent inflation due to a continuation of a DM peg after German unification may be viewed as an unbearable burden by a country whose electorate would easily trade in another four or five percentage points of inflation for lower unemployment. It may be viewed as a welcome enhancement of the stability-oriented policy stance by another country. The first country will thus feel "asymmetry" (for example, of the ERM) much more strongly than the second country. Such differences in preferences may thus affect the costs of monetary union through various channels. Either directly through a (short-term) choice of unemployment/inflation deviating from the country's preferences; or through higher adjustment costs (due to more sticky wages or more likely time inconsistency problems for policy-makers).

Against these diverse theories, the Austrian case will be analyzed in a two-step approach. First, the Austrian economy is checked for the traditional criteria of an optimum currency area. To the degree that the OCA criteria should not (or only partly) be fulfilled, other explanations for the working of the hard currency approach will be explored along the lines of the credibility and time inconsistency literature. Chapter 4 will finally refer back to Bofinger's (1994) arguments.

- *Symmetry of shocks*

Hochreiter/Winckler (1994) show that throughout the 70s and 80s shocks continued to hit the Austrian economy asymmetrically relative to Germany. Their empirical evidence (cross section correlation analysis over 20 industrial branches in Austria and Germany) shows no apparent trend over time towards more symmetric shocks. The authors themselves qualify their results, however, due to data problems and limited statistical significance (an earlier version of their paper had found significantly increased symmetry of shocks in the 80s compared to the 70s). (Cf. Table 1.)

Table 1: Shocks affecting the Austrian economy 1973-1993

Year	Event	Type of shock
1973/74	First oil shock	Symmetric, permanent, negative supply shock
1975	Wage hike (unit labor costs)	Predominantly asymmetric, permanent, positive demand and negative supply shock
1978	Restrictive current account policy package	Asymmetric, temporary, negative demand shock
1979/80	Second oil shock	Symmetric, permanent, negative supply shock
1980-82	Fiscal shock	Slightly asymmetric, temporary, positive demand shock
1980-81	Wage restraint (unit labor costs)	Asymmetric, permanent, positive supply and negative demand shock
1982-83	Debt crisis	Predominantly asymmetric, permanent, negative demand shock
1983-85	Crisis of nationalized industries	Asymmetric, permanent, negative supply shock
1989	German unification	Predominantly asymmetric, temporary, positive demand shock; negative monetary shock

Source : Hochreiter/Winckler (1993, 1994); adapted.

Judging from the increased openness of the Austrian economy, one might still argue that shocks have become more symmetric over time. Intensified intra-industry trade between Germany and Austria is documented by the example of the Austrian sub-contracting industry for the German car industry: by 1992 exports of car components accounted for 85% of Austrian car imports (compared to virtually nil in the early 70s). Inter-regional bilateral trade flows also increased significantly over time. The ratio of exports and imports to GDP rose from 19% and 26% respectively in 1973 to 24% and 29% respectively in 1992. The share of Germany in Austrian exports and imports rose from 23% and 42% to 40% and 43%. For a broader DM-zone including France and the Benelux countries, export and import ratios reached 49% and 53% respectively (cf. Hochreiter/Winckler (1994) and for further details Table 2). The openness of the Austrian economy vis-à-vis the

European "hard currency" bloc and in particular vis-à-vis Germany implies a rapid and almost complete pass-through of import prices on domestic prices, suggesting very short, if any, transitional benefits from nominal exchange rate adjustments.

Table 2 : Shares of exports and imports in total Austrian exports and imports (%)

Exports	1960	1965	1970	1975	1980	1987	1992
EU	50.3	46.7	39.4	44.2	54.4	63.4	66.1
Germany	26.8	28.6	23.4	21.9	30.8	34.8	39.8
EFTA	13.2	18.4	26.6	15.3	12.4	11.1	8.7
OECD	72.4	73.6	74.9	66.1	72.6	81.2	80.0
Economies in transition	13.7	15.3	12.9	17.1	12.1	9.0	11.6
Rest	13.9	11.1	12.2	16.8	15.3	9.8	8.4
Imports	1960	1965	1970	1975	1980	1987	1992
EU	56.5	59.2	56.1	62.3	62.2	68.0	68.0
Germany	40.0	41.8	41.2	40.0	40.8	44.2	42.9
EFTA	12.2	14.9	19.6	10.6	7.9	7.8	6.9
OECD	79.3	81.3	82.1	79.2	77.4	84.5	84.6
Economies in transition	11.2	10.8	9.4	10.2	9.7	6.8	7.3
Rest	9.5	7.9	8.5	10.6	12.9	8.7	8.1

Source: Pointner/Schneider (1994), p. 50.

- *Mobility of factors of production*

Capital mobility increased from the mid-80s onwards (cf. Annex 1). Legal restrictions on labour mobility between Austria and the European Union were abolished as late as 1994 (start of the European Economic Area).

Supported by the centralized wage-bargaining process and the long tradition of cooperative solutions within the framework of social partnership, real wages

reacted flexibly, facilitating adjustment processes required by the hard-currency framework. Statistical tests quoted in Hochreiter/Winckler (1994) show that between 1961 and 1992 wages in Austria reacted negatively to increases in unemployment and positively to changes in German wages. Knöbl (1990) examined the development of unemployment in the "hard currency countries" Austria and the Netherlands and in the "soft currency countries" (at the time) Denmark and Sweden. Unemployment having been considerably lower in Austria and Sweden than in Denmark and the Netherlands, he concluded that the reason for the favourable situation in Austria was the high degree in real wage flexibility.

- *Real exchange rates and economic fundamentals*

Another test sometimes used to evaluate (ex-post) the existence of an optimum currency area is whether real exchange rates could be kept stable over time without other economic variables (such as unemployment or the current account) fluctuating widely compared to the anchor country.

Hochreiter/Winckler (1994) calculated the variability of the monthly index of the Austrian schilling real exchange rate against the DM and compared it to those of EC and EFTA currencies. Their results show that in the period January 1980 to March 1987 real exchange rate variability of the schilling was considerably lower than for most other countries; but still higher than those of the Netherlands and Denmark. Between April 1987 and August 1992 (the period of the "hard" EMS), the schilling had by far the lowest standard deviation of bilateral real exchange rates against the DM, followed fairly closely by Ireland, France, the Netherlands, Belgium and, a bit behind, Denmark. The conclusion is that, even compared to the core candidates for a monetary union, Austria has come closest to forming an optimum currency area with Germany.

Economic fundamentals moved largely in line with the anchor economy. As mentioned earlier, the setting of wages and unit labour costs underwent a learning process between the 1970s and 1980s. Budgetary policies produced deficits from the mid-70s onwards, but consolidation efforts made time and again kept deficits and the debt in comparatively reasonable areas. The budgetary consolidation programme of 1986 brought a considerable tightening but was suspended in the early 90s due to the recession. The current account reflects the collective learning process by wage-setters and fiscal policy-makers. After considerable deficits in 1976 and 1977 (triggered by the expansionary reaction to the first oil price shock), it was roughly balanced throughout the 80s, both in times of low and high growth (cf. Annex 5).

Concerning the most recent developments, one might, with the benefit of hindsight, argue that fiscal policy ought to have remained more cautious in 1992 to 1994. Revised growth figures show that in the end the Austrian recession turned out to be a mere slowdown, while inflation was - although low - persistent and the current account showed rising deficits. Wage growth continued on the traditionally cautious path.

- *Summary*

In sum, the results suggest that the DM-peg of the schilling satisfied the criteria of an optimum currency area better in the late-80s and early-90s than at the start of this policy in the 70s. This was mainly due to increased inter- and intra-regional trade with the anchor area and to the "learning process" undergone both by wage setters and by the government (fiscal stance, structural measures). Asymmetric shocks continued to hit the Austrian economy. What changed was the way the economy and the players of economic policy responded to shocks.

It also seems evident that the causal relationship between the hard currency policy and the convergence of economic fundamentals and economic policy worked both ways: the DM-peg would probably not have been sustainable without a certain degree of closeness between the economic structures, economic policy preferences and continued convergence efforts by Austria. Conversely, the exchange rate "corset" itself supported and accelerated the evolution of the features of an optimum currency area through the influence on expectations relevant for wage-setting (cf. Hochreiter/Winckler (1993), pp. 5-9) and through the pressure on the government for structural measures and budgetary restraint.

It also appears that similar policy preferences contributed to "symmetry" and thus facilitated cooperative decisions - even under short-term horizons - in line with the exchange rate peg. This question is treated in more detail in the next section.

3.4 Credibility

Austria may be seen as an early pioneer of the economic ideas underlying the EU's "hard ERM" of the late 80s⁸). The above considerations showed that with respect to the satisfaction of the OCA criteria a "learning process" took place. This section takes a closer look at the factors underlying this learning process in Austria. For this purpose, it considers the institutional set-up of the Oesterreichische Nationalbank and the exchange rate peg from two perspectives: first, as the expression of broadly supported long-term policy preferences; second, as a "rule" and signalling device to stabilize expectations and reduce problems of time inconsistency.

- *Central bank independence, the hard currency approach and policy preferences*

Policy preferences are hard to measure *ex ante*. Taking the institutional set-up for monetary policy as an indicator, one observes a high degree of similarity between Germany and Austria. This does not come as a surprise, given the similarly devastating experience of hyperinflation in the 20th century. In quantitative comparisons of central bank independence, the Oesterreichische Nationalbank usually figures among the most independent central banks of the world⁹ (cf. Table 3). Its primary objective is to ensure with all the means at its disposal that the value of the schilling is maintained with regard both to its domestic purchasing power and to the relationship with stable foreign currencies. The OeNB enjoys full functional independence, and its managers a high degree of personal independence. (For more details see Annex 3).

⁸) The "technical" or "institutional" set-up of a unilateral peg is of course fundamentally different from an ERM-type agreement with explicit bands and mutual intervention obligations.

⁹) Cf. Grilli/Masciandaro (1991), Cukierman/Webb/Neyapti (1992) and Cukierman (1992).

Table 3 : Quantitative measures of central bank independence

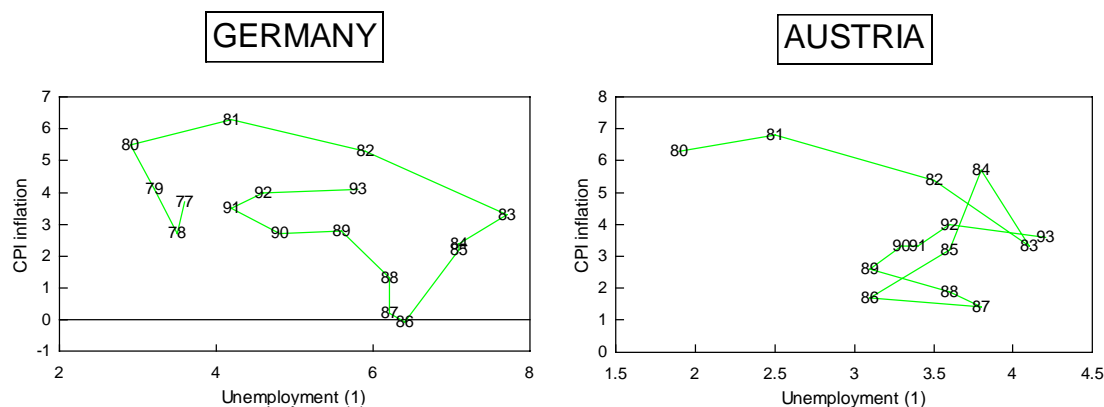
Source	Criterion	Max.	Min.	Value for OeNB	Value for Bundesbank
Cukierman/Webb/Neyapti (1991)	Legal independence	1.00	0.00	0.61	0.69
Cukierman (1992)	Overall legal independence	1.00	0.00	0.58	0.66
Grilli/Masciandaro/Tabellini (1991)	Political independence	8	0	3	6
	Economic independence	7	0	6	7

It should be emphasized, though, that the Bank is designed in line with the system of social partnership, as is evidenced by its ownership structure and the composition of its decision-taking bodies. Its aim is thus to achieve consensus solutions rather than to impose decisions upon the country and to exploit its full theoretical scope of independence.

In fact, the hard currency approach may be viewed as a reflection of this consensus approach. While monetary policy is the exclusive competence of the independent central bank, responsibility for exchange rate policy is shared between Government and central bank. The hard currency approach thus avoids potential conflicts on monetary policy by reaching agreement¹⁰⁾ at a "higher" policy level (given a fixed exchange rate regime, monetary policy becomes endogenous).

Ex post, the empirically observed inflation/unemployment development may give some idea of preferences. Fig. 1 suggests that over the last two decades Austria, when making a choice between inflation and unemployment, had a slight but consistent tendency towards lower unemployment and slightly higher inflation than Germany. However, the consumer price index includes price developments both in the traded and non-traded sectors, while the price developments relevant to international competitiveness are those in the traded sector. Since inflationary pressure in Austria tended to stem rather from the non-traded sector, the graphs overstate any competitive problem. Use of other price indices such as unit labour costs produces a more favourable picture.

¹⁰⁾ Between government, central bank and, in line with the Austrian tradition, the social partners.

Figure 1 : Unemployment/inflation trade-off in Germany and Austria

Source: OECD Economic Outlook
 (1) Standardised unemployment rates

- *The hard currency policy as a rule and signalling device*

Hochreiter/Winckler (1994) have emphasized the benefits of the hard currency policy as a simple policy rule acting as a "focal point" for the Austrian economy. They model a policy set-up based on game theory under which changes in the original policy stance (e.g. in reply to a shock asymmetrically hitting the Austrian economy) result in costs (a risk premium on the real interest rate). Under these circumstances, if only the potential risk premium is assumed to be sufficiently high, the central bank finds it nearly always optimal to pursue its initial policy. In this set-up, the best response to a negative supply shock is to stick to the nominal exchange rate rule (and thus avoid the risk premium on the real exchange rate) and instead rely on the real wage flexibility of the trade union to restore the equilibrium unemployment output level. The success of this strategy, which reduces the macroeconomic costs of disinflation, apparently depends crucially on the "responsible", i.e. cooperative, behaviour of the trade union. All the central bank can do is to pursue the "technical" job of anchoring the currency and act as a "bad conscience" vis-à-vis trade unions and fiscal policy-makers (cf. Hochreiter/Winckler (1994), pp. 10-15).

This still leaves the question open of how the central bank initially managed to convince the public of its commitment. Looking back at the first years of the hard currency policy, one of the major tools that the central bank employed were revaluations beyond PPP to crush inflation. This was done both at the very start (1974 - 4%) and finally in 1979/80 (all in all 4.5%) when the soaring current account deficit of 1977 and inflation rates persistently above German rates led

international experts to recommend a devaluation. Instead, the schilling was again revalued against the DM¹¹). These revaluations may be interpreted as an application of the theory of signalling, whereby initially unduly harsh policies serve to signal determination to opt for a rule-based policy approach. Once expectations have adjusted, the initial real appreciations may disappear.

- *When was credibility achieved?*

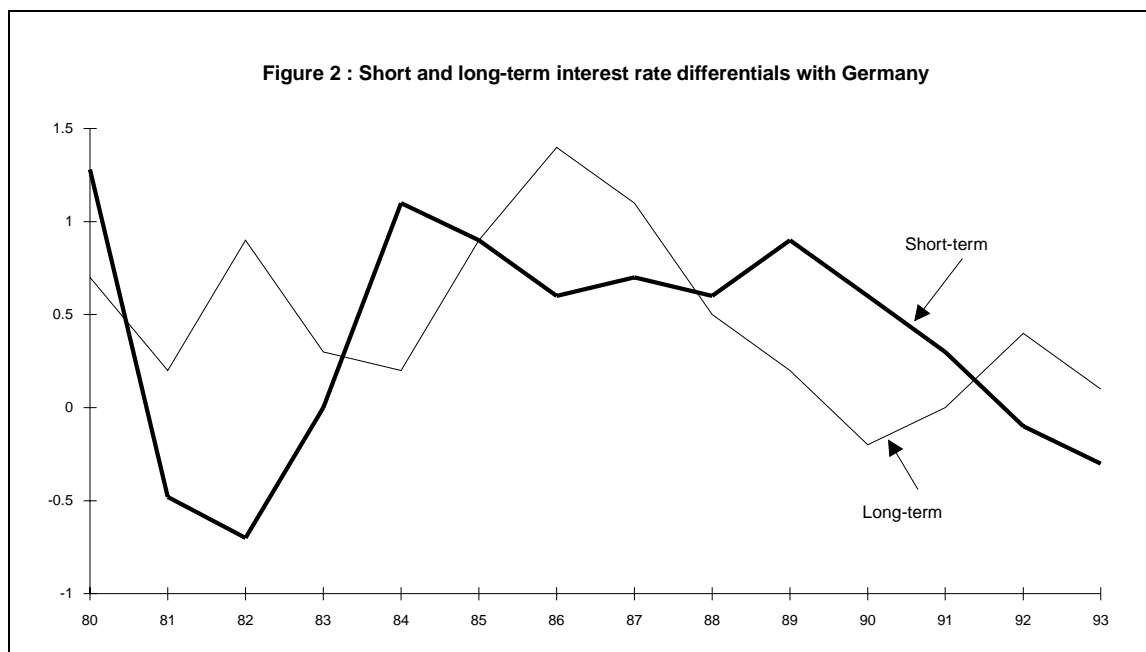
How long did the DM-peg of the schilling take to become "credible"? Judging from real wage behaviour, one could argue that this was the case from 1979 onwards. As pointed out above, in the Austrian case the trade union itself was one of the main supporters of the hard currency policy. Thus, "credibility" of this policy was by definition easier to establish than in the case of a trade union opposing such a policy. Still, the trade union's *internal* bargaining process over wage demands was helped by the price-dampening "signal" of the 1979-80 revaluation.

Interest rate differentials are a second indicator for the credibility of the exchange rate target. Calculations by Brandner (1990) and De Haan et al. (1993), following the methodology of Svenson (1990), indicate that an assumed¹²) chosen exchange rate band between 7.01 and 7.06 schillings per DM became credible around 1988/89 or earlier¹³). The significance of such calculations has to be qualified, however, for two sets of institutional reasons: on the one hand, the illiquidity and lack of issuing activity on the Austrian bond market for a long time distorted Austrian bond market interest rates upwards, thus leading to an underestimation of "credibility" of the exchange rate policy; on the other hand, capital controls on the short end of the market were abolished only in the second half of the 80s, potentially distorting calculations based on short-term money market rates in favour of credibility.

¹¹) The short sign of "weakness" in 1978 - a 1% devaluation - was mentioned above.

¹²) Contrary to these assumptions, the band in fact pursued by the central bank was considerably narrower (up to 1 schilling per 100 DM) and subject to slight shifts over time.

¹³) Based on 12-month money market interest rate differentials: 1988; bond market 4 years and longer: 1989; one-month to six-month money market: well ahead of 1985 (Brandner's calculations start in 1985 only).



De Haan (1993) found some (weak) empirical evidence, based on very simple "sacrifice ratios"¹⁴⁾, that the increased credibility of the DM-schilling peg contributed to reducing the (unemployment) cost of disinflation in the period 1987-1991 compared to the period 1983-86. Fig. 1 suggests that in the early 80s inflation could be brought down considerably with very little cost in terms of unemployment.

4. Austria and European monetary integration

4.1 Stage Two of EMU

The OeNB has made clear that it intends to participate in the ERM as early after EU accession as possible (i.e. as soon as agreement on the entry conditions, in particular the schilling's central rates, has been reached). The ERM is regarded by the central bank as an important instrument for monetary stability in Europe, since it contributes to economic policy discipline (cf. Schremser (1994)). But the Bank has also emphasized that participation in the ERM will in no way affect the hard currency policy, which will be pursued without change.

¹⁴⁾ Defined as the change in average unemployment over two 5-year periods divided by the change in average inflation during the same periods.

The minutes of the accession conference include a joint declaration on the exchange rate convergence criterion, saying that

"in making an assessment in relation to the criterion on participation in the exchange rate mechanism of the European Monetary System for an acceding country which has not been a member of the exchange-rate mechanism for two years because of the timing of the accession, the full record of exchange rate stability of that country's currency vis-à-vis the exchange rate mechanism currencies during the last two years' period will be taken into account in a manner which is neither more nor less favourable than that applied to the currencies of the members of the exchange rate mechanism" (cf Hauser-Gerharter (1994)).

This provision shall guarantee that an acceding country, for the simple reason that it was not a member of the EU (and therefore of the ERM) two years ahead of the examination of convergence in the Commission's and EMI's reports to be prepared in 1996, cannot fulfil the ERM convergence criterion. For the "missing" time span before accession, the de-facto exchange rate stability of the currency will be considered.

Like all other Member States, Austria will be subject to the convergence conditions for participation in the third stage of EMU. The strict economic entry conditions are in line with the Austrian conviction that economic fundamentals must be right for monetary union to work. Table 4 gives an overview of the current state of convergence in comparison with EU Member States and the other candidate economies. It shows that Austria for the moment does not fulfill the government finance reference values. That implies that after accession an excessive deficit procedure according to Art 104c TEU might be initiated (as has recently been the case for ten out of the 12 EU Member States). Austria may be expected to present a multiannual convergence programme outlining how it intends to bring the deficit down. The inflation criterion is currently narrowly missed. As for long-term interest rates, an indicator of long-term credibility as perceived by financial markets, Austria is among the best-performing countries.

Table 4 : Convergence criteria and actual performance in 1993*

	Inflation (1) (%)	Long-term interest rates (2) (%)	Sustainability of government financial position			
			Council Decision on the existence of an excessive deficit	General government net borrowing(3) (% of GDP)	General government gross debt (4) (% of GDP)	
	Average Sept. 93 - Aug. 94	Average Sept. 93 - Aug. 94		Level 1993**	Level 1993**	% change from 1992
B	2.6	7.3	Yes	7.0	142.2	5.3
DK	1.8	8.1	Yes	4.4	79.9 (a)	16.1
D***	3.4	6.1	Yes	3.3	48.9	9.2
GR	11.4		Yes	16.3	145.2	31.8
E	4.8	8.9	Yes	7.3	55.9	16.0
F	1.9	6.7	Yes	5.9	43.9	11.4
IRL	2.0	7.5	No	2.2	96.1	2.9
I	4.2	9.8	Yes	9.5	118.3	9.3
L	2.7	6.5	No	-1.4	6.8	17.2
NL	2.8	6.7	Yes	2.9	81.2	1.9
P	5.9	10.7	Yes	7.1	66.6	7.9
UK	2.2	7.6	Yes	7.7	48.2	15.6
EUR12	3.3	7.4	..	6.0	65.9	8.4
A	3.6 (b)	6.7 (b)	..	4.6	62.2	..
FIN****	3.7 (b)	8.4 (b)	..	8.0	65.0	..
N	0.9 (c)	6.5 (b)	..	2.7	50.0	..
S	4.6 (b)	8.6 (b)	..	13.4	74.0	..

* Tentative presentation of figures which are not yet harmonized. The final definitions of the convergence criteria as embodied in the Maastricht Treaty are still under discussion. Excluding criterion on observance of normal ERM fluctuation margins.

** Economic Forecasts, Spring 1994. Figures are estimates and forecasts made by Commission staff using the definitions and latest figures available from national sources.

*** Unified Germany, except for inflation where data refer to West Germany.

**** For 1994, the forecasts are : inflation 1.7 %; long-term rates 6.5 %; general Government net borrowing : 5.7 % of GDP.

(a) The amount of government deposits with the central bank, government holdings of non-government bonds, and debt linked to the financing of public enterprises is 27.3 % of GDP in 1993.

(b) Average 1993.

(c) April 1993 - April 1994.

Source : European Commission Services.

Accession to the EU also means that the new rules on budgetary discipline through enhanced market forces come into effect in Austria. These include the prohibition of central bank credit to the public sector (Art 104 TEU), the ban of privileged access of the public sector to financing from financial institutions (Art 104a TEU) and the "no bail-out principle" (Art 104b), which says that no Member State or the Community shall be liable for the debt of another Member State. These provisions largely correspond to Austrian rules and practice so far. In particular the prohibition of monetary financing is one of the cornerstones of the Austrian central bank's independence. However, some minor amendments may still be required to establish full compatibility with EU law.

After its long-standing reputation of unilaterally pursued stability-oriented policies, Austria now faces the challenge of building on this reputation to position itself as a country defending stability in the joint decision process within the EU and through its own example. In fact, Austria has started this era already through a declaration included in the Treaty of Accession. It says, among other things, that

"Austria shall continue to maintain the stability policy of the schilling and in this way contribute to the realization of Economic and Monetary Union. The transition in stages to a single European currency is supported by Austria because the quality of the planned European currency is safeguarded by the preconditions in terms of stability policy contained in the Treaty on European Union."

4.2 Stage Three of EMU

A number of studies in recent years have sought to resolve empirically the question of which European (EU and EFTA) countries come closest to forming an optimum currency area. Table 5 shows clearly that in most studies Austria figures among the core group of EMU candidates. Given the results of Chapters 3 and 4.1, this comes as no surprise: on the whole, the groupings reflect the ERM "hard core": two decades of DM-peg implied the "hardest" form conceivable of "ERM shadowing", even well ahead of the ERM's existence.

Table 5: Empirical studies on a European optimum currency area

Reference	Methodology/criterion	Time period covered	Core countries
Baldwin et al. (1992)	correlation of growth	1961-91	B, D, F, IT, A, SW, UK
Sardelis (1993)	correlation real growth; divergence correlation real and nominal growth	1972-91	EU + A
Tarkka/Akerholm (1992)	divergence of real growth EC-EFTA aggregate production	1973-90	D, F, NL; B, A
Bayoumi/Eichengreen (1990)	macromodel with nominal wage rigidity in the short run (distinction supply and demand shocks)		B, D, DK, F, NL; A; SW
Assarsson/ (1993)	macromodel similar to Bayoumi/ Eichengreen (1990) plus international shocks	..	B, D, F, NL, A; SW
Sardelis (1994)	Various criteria – Trade integration (intra-regional and intra-industrial trade) – Inflation correlation within the "hard core"	1982-93	B, D, DK, F, IRL, A, SW B, D, F, NL, A

Calculations by Sardelis (1994) on the cyclical co-variability of real GDP in Austria, Finland, Norway and Sweden vis-à-vis the Community for the period 1972-1991 show a - comparatively - very high correlation coefficient (0.72) for Austria (for Finland, Norway and Sweden the values were 0.47, 0.24 and 0.34 respectively). This suggests a high degree of synchronization between the Austrian economy and the EU, indicating little need for compensatory exchange rate policies due to cyclical divergencies.

It is also interesting to note that nominal GDP correlations for Austria, calculated in the above study, showed virtually the same value (0.68) as real GDP. The close correlation of real growth *and* prices may be interpreted as implying similar policy preferences (unemployment/price tradeoff) in Austria and the Community. This is further confirmed by inflation correlations between Austria and the ERM "hard core".

	S	D	F	B	DK	NL	A
S	1						
D	0.42	1					
F	0.45	0.96	1				
B	0.46	0.88	0.91	1			
DK	0.24	0.75	0.68	0.50	1		
NL	0.48	0.94	0.90	0.83	0.60	1	
A	0.25	0.83	0.83	0.80	0.50	0.84	1

1) Adjusted for trends

Source: Sardelis (1994)

It was shown in Ch. 3.3 already that Austria's main trade relations are with the EU and EFTA countries. The establishment of EMU will imply the elimination of exchange rate risk in a potentially larger number of trade partners (assuming that at least the present ERM "hard core" countries will participate from the start). This should in turn trigger dynamics enhancing trade, financial and labour market integration, bringing the Union further towards an OCA.

Figure 3 : Integration of trade



The long-term "convergence training" following from the hard currency policy and the achievement of central bank independence back in 1955 also implies that a stability-oriented monetary union within the Maastricht framework coincides closely with Austrian policy preferences in the past. Thus, compared to a number of EU or EFTA countries, Austria should face very small if any adjustment costs (in terms of a required change in policy preferences or necessary disinflationary policies to satisfy the convergence conditions).

All these considerations reaffirm that for Austria the emerging European monetary union should come close to the notion of an optimum currency area. So the macroeconomic costs of monetary union for Austria should be small. What are the benefits?

Firstly, all the well-known arguments of savings in transaction costs and the benefits from stable exchange rates apply. No further discussion of these issues appears necessary.

A second advantage is the new dimension of active participation in the shaping of European - and thus our own - monetary policy. In fact, one might argue that (participation in a) discretionary monetary policy becomes available to Austria for the first time since the existence of the Austrian central bank in its present form. Though at present the Austrian monetary and exchange rate policy is legally more autonomous than in the future European System of Central Banks, the above discussion of credibility and time-inconsistency showed that de facto policy makers had "their hands tied". The costs of abandoning an exchange rate rule as successful and long-standing as the Austrian one through discretionary monetary and exchange rate policy are so high that in practice this option is not used. Therefore, monetary union implies a gain in influence on monetary policy. All the more so under the Maastricht set-up, which grants equal weight to all Member State central bank governors in the decision-taking body of the ECB, the ECB Council (principle of "one central bank - one vote").

It is now time to refer back to the above-mentioned arguments by Bofinger (1994), which point to the superiority of a European monetary union over national monetary policies. Let us apply these arguments to the Austrian situation.

First, Bofinger argues that lifting monetary policy above the sphere of nation states reduces the influence of national policy-makers. To which degree are gains in credibility to be expected from this? It was emphasized above that the Maastricht set-up for monetary policy (independent central banking system, primary objective of price stability) brings no substantial regime change for Austria. Still, the stronger legal guarantee of central bank independence and the more waterproof separation between a centralized European monetary authority and decentralized national governments will imply a stricter

separation of monetary policy from the general policy-making process. "Ex-ante" democratic accountability of monetary policy through the representation of the social partners in the central bank and the uniting bracket of the jointly agreed hard currency policy will no longer exist. So, though the economic substance of future monetary policy decided by the ECB will coincide with the present Austrian approach, the decision-shaping process leading to such a policy will be fundamentally different. The above-mentioned gain in responsibility over monetary policy for Austria as a whole will, in all likelihood¹⁵⁾, be borne exclusively by the Austrian central bank.

Furthermore, EMU also implies a legally binding, tight corset for fiscal policy support of monetary stability: Member States participating in Stage III of EMU undertake not to incur excessive deficits (in the second stage they only "endeavour" not to do so). Such legally binding, "externally imposed" budgetary rules are new for Austria. In their economic content they are in line with the policy stance pursued under the hard currency regime and should thus not pose a problem of substance. Even more, they should be appreciated by Austrian policy-makers as a safeguard for sound fiscal policy in other participating Member States and thus the stability of EMU as a whole.

By analogy with the above arguments of comparatively small adjustment costs to the new regime, the other side of the coin is that the potential benefit to Austria from a sudden and "cheap" gain in credibility through participation in EMU will be comparatively smaller than for other countries with a weaker stability record.

This naturally raises the question of whether there will be any gain in credibility for Austria at all. Will the ECB be as conservative as the Bundesbank?¹⁶⁾ Judging from the ECB Statutes, there is a good likelihood for it; but much depends on (1) which Member States are going to participate in EMU, and (2) on the behaviour in practice of the ECB and, in particular, of the National Central Bank Governors participating in the ECB

¹⁵⁾ These considerations depart from the hypothesis that the Union as a whole will not pursue a fixed rate or target range exchange rate policy. According to Art 109 TEU, such decisions are the competence of the Council of Ministers and would thus shift the overall balance of influence over monetary and exchange rate policy in the Union in favour of governments.

¹⁶⁾ The strategic considerations following from this question for the interest of different countries/central banks in monetary union were investigated, e.g., by De Grauwe (1992). He concluded that a stable country like Germany would not gain from monetary union. Therefore, to make it accept such a project, the Maastricht Treaty had to copy the German Bundesbank model. The strategic situation of Austria in this "game" resembles the German stance insofar as the gains in additional stability may be considered small or non-existent. Austria's situation is, however, fundamentally different in terms of gains or losses in degrees of freedom over monetary policy. While Germany will lose against the present situation, Austria will, as outlined above, gain.

Governing Council¹⁷). However, the very comparison between today's monetary stability in Germany and the uncertainty over a future European monetary policy seems inappropriate for two reasons: monetary policy in Germany in, say, ten years' time without EMU appears equally predictable or unpredictable as the ECB's policy at that time. In other words, the schilling's present anchor might not continue indefinitely to be as stable as today. Secondly, and more importantly, the present anchor is not likely to exist any more, due to the start of EMU and Germany's participation therein.

Bofinger's second argument was that monetary union eliminates the problems of asymmetric monetary shocks from speculative attacks and/or inadequately restrictive monetary policies aggravated by risk premiums within a system of adjustable rates. Fortunately, this set of advantages, at least for the moment, seems of minor importance for the particular case of Austria, given the absence of large-scale speculation against the schilling so far, and near to zero interest differentials against Germany.

Third, Bofinger argued that a larger currency area increases the efficiency of monetary targeting due to more stable aggregate money demand functions and the elimination of intra-regional speculative capital flows¹⁸). It also should improve the efficiency of monetary policy instruments: for example, the possibility of circumventing minimum reserve requirements would be reduced, thus scaling down "regulatory competition" forced by markets and leaving open a wider choice of policy instrument options. Both arguments are relevant for Austria. Against the technical problems with money growth targeting in the anchor country Germany in recent years, a more reliable framework in EMU should enhance overall credibility. Similarly, the wider choice of effective monetary policy instruments should be an advantage from the Austrian point of view, given that minimum reserves are still regarded as an important component in the instrument mix by the Austrian authorities.

Let us finally compare the "importance" of the decision to adopt the hard currency policy back in the seventies and the step into Stage Three of EMU to be expected within the next

¹⁷) Will the National Central Bank Governors primarily act in the interest of the monetary union as a whole or pursue national interests? To speak in Von Hagen/Süppel's (1994) terminology, will they act as "governors" or "state representatives"? It is true, on the one hand, that the minimum requirements on personal independence (5 year, renewable term) stipulated in the ESCB Statute are somewhat modest. On the other hand, the six Members of the ECB Executive Board - the "steady" centralized component of the ECB Council - enjoy an exceptionally high degree of personal independence (8 year, non-renewable term). This, together with the potential for a "Becket effect" turning some NCB "state representatives" into "governors" should provide a good chance for a sound European monetary policy.

¹⁸) This supposes that the ECB will pursue some kind of monetary targeting strategy. The switch from the "asymmetrical" ERM anchored by the Bundesbank's monetary growth rule to EMU implies that the former external anchor gets "endogenized" and thus lost. It will be important for the ECB therefore to replace the former rule-based anchor by its own credible rule.

few years. Both steps entail a loss in degrees of freedom for the authorities, though in a different way: the exchange rate peg due to the transition from discretionary policy to a rule¹⁹⁾, participation in EMU in a legal and institutional sense (formal loss of the option for an independent national monetary policy). It appears that the decision to peg had a greater immediate de-facto economic impact than the future transition from the DM-peg (within the ERM framework) to an irrevocable fixing of exchange rates. Finally, the former decision was - ex ante - provisional, while the latter will be definitive, with all the drawbacks and advantages of provisional and irrevocable decisions.

5. Lessons for other countries

The Austrian hard currency policy has been called "an example for a fixed exchange rate system, at least between smaller countries and an anchor country" (Hochreiter/Winckler (1994)). May it, more specifically, be regarded as a "case study" for EMU? Are there any useful insights to be gained from its experience for other EU countries in the run-up to EMU?

In the 1980s a number of EU countries applied "hard exchange rate policies" similar in their basic concept to the Austrian hard currency policy. Apparent examples are the Dutch guilder from the early-80s, the Danish krona and the Belgian franc from 1983, and the French franc from 1986²⁰⁾. Their stable exchange rate developments after the widening of exchange rate bands to 15% on 2 August 1993 show that these currencies are to be regarded as "hard" today. Apparently, therefore, these countries' experience may be used as well as Austria's as case studies on the problems involved in introducing and maintaining a fixed exchange rate regime. "Lessons", if any, may rather appear useful for countries presently outside the ERM.

Of course, applying one country's experience to another country is difficult for numerous reasons. As the Austrian story shows, much depended on

- its high degree of openness;
- specific institutional features (social partnership, centralized wage bargaining, comparatively high share of the economy under State control) including even specific personalities (trade union leaders, Finance Minister, Central Bank

¹⁹⁾ In fact, the period of currency turbulences in the context of the breakdown of the Bretton Woods fixed exchange rate system and the resulting leeway for discretionary policy did not last long in the Austrian case.

²⁰⁾ Points of time based on behaviour in ERM realignments vis-à-vis the DM.

Governor) that facilitated and speeded up the learning process by wage-setters and policy-makers, reducing adjustment costs;

- the historical context (experience of hyperinflation facilitating public support for central bank independence and stability policies; bi-partisan political system supporting corporatist policies);
- the external framework (existence of capital controls, less integrated financial markets when the DM peg was still in its infancy, rendering it easier to establish a track record of exchange rate stability than in today's environment);
- specific institutional features influencing the interest rate transformation process;
- the domestic economic data grid (in particular low unemployment facilitating consensus policies - partly a result of the above factors).

Other countries may be different in some, many or all of these respects. The balance between costs and benefits from a fixed or flexible exchange rate regime in general may be quite different from Austria.

Furthermore, as outlined in Ch. 4, EMU and the transition to it are quite different, in "technical" and "institutional" terms, from the Austrian experience with establishing and maintaining a unilateral peg. This may also contribute to differences in the benefits and costs for participating - and non-participating - countries.

- The official irrevocable fixing of exchange rates on the first day of Stage III by definition implies that the problem of credibility *for the individual participant* is non-existent.
- However, the existence of entry criteria that are specified in the Treaty but subject to political judgement introduces uncertainty as to whether a country will be eligible for EMU. Markets will pay much more attention to these developments than to a small country's unilateral peg. The anticipation by markets of the likely outcome of the convergence test may entail considerable pressure on interest rate and exchange rate developments. This is further enhanced by the fact that participation in EMU is *ceteris paribus* a more decisive step than a unilateral DM peg. It involves far broader economic as well as political considerations.
- The greater pressure should entail a stronger external disciplinary effect on governments, enhancing the credibility of governments' convergence efforts. Compared to the quiet convergence pursued by Austria, convergence towards

EMU during Stage II happens within a comprehensive institutionalized framework for policy coordination and fiscal monitoring. This should speed up the "learning process" of trade unions and national economic policy-makers and reduce adjustment costs.

- On the other hand, the possibility of influencing the decision on the participation in, and the start of, EMU (and/or even, in some way, the future course of European monetary policy) introduces a moral hazard element that Austria was not confronted with: Austria had no hope whatsoever of influencing the conditions set by the anchor.
- Achieving exchange rate stability through a unilateral peg may be quite different from doing so within the ERM. While the ERM offers the benefit of multilateral support if necessary, this very feature entails the risk of "inviting" speculation. The difference has become less pronounced since the widening of bands on 2 August 1993. Exchange rates of ERM "hard core" currencies mimic unilateral pegs.
- The benefits of participation in the single monetary policy are, as mentioned earlier, potentially larger than from a unilateral exchange rate peg. By the same token, the costs of staying outside are likely to be larger than those of not pursuing an unilateral exchange rate peg. Provided that the unilateral exchange rate peg is intended to be maintained (i.e. the government is serious and does not intend to "cheat"), the economic costs in terms of the loss of the exchange rate tool are the same. *Ceteris paribus*, the net benefits from EMU therefore promise to be larger than from a unilateral peg.

It is obvious from these arguments that conclusions from the Austrian experience for other countries' participation in EMU must be cautious.

1. The Austrian example confirms that strict similarity of the participating economies is not required for monetary union to work well in practice, as long as mechanisms for the adjustment of relative prices are in place. Countries willing to participate in Stage III of EMU should thus put emphasis on labour market reform and wage flexibility.
2. "Living without the nominal exchange rate tool" involves a learning process for both wage-setters and economic policy-makers. The Austrian experience confirms that this does not come about without an effort and requires continued efforts for the policy to remain sustainable; credibility has to be earned. Countries desiring to participate in EMU should be aware of this and face this challenge sooner rather than later²¹).

²¹) This is the major economic rationale behind the exchange rate convergence criterion.

3. Monetary union is like marriage: (1) there is no intermediate solution (half-married or half-monetary union); (2) both are important steps with ultra-long-term consequences, rewarding if the right matches meet, unsatisfactory or even disastrous otherwise; (3) cheating and not living up to one's promises usually leads to serious strains, and often to the break-up of the relationship; (4) separation is costly and painful and usually leaves lasting scars; (5) thinking twice beforehand and full commitment after the event help to avoid disappointment.

ANNEX 1

Chronology of the liberalization of capital movements

- 1971-72 Reintroduction and successive tightening of capital controls in the context of the breakdown of the Bretton Woods system, including agreements between central bank and the banks on limitations to capital imports.
- 1975-76 Successive liberalization of capital controls
- 1978 Limitation of credit in foreign currency granted by Austrian banks to non-residents (renewed and modified at various times until it expired in January 1989)
- 1979 Gentlemens' agreement between central bank and banks on freezing net foreign exchange balances vis-à-vis residents and non-residents
- Expiry of agreement with banks concerning the limitation of capital imports
- 1980 Renewed temporary agreement with banks on the limitation of capital inflows until year-end
- 1981 Reliberalization of capital controls vis-à-vis non-residents
- Early-80s Increasingly liberal practice in granting licences for cross-border capital transactions
- 1.11.1986-4.11.1991 Gradual process towards full liberalization of capital movements
- 1.11.1986 Forward transactions allowed up to 18 months (previously 12 months)
- Major banks were permitted to borrow from non-residents foreign currency over the medium and long term
- Free purchase of securities quoted on a recognized securities exchange (previously: official stock exchange)
- Long-term borrowing from non-residents for investment purposes liberalized further
- Long-term borrowing by domestic enterprises from non-resident equity holders permitted up to a loan/equity ratio of 3:1

Maximum amount of schilling notes and coins to be taken out of the country raised to ATS 50,000 (previously: 15,000) per trip

Licencing requirements for tourism payments, including via credit cards, abolished

Credit cards allowed for purchase of goods to be imported for the personal use of the buyer

1.2.1989 Further liberalization for long-term capital movements:

Automatic formal authorization for long-term investments abroad

Authorization no longer required for most of financial institutions' transactions on their own account

Three-year or longer-term credits abroad and/or in foreign currency for Austrian businesses allowed

Transactions in foreign shares, bonds and investment certificates fully liberalized (residents had to continue to deposit them with an authorized resident agent = bank)

Residents' foreign real estate transactions liberalized

Transfer abroad of gifts and endowments up to ATS 50,000 liberalized

1.1.1990 Introduction of the principle that anything not explicitly forbidden is allowed (previously vice versa), implying drastic reductions in the areas not yet liberalized. These included:

Domestic non-banks' accounts abroad and all related transactions

Loans raised by domestic non-banks from non-residents (however, authorization was automatically granted upon application)

Securities issued by non-residents in Austria and by residents abroad

Foreign securities still subject to the requirement of acquisition and depositing with Austrian banks. Capital transfer had to be conducted through an Austrian bank.

4.11.1991 Full liberalization of capital movements (with the exception of some areas of direct investment and real estate); reporting requirements for statistical purposes (balance of payments).

ANNEX 2

Chronology of financial markets regulation/liberalization

- 1971-1982 Various regulatory measures to curb liquidity and credit expansion connected with the breakdown of the Bretton Woods system and with the need to curb inflationary pressures after the two oil shocks
- 1972 Agreements on banks' and on insurance companies' credit growth, with a special focus on consumer credit. The "traditional" limits on credit calculated in relation to deposits was supplemented by the "Limes", defined in terms of the growth of credit itself. Ban on advertisements for consumer credits.
- 1975-76 Temporary liberalization period, including abolition of limits on consumer credit
- 1977 Renewed limits on consumer credit
- 1979 Banking Act
- 1981 End of the "Limes" regime; special limit on consumer credit remains; end of credit limits in terms of deposits.
- 1982 Abolition of limits on consumer credit; abolition of the ban on advertising for consumer credit.
- 1984 Introduction of interest rate tax
- 1986 Banking Law 1986
- First floating rate bond issue on the Austrian bond market
- 1989 Stock Market Act
- 1991 Capital Market Act
- Futures and options exchange established
- 1993 Banking Act establishes compatibility with EEA

Institutional features of the Oesterreichische Nationalbank

1. Objectives

According to the National Bank Act, the Oesterreichische Nationalbank (OeNB) shall ensure with all the means at its disposal that the value of the Austrian currency is maintained with regard both to its domestic purchasing power and to its relationship with stable foreign currencies (Art 2 para 3).

In determining the general lines of monetary and credit policy, due regard shall be paid to the economic policy of the Federal Government (Art 4). On the other hand, Art 41 para 2 stipulates that the Federal Republic must not adopt measures which are liable to hinder the Bank in the performance of the functions entrusted to it.

In practice, the central bank pursues the maintenance of price stability as its primary objective, which dominates any other objectives of economic policy. At the same time, the Bank has always made clear that a consistent budget and wage policy is of vital importance for meeting the goals of Art 2 para 3 in the long term.

2. Functional independence

Pursuant to Art X of the Federal Constitution, it is the responsibility of the Federal authorities to conduct Austrian monetary policy. Parliament entrusted the OeNB with this power, spelling out the mandate in the National Bank Act. Art 2 of this Act defines the key monetary policy objectives and tasks of the central bank. Apart from the objectives mentioned above, the central bank shall:

- regulate the circulation of money in Austria (Art 2 para 2),
- attend to the settlement of payments with foreign countries (Art 2 para 2), and
- ensure within the framework of its credit policy that the credits it places at the disposal of the economy are distributed with due regard to the country's economic needs (Art 2 § 4).

Thus the OeNB has the sole responsibility for the formulation and implementation of monetary policy. The monetary policy instruments at its disposal are set out in the National Bank Act.

The role of the central bank in exchange rate policy is legally not quite clear. Art 2 para 3 of the National Bank Act includes the objective of maintaining the value of the Austrian schilling with regard to stable foreign currencies. Under the terms of the Foreign Exchange Act, the central bank acts, on behalf of the Federal Republic, as Austria's foreign exchange authority. According to Article 2 of the Foreign Exchange Act, the OeNB is entitled to fix the rate at which foreign currencies can be exchanged into national legal tender. In practice the distribution of power over exchange rate policy over the last four decades was such that the central bank decided (observing its statutory objective of maintaining the external value of the schilling vis-à-vis stable foreign currencies) after consultations with, and subject to the agreement of, the Federal Government, as in most instances represented by the Ministry of Finance.

The "hard currency policy" pursued during the last fifteen years in the form of a DM peg is based on a broad political and social consensus. The central bank has emphasized repeatedly that such an exchange rate strategy can be successful only if backed by, and in accordance with, economic policies of the government and the behaviour of the social partners (incomes policy). However, the National Bank Act would also allow the Bank to pursue different monetary and exchange rate approaches.

Art 41 of the National Bank Act explicitly prohibits the Federal Republic, the Laender and the local authorities from drawing on the funds of the Bank in any way for credits or loans. In the conduct of fiscal agent functions for the Federal Government, no transaction may involve the granting of any loan or credit by the Bank to the Federal Republic, nor must there be any balance to the debit of the Federal administration (Art 42). To facilitate the administration of the Federal Government's cash resources, however, the Bank shall, at the request of the Federal Minister of Finance, discount short-term Federal Treasury certificates up to an amount that must not exceed 5% of the Federal Republic's gross annual tax receipts (Art 41).

3. Governing bodies: composition and appointment procedures

Following from the central bank's legal form of a joint stock company with special status (cf. 4 below), the bodies of the central bank include the ordinary General Meeting of shareholders, the Governing Board and the Board of Executive Directors.

The General Meeting of shareholders, chaired by the Governor, is held once a year; it receives the Annual Report of the Governing Board, grants exoneration to the Governing Board and the Board of Executive Directors, approves the annual statement of account, decides on the allocation of profits and elects six members of the Governing Board and four auditors.

The Governing Board decides the general guidelines of monetary and credit policy and gives an opinion on draft legislation. It decides about discount and lombard rates, minimum reserves and the overall limit for open market operations. It has fourteen members: the Governor, who is appointed by the President of the Federal Republic at the suggestion of the Federal Government (or the Federal Minister authorized by it) for a five-year renewable term; the First and Second Deputy Governors, appointed by the Federal Government for five-year renewable terms (the Governor and the Deputy Governors can be removed from office only if they no longer meet the requirements set for the appointment or are prevented for more than a year from performing their duties); five members appointed by the Federal Government; six members elected by the General Meeting. The Members of the Governing Board shall be persons prominent in some branch of economic activity or lawyers or economists; they shall include representatives of banks, industry, trade and small businesses, agriculture, as well as salaried employees and wage earners. No person who is in the active service of the Federal Republic (except for university professors in law or economics) or of a Land or who is a Member of the Nationalrat, the Federal Council (Bundesrat), a Parliament of a Land (Landtag), the Federal Government or the Government of a Land may be a member of the Governing Board.

If, in matters that are reserved for decision by the Governing Board, urgent action is necessary, such action may be taken by an executive committee composed of the Governor and his/her two deputies, the Chief Executive Director and his/her deputy. The decisions must be made known to the Governing Board.

The Board of Executive Directors is responsible for the day-to-day management of the Bank. It takes decisions on all matters not reserved for the Governing Board, including interest rates for short-term open market deals, the use of the so-called special refinancing facility and of currency swaps. It is composed of four to six executive directors (among whom the Chief Executive Director and his deputy), who are appointed by the Governing Board for a five-year renewable term. The Governor has the right to attend and to chair their meetings (once a week or whenever necessary) but has a vote only in the case of equality of votes.

4. Legal status of the central bank; financial budgetary independence

The OeNB is a joint stock company with special status. The ownership structure of the shares (Republic of Austria 50%, economic and social partners 36%, banks and insurance companies 14%) reflects the desired broad social and political consensus for monetary policy.

The Governing Board is responsible for the supreme direction and supervision of the Bank's business and the administration of all its property.

Like any other company in which the Federal Republic holds a stake of at least 50% of the capital, the OeNB is subject to control by the central auditing authority (Rechnungshof).

5. Democratic accountability and transparency

A State Commissioner appointed by the Minister of Finance takes care that the OeNB acts in accordance with the law. He is entitled to attend general meetings and meetings of the Governing Board in an advisory capacity and to examine the conduct of the Bank's business. Apart from that, the Bank issues weekly, monthly and annual publications.

On the other hand, a representative of the central bank takes part as an adviser in the meetings of the Federal Debt Committee. In that way, the central bank has the opportunity to add monetary policy considerations to the debt management decisions of the Government. Informal contacts between the central bank and the Minister of Finance help to bring external lending in line with monetary requirements.

An element of democratic accountability to which the central bank attaches importance is the direct support of its policy by public opinion. The central bank seeks direct contact with the public through educational activities, written support material and frequent appearances in the media.

6. Planned changes

At present, work is carried on within the Ministry of Finance and the Bank on the changes required with a view to accession to the European Union. This concerns in particular compliance with Art 104 and 104a of the EC Treaty. With respect to Austria's accession to the EMS and the ERM, the necessary legal adjustments are currently being studied. No other changes are envisaged or deemed necessary for the immediate future. There is some awareness, though, that institutional changes might be required ahead of Stage Three of EMU.

Exchange Rates 1970-1993

	Effective Exchange Rate					Bilateral exchange rates	
	Nominal			Real			
	Export-weighted	Import-weighted	Total	CPI	Wage costs	ATS/DEM	ATS/USD
1970	74.2	77.3	75.8	86.2	90.7	7.09	25.85
1971	74.8	77.7	76.3	86.0	90.3	7.18	24.98
1972	75.2	78.5	76.9	87.1	89.2	7.25	23.12
1973	79.7	82.9	81.4	91.8	98.0	7.33	19.59
1974	84.1	86.7	85.4	94.9	95.0	7.22	18.69
1975	86.9	89.3	88.2	96.6	98.4	7.08	17.42
1976	91.0	91.6	91.3	99.5	101.6	7.12	17.94
1977	96.6	96.1	96.3	103.0	105.7	7.12	16.53
1978	98.6	98.2	98.4	102.9	103.3	7.23	14.52
1979	100.7	100.5	100.6	101.3	100.6	7.29	13.37
1980	104.3	103.8	104.0	100.9	99.9	7.12	12.94
1981	103.2	101.2	102.2	96.6	96.8	7.05	15.92
1982	107.6	102.9	105.1	97.0	95.9	7.03	17.06
1983	111.5	104.3	107.7	97.1	95.8	7.04	17.96
1984	111.9	103.3	107.3	97.5	93.7	7.03	20.01
1985	113.2	103.7	108.1	97.1	93.8	7.03	20.69
1986	119.9	111.1	115.3	103.2	99.9	7.03	15.27
1987	124.6	116.3	120.2	106.7	104.4	7.03	12.64
1988	124.5	117.0	120.5	106.0	100.9	7.03	12.35
1989	124.2	115.8	119.8	103.6	98.0	7.04	13.23
1990	127.9	119.7	123.6	105.4	96.9	7.04	11.37
1991	127.8	119.4	123.3	103.9	93.8	7.04	11.68
1992	131.4	122.3	126.6	106.5	95.7	7.04	10.99
1993	136.2	124.7	130.1			7.04	11.62

1. Base year 1979 (August 1979 = 100); an increase in the index indicates an "effective" revaluation (all indices excluding the former Yugoslavia).
2. Annual averages

Source : WIFO.

ANNEX 5 : Economic fundamentals in comparison with Germany

	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94*	95*
Real GDP growth																		
- Austria	0.1	4.7	2.9	-0.3	1.1	2.0	1.4	2.5	1.2	1.7	4.1	3.8	4.2	2.7	1.6	-0.3	1.8	2.7
-Germany	3.0	4.2	1.0	0.1	-0.9	1.8	2.8	2.0	2.3	1.5	3.7	3.6	5.7	4.5	2.1	-1.3	1.8	2.6
Unemployment (Std rates)																		
- Austria					3.7	4.5	4.5	4.8	5.2	5.6	5.3	5.0	3.3	3.4	3.7	4.2		
-Germany	3.5	3.2	2.9	4.2	5.9	7.7	7.1	7.1	6.4	6.2	6.2	5.6	4.8	4.2	4.6	5.8		
U.L.C in the business sector (%change)																		
- Austria	9.2	2.3	5.2	8.8	5.7	1.9	3.7	2.2	7.2	2.9	-1.2	1.5	1.9	5.0	5.4	4.4	1.1	1.2
-Germany	3.1	3.1	7.6	4.6	4.5	0.1	0.8	1.6	2.6	2.4	-0.1	0.7	1.3	2.8	5.8	3.8	-0.5	0.3
Relative unit labor costs (1991=100)																		
- Austria	120.0	115.0	113.0	113.0	112.0	112.0	109.0	107.0	112.0	113.0	107.0	102.0	103.0	100.0	101.0	100.0	99.0	98.0
-Germany	87.0	89.0	90.0	83.0	86.0	87.0	85.0	83.0	92.0	102.0	102.0	99.0	103.0	100.0	106.0	111.0	107.0	107.0
Consumer prices																		
- Austria	3.6	3.7	6.3	6.8	5.4	3.3	5.7	3.2	1.7	1.4	1.9	2.6	3.3	3.3	4.0	3.6		
-Germany	2.7	4.1	5.5	6.3	5.3	3.3	2.4	2.2	-0.1	0.2	1.3	2.8	2.7	3.5	4.0	4.1		
General Govern. financial balances (%GDP)																		
- Austria	-2.8	-2.4	-1.7	-1.8	-3.4	-4.0	-2.6	-2.5	-3.7	-4.3	-3.0	-2.8	-2.1	-2.5	-2.0	-2.8	-4.0	-3.3
-Germany	-2.4	-2.6	-2.9	-3.7	-3.3	-2.6	-1.9	-1.2	-1.3	-1.9	-2.2	0.1	-2.1	-3.2	-2.6	-3.3	-2.9	-2.8
Gross public debt (% of gdp)																		
- Austria	33.9	36.0	37.2	39.3	41.6	46.0	47.9	49.6	53.8	57.3	57.6	56.9	56.3	56.9	56.1	57.0	58.5	59.1
-Germany	30.1	30.8	32.8	36.5	39.6	41.1	41.7	42.5	42.5	43.8	44.4	43.2	44.0	41.7	44.4	48.5	53.7	64.3
Short-term interest rates																		
- Austria			10.4	10.8	8.0	5.4	6.6	6.1	5.2	4.4	4.6	7.5	8.5	9.1	9.3	7.2		
-Germany			9.1	11.3	8.7	5.4	5.5	5.2	4.6	3.7	4.0	6.6	7.9	8.8	9.4	7.5		
Long-term interest rates																		
- Austria			9.2	10.6	9.9	8.2	8.0	7.8	7.3	6.9	6.7	7.1	8.7	8.6	8.3	6.6		
-Germany			8.5	10.4	9.0	7.9	7.8	6.9	5.9	5.8	6.2	6.9	8.9	8.6	7.9	6.5		
Current balance (% of gdp)																		
- Austria	-1.2	-1.6	-2.1	-2.0	1.1	0.3	-0.3	-0.2	0.3	-0.2	-0.2	0.2	0.7	0.0	-0.1	-0.5	-0.6	-0.6
-Germany	1.4	-0.7	-1.7	-0.5	0.8	0.8	1.6	2.6	4.4	4.1	4.2	4.9	3.2	-1.1	-1.1	-1.1	-0.7	-0.2

* projections

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