

Adopting the Euro in Central Europe

Challenges of the Next Step in European Integration

Susan Schadler, Paulo Drummond, Louis Kuijs,
Zuzana Murgasova, and Rachel van Elkan



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The following conventions are used in this paper:

- . . . to indicate that data are not available or not applicable;
- to indicate that the figure is zero or less than half the final digit shown;
- between years or months (for example, 1991–92 or January–June) to indicate the years or months covered, including the beginning and ending years or months;
- / between years or months (for example, 1991/92) to indicate a fiscal or financial year.

“Billion” means a thousand million; “trillion” means a thousand billion.

“Basis points” refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to $\frac{1}{4}$ of 1 percentage point).

Minor discrepancies between constituent figures and totals are due to rounding.

The term “country,” as used in this paper, does not in all cases refer to a territorial entity that is a state as understood by international law and practice; the term also covers some territorial entities that are not states, but for which statistical data are maintained and provided internationally on a separate and independent basis.

Preface

Upon entry into the European Union (EU), countries become members of the Economic and Monetary Union (EMU) with a derogation from adopting the euro as their currency (that is, each country joining the EU commits to replace its national currency with the euro, but can choose when to request permission to do so). For most of these countries, adopting the euro will entail major economic changes. This paper examines likely economic developments and policy challenges for the five former transition countries in central Europe—the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia—that joined the EU in May 2004, operated independent monetary policies, but had not yet achieved policy convergence with the rest of the euro area by that time.

This study was prepared by a team led by Susan Schadler and consisting of Paulo Drummond, Louis Kuijs, Zuzana Murgasova, and Rachel van Elkan. The study has benefited from comments by various departments of the IMF; staff of the European Central Bank (ECB) and the European Commission (EC); participants in a conference on Euro Adoption in Prague in February 2004; and seminars at the National Bank of Poland, Czech National Bank, and Magyar Nemzeti Bank. Material presented in this study was originally prepared as background for an IMF Executive Board seminar on euro adoption in February 2004. The cutoff date for data revision was April 2004. Since that date, revisions to data for Greece, in particular, were significant and could influence the conclusions of parts of the study.

The authors are particularly grateful to Indra Mahadewa, Socorro Santayana, and Jocelyn Rivera for processing the original text; to Jolanta Stefanska and Jehan Panthaki for excellent research assistance; and to Jim McEuen of the External Relations Department, who edited the paper and coordinated the production of the publication. The views in the paper are those of the authors and do not necessarily reflect the views of national authorities or IMF Executive Directors.

Abbreviations

ANOVA	Analysis of variance
B and K	Borghijs and Kuijs (2004)
BCPS	Bank credit to the private sector
BEER	Behavioral equilibrium exchange rate
BIS	Bank for International Settlements
B-S	Balassa-Samuelson
CAP	Common Agricultural Policy (EU)
CEC	Central European country
CEC-H	CECs minus Hungary
CPI	Consumer price index
CUSUM	Cumulated sum of recursive residuals
EC	European Commission (EU)
ECB	European Central Bank (EU)
ECOFIN	
Council	Council of Economics and Finance Ministers of the EU
EFC	Economic and Financial Committee (EU)
EMU	Economic and Monetary Union (EU)
ERM/ERM2	Exchange Rate Mechanism (EU)
<i>ESA-95</i>	<i>European System of Accounts 1995</i> (Eurostat, 1996)
EU	European Union
Eurostat	Statistical Office of the European Communities (EU)
FDI	Foreign direct investment
FEER	Fundamental equilibrium exchange rate
FRER	Fundamental real exchange rate
FSAP	Financial Sector Assessment Program (IMF–World Bank)
FSSA	Financial System Stability Assessment (IMF)
GDP	Gross domestic product
GEM	Global Economic Model (IMF)
<i>GFS</i>	<i>Government Finance Statistics</i> (IMF)
<i>GFSM</i>	<i>Government Finance Statistics Manual 2001</i> (IMF, 2001)
GLS	Generalized least squares
GMM	Generalized matrix of moments
HP	Hodrick-Prescott
IIP	International investment position
IRF	Impulse response function
MF	Mundell-Fleming
MULTIMOD	Multiregion Macroeconomic Model (IMF)
NATREX	Natural real exchange rate
OCA	Optimum currency area
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary least squares
PAYG	Pay as you go
PPP	Purchasing power parity
REER	Real effective exchange rate
RER	Real exchange rate

ABBREVIATIONS

SGP	Stability and Growth Pact (EU)
SITC	Standard International Trade Classification
<i>SNA</i>	<i>System of National Accounts 1993</i> (EC and others, 1993)
SVAR	Structural VAR
TEF	Taylor efficiency frontier
TFP	Total factor productivity
ULC	Unit labor costs
UN	United Nations
UNDP	United Nations Development Program
VAR	Vector autoregression
VAT	Value-added tax
VECM	Vector error correction model
VSTFF	Very short-term financing facility (ECB)
<i>WEO</i>	<i>World Economic Outlook</i> (IMF)

I Overview and Policy Conclusions

The first wave of transition countries to join the European Union (EU) are turning their attention to the next step in their integration with Europe—replacing their national currencies with the euro. Upon accession to the EU, these countries became members of the Economic and Monetary Union (EMU) with a derogation from adopting the euro as their currency. As such, each is committed to replacing its national currency with the euro but can choose when to request permission to do so. Adopting the euro will entail major economic changes. Countries will reap the benefits of closer integration with the euro area and attendant gains for trade, growth, and real convergence. At the same time, relinquishing monetary policy could lead to greater economic volatility unless adjustment to shocks that are asymmetric with respect to the euro area occurs efficiently through other channels—primarily fiscal policy and wage and price flexibility—or the incidence of such shocks is reduced owing to the discipline of the euro-area macroeconomic policy framework and the elimination of variable emerging market risk premia.

Decisions on when the transition countries should adopt the euro and how they should prepare require careful consideration of the substantial differences between them and the existing euro area. For most of the transition countries, real convergence—that is, Achieving levels of income and structural economic features similar to euro-area norms—is markedly behind that of any existing euro-area members. And for some, nominal (inflation) and policy (fiscal) convergence is as much of a hurdle as it was in the most difficult pre-EMU cases. These initial conditions raise questions about the balance of benefits and costs, the policy prerequisites for a successful experience in the euro area, and the challenges of meeting the entry tests for the euro area—the Maastricht convergence criteria. This study examines these questions and provides a framework for the IMF’s surveillance.

Scope of the Study

The broad aims of the paper are, first, to identify the considerations that will mold the accession countries’

strategies for adopting the euro; second, to draw on the experiences of the existing euro-area members—especially the noncore countries (Box 1.1)—to anticipate issues that will arise in the transition countries; and third, to examine vulnerabilities on which IMF surveillance will need to focus during the process of euro adoption. The approach is to use, wherever possible, existing empirical and analytical work to draw conclusions; new analysis is undertaken only to fill gaps. Also, while information and views on individual countries are presented, no effort is made to assess the actual or optimal euro adoption strategy for them separately.

The study focuses on the five central European countries (CECs) that now operate independent monetary policies and typically have some way to go before they achieve policy convergence with the euro area. These five countries—the Czech Republic, Hungary, Poland, the Slovak Republic, and Slovenia—will need major changes in their macroeconomic policies and policy frameworks in the run-up to euro adoption. In contrast, the three Baltic countries—Estonia, Latvia, and Lithuania—with far closer policy links to the euro area, do not face the same kind of challenges. The analysis is solely from the perspective of the CECs rather than the existing euro area. While EU enlargement will entail political and institutional complications for the euro area, the CECs will for a long time constitute a small addition in purely economic terms, whether measured in terms of GDP or size of financial markets.

The plan of the study is as follows. This section draws key points and policy conclusions from the analytical work in the rest of the paper. Section II examines the long-run benefits of euro adoption, and Section III the long-run costs of losing the monetary policy tool. Section IV provides a snapshot of key characteristics of the CECs. Section V examines potential vulnerabilities central to the process of euro adoption—risks of setting exchange rate parities at inappropriate levels, volatile capital inflows, and possible credit and demand booms. Section VI summarizes the Maastricht criteria. Section VII considers preconditions for successful euro adoption and strategies for meeting them and the Maastricht criteria.

Box I.1. The Core and Noncore in Pre-Euro Europe

While the current EMU countries remained quite diverse during the early- to mid-1990s, a group of core countries (Austria, Belgium, France, Germany, Luxembourg, and the Netherlands) had, already by that time, achieved a high degree of nominal and real economic convergence and closely aligned macroeconomic policies. In particular, these countries had maintained their bilateral exchange rates within narrow bands for an extended period.

Other EU countries that sought to adopt the euro had achieved less convergence by the mid-1990s, with

much of their nominal (and even real) convergence taking place later. Thus, inflation was higher (Greece, Portugal, and Spain), fiscal deficits were larger (Italy and Greece), or cyclical positions were less aligned (Finland and Ireland). Many of these late-converging or noncore countries, therefore, relied on exchange rate frameworks, and adopted monetary policy stances, that were significantly different from their counterparts in the core up to a year before their adoption of the euro.

A Framework for Decisions on the Timing of Euro Adoption

Since each new member state is obliged to adopt the euro at some point, all the issues addressed in this study essentially come down to one basic question: when and how to do it. But the considerations are complex and most manageable if broken down into pieces that are as conceptually distinct as possible. There are three broad groupings.

- First, do the long-term benefits of being a euro-area member outweigh the long-term costs? Abstracting from immediate entry requirements, how much will a country gain from increased trade, growth, and policy discipline, and how much will it lose from relinquishing monetary policy as a stabilization instrument? If net gains are expected to be substantial and costs unlikely to fall over time, moving with urgency to put in place policies necessary for euro adoption would be wise. If the benefits and costs are balanced and the net gains are likely to improve over time, a slower approach might be preferable.
- Second, what policy or institutional changes are required to ensure a successful experience in the euro area? Broadly, these center around changes to enhance economic mechanisms—such as wage and price flexibility and fiscal policy—for absorbing asymmetric shocks in the absence of monetary policy.
- Third, how long will it take to credibly and efficiently put needed policies in place and meet the Maastricht criteria? As in any impending regime change, the run-up to euro adoption carries risks of macroeconomic volatility: a strategy for managing them is essential. Also, it is important to identify costs involved in meeting the Maas-

tricht criteria, ways of minimizing them, and the optimal time for bearing them.

These issues are at the heart of this study and will be addressed in turn.

Long-Term Benefits and Costs

Some estimates of likely gains for growth of trade and incomes from joining a currency union are startlingly large (Section II). A growing literature links these to increased trade with other currency union members feeding into substantial benefits for output growth. Most estimates come from gravity models of bilateral trade relationships estimated on large panel data sets. The models include a variety of explanatory variables capturing country size, geography, and institutions, as well as membership in a currency union. Rose (2002) examines 24 such analyses and finds a pooled estimate that currency union membership increases trade by some 85 percent—almost entirely through trade creation rather than trade diversion—with currency union partners. This together with an estimate of the impact of trade on income suggests that euro adoption could potentially raise GDP by 18–20 percent over 20 years in most of the CECs and by 8 percent in Poland.¹ However, a number of studies (Persson, 2001; and Tenreyo and Persson, 2001) point to possible upward bias in these estimates. This bias could arise from sampling unions that involve overwhelmingly poor and/or small countries (sampling bias) and from the importance of existing trade patterns in the formation of currency unions themselves (simultaneity bias). Results from recent gravity models of the gains from EMU suggest trade gains of 6–15 percent after only five years of its

¹This assumes that every 1 percent increase in total trade (as a share of GDP) raises per capita income by at least $\frac{1}{3}$ of 1 percent (Frankel and Rose, 2002).

existence (Faruqee, 2004). Whether such trade growth is likely to persist (so that gains over 20 years would amount to some 25–75 percent) or to taper off (so that long-term gains would be similar to those achieved thus far) remains to be seen. But taking an average of these estimates of gains thus far from EMU as a lower bound, euro adoption would raise GDP by some 2 percent over 20 years in most of the CECs and by 1 percent in Poland.

One puzzle left unresolved in these models is what causes increased trade in a currency union. Elimination of exchange risk is an obvious channel, although separate but concomitant empirical studies of the effect of exchange rate volatility on trade do not unambiguously support this hypothesis. Most estimations control for membership in free-trade arrangements, so removal of barriers to trade also is not the explanation. Presumably, therefore, lower transaction costs and greater competition and transparency of prices must play the major role. Also, removing long-term exchange risk should improve the stature of CECs as competitive manufacturing platforms and thereby promote foreign direct investment (FDI) in tradables.

Beyond trade creation, euro adoption should produce other, less well researched benefits. These include lower risk premia on borrowing costs and a strong framework for policy discipline. Taking this broader range of considerations into account, a study by the Magyar Nemzeti Bank concludes that euro adoption would add 0.6–0.9 percentage points to average GDP growth in Hungary for 20 years. A separate study by the National Bank of Poland shows estimates for Poland at about half this range.

These gains are realized at the expense of relinquishing monetary policy as a stabilization tool. This cost can be assessed in several ways. Through measures such as business cycle correlations, shares of in-traindstry trade in total, and comparisons of sectoral compositions of output, traditional optimum currency area (OCA) criteria capture a country's susceptibility to real shocks that are asymmetric to those in the currency union (see Section III, "How Do the CECs Stack Up on the OCA Criteria?"). These measures suggest how often euro-area monetary policy is likely to be out of sync with the cyclical needs of the CECs. Other OCA criteria focus on the scope for adapting to shocks without monetary policy—especially through wage and price flexibility, but also through counter-cyclical fiscal policy. A difficulty in assessing OCA criteria is possible endogeneity, which would make history a poor guide. Frankel and Rose (1996) present evidence that entering a currency union starts processes that alter the structure of an economy, making it less susceptible and more adaptable to asymmetric shocks. Krugman and Venables (1996), however, argue that economic integration creates incentives to exploit economies of scale, resulting in greater specialization and exposure to asymmetric shocks. With this debate

unresolved, historical data suggest that on OCA criteria the CECs are at least as well-suited to euro-area membership as existing noncore euro-area members.

Also important to assessing the cost of losing monetary policy independence is the value of the exchange rate as a shock absorber. Concretely, are the effects on output growth of the most common shocks a country experiences best countered by exchange rate changes (real demand shocks) or fluctuations in reserves (monetary and financial shocks)? And, given the nature of shocks, have actual exchange rate movements been effective in absorbing shocks? Empirical work presented in Section III ("How Useful Is the Exchange Rate as a Shock Absorber?") concludes that the largest share of shocks in the CECs has been monetary or financial in origin; thus, losing the exchange rate instrument may not be particularly costly if other more efficient adjustment mechanisms are put in place.

While reassuring that losing the monetary policy instrument is unlikely to involve large costs, these findings do not mean that it is costless. The net costs must take into account simultaneously the likely size and frequency of asymmetric shocks, the costs of having to accept a monetary policy tuned to euro-area-wide rather than national conditions, and the gains from reducing exchange rate risk premia on interest rates and eliminating idiosyncratic exchange rate movements unwarranted by fundamentals. These factors were assessed jointly in the Global Economic Model (GEM), calibrated on the Czech Republic.² The results indicate that, for this calibration—including, for example, the nature and size of shocks and risk premia, effectiveness of monetary policy, and wage and price flexibility—the CECs would face somewhat greater macroeconomic volatility inside the euro area than outside, *assuming monetary policy outside the union is technically efficient* (Section III, "What Do General Equilibrium Models Say?")³ The latter assumption is key: it implies, in contrast to the evidence on the effectiveness of the exchange rate as a shock absorber, that the independent pre-EMU monetary policy successfully keeps the country on the schedule of best-possible trade-offs between output gap and inflation volatility. Even accepting this assumption, the predicted difference in volatility between pre- and post-EMU outcomes for plausible ranges of the parameters is small.⁴

²The GEM is a general equilibrium simulation model with explicit micro foundations, maintained by the IMF's Research Department.

³Concretely, the concave frontier of trade-offs between the volatility of inflation and of the output gap (the Taylor efficiency frontier, TEF) is further away from the origin for the country inside, as compared with the country outside, the euro area.

⁴Two-thirds of inflation outcomes (output gap outcomes) would fall in the range of 1.2–4.8 percent (± 2.1 percent of potential) under EMU compared with 1.3–4.7 percent (± 1.9 percent of potential) under the existing inflation targeting framework.

The balance of the trade-off between gains for trade and growth and increased volatility is ultimately a matter of judgment. The GEM does not permit a calibration of the income or consumption equivalent of the costs of volatility—a necessary step for rigorous comparison with the benefits for trade and growth. Without such a single metric, interpreting the evidence must involve judgments about the trade-off between the two. Some see the risks of increased volatility in CECs that adopt the euro before greater real convergence—and by extension, they argue, synchronization of shocks—has been achieved as outweighing the benefits. Others, however, argue that the potential benefits to growth are large, and better disciplined macroeconomic policies might anyway reduce volatility. On balance, provided the CECs adopt structural and fiscal policies strongly geared toward minimizing overall economic volatility, our conclusion is that euro adoption will hasten real convergence, with the risk of at most a modest increase in volatility.

What Do the CECs Bring to Euro Adoption?

The profound changes in the CECs during the past decade have transformed them into market economies that in many respects resemble the euro area. These similarities are confirmed by the evidence presented earlier on the OCA criteria—that supply-side shocks and cyclical positions are becoming increasingly similar to those in the euro area while labor markets are at least as flexible as in the euro area. Looking ahead, actions to conform to the *acquis communautaire* will increase similarities, particularly in the areas of legal institutions, administrative and regulatory systems, and, eventually, infrastructure.

Nevertheless, in a number of ways, the CECs have quite distinct macroeconomic characteristics that will define their experience within or outside the euro area for some time to come (Section IV).

- *Lower incomes than the euro-area countries.* Incomes have been catching up at a moderate pace: annual per capita GDP growth in the CECs has exceeded that in the euro area by an unweighted average of 1.3 percentage points over the past five years.
- *Low capital bases.* Estimates of capital labor ratios put them at about 17 percent of the level of Germany despite employment rates that average about 90 percent of the level in Germany. This means that during the catch-up, moderate wages—now about 24 percent of the German level on average—and large differentials between returns on investment in the CECs and euro area should persist.

- *Rising real exchange rates.* Traded-goods sectors are likely to continue to lead productivity growth, giving rise to Balassa-Samuelson (B-S) effects (Box 1.2). These, with other structural influences—such as relatively rapid growth of demand for non-traded goods and price deregulation—should keep inflation on the high side of the euro-area range unless nominal appreciations occur.
- *Large capital inflows.* Relatively high returns on investments in the CECs will continue to attract large capital inflows, matched by large current account deficits. The inflows will probably continue to have a heavy FDI component, but portfolio inflows should remain robust as well. Volatility will remain a key risk. Large current account deficits will be driven by high investment ratios and the depressing effects of income growth expectations on personal savings.
- *Low bank intermediation.* Bank credit to the private sector as of mid-2003 was about one-third of the euro-area average. Banks, largely foreign-owned in several of the countries, remain reluctant to lend to enterprises but are stepping up lending to households.
- *Large general government deficits.* Excluding Slovenia, 2003 deficits are estimated in the range of 3½–6½ percent of GDP. They reflect moderate revenue ratios but high primary current expenditures relative to per capita GDP. Demographic profiles vary: in Slovenia and the Czech Republic, they rival the worst in the euro area, but in Hungary, Poland and the Slovak Republic they are more favorable than in the euro area.

These characteristics point to the massive challenge and intrinsic vulnerabilities the CECs will face as they catch up to EU income levels. Joining the euro area with the right policies in place should be a sizable impetus to the catch-up. And the right policies must include both measures to more closely align the CECs with the euro area and strategies to address CECs' inherent vulnerabilities during the run-up to euro adoption and afterward. Two specific risks to macroeconomic stability stand out (see Section V).

- Large capital inflows, by virtue of their size alone, entail risks of volatility and speculative pressures on exchange rates. Moreover, when markets view wide current account deficits—often the result of large inflows—as a signal of vulnerability and possible overvaluation, large inflows can create their own demise. The predominance of FDI in aggregate inflows, generally small derivatives markets, and fundamentally high rates of return on investments in the CECs offer some protection from reversals. But because CECs will be subject to market speculation about the euro adoption process as

Box 1.2. How Large Are Balassa-Samuelson Effects in the CECs?

Catching up to the income levels of more advanced countries is driven by productivity gains stemming from increases in both capital-labor ratios and total factor productivity. In general, these gains are faster for tradables—which face foreign competition and tend to attract the larger share of technology-intensive foreign direct investment—than for nontradables. As wages in the tradables sector rise with productivity they also bid up wages in the nontradables sector. Then, to maintain profit margins, nontradables' prices must increase relative to those of tradables. This process is called the Balassa-Samuelson (B-S) effect.

There is strong evidence of B-S effects in transition countries, with three main implications.

- First, these effects raise domestic inflation relative to what it would be without such effects. Thus, for 1995–99, Cipriani (2000) finds that productivity growth differentials increased the price of nontradables relative to tradables by between 0.4 percent (in the Slovak Republic) and 4.5 percent (in Poland) per year.
- Second, they cause appreciations—though generally by less than the domestic relative price effects—of the CPI-based real exchange rate vis-à-vis an anchor country if the productivity growth differential is larger in the catching-up country than in the anchor country.¹ Kovács (2002) finds that sectoral produc-

¹Assuming that traded goods prices are equalized across countries, the size of the real appreciation depends on the cross-country differences

tivity differentials add between 1 percent (in Slovenia) and 2 percent (in Hungary) per year to the CPI-based real exchange rate with Germany. That real appreciations have been larger suggests that other factors—such as rapid demand growth, administered price changes, previous undervaluations, or overshooting—have also been at play.

- Third, depending on the extent of nominal appreciations, B-S effects also result in inflation differentials between countries. Cipriani finds that B-S contributions to the excess of CEC inflation over German inflation range from 0.2 percentage points for the Slovak Republic to 1.8 percentage points in the Czech Republic. Mihaljek and Klau (2003) find effects over a similar range. These results cannot, however, be extrapolated to determine likely inflation differentials once countries limit exchange rate movements in ERM2 or EMU; this is because estimates of B-S contributions to inflation differentials from periods of nominal exchange rate flexibility would tend to underpredict B-S induced inflation differentials under fixed exchange rates.

The broad conclusion from the many studies on this issue is that B-S effects on the real exchange rate—and on inflation when nominal exchange rate flexibility is curtailed in ERM2 or EMU—will probably be on the order of 1–2 percent per year.

in sectoral productivity growth, shares of nontradables in domestic consumption baskets, and relative sectoral factor intensities.

well as exogenous contagion and bandwagon effects, capital account volatility is highly probable (Section V, “Capital Account Volatility”). Most CECs have managed such vulnerabilities at least in part through exchange rate flexibility; this has explicitly shifted risks from exchange rate changes to market participants and prevented the authorities from getting caught on one side of speculative pressures.

- Credit and demand booms are likely to be in the offing (see Section V, “Credit Booms: Risks and Responses” and “Macroeconomic Booms”). With actual bank credit substantially below estimated equilibrium levels, newly privatized foreign-owned banks capable of improved risk assessment, and ample investment opportunities (including in real estate undervalued by euro-area standards), both supply- and demand-side incentives for rapid credit growth exist. Relatively strong bank regulation and supervision offer considerable protection from imprudence by banks. But rapid credit growth together with falling saving ratios can still produce

overheating, high current account deficits, and asset price bubbles.

Requirements for Successful Participation in EMU

Since participation in EMU entails the loss of monetary policy and long-term restrictions on fiscal policy, each country must consider the requirements for succeeding in this environment. Five elements seem to be of central importance.

- First, fiscal deficits must be low, and rigidities from subsidies and formula-driven social transfers must be reduced. Likely persistence of volatile demand and output growth by euro-area standards means that prudent debt levels for the CECs—that is, debt levels that can be serviced without undue strains on the economy even in slack periods—are probably no higher than 40–50 percent of GDP. To support these moderate debt burdens, given likely developments in real interest rates and potential growth, primary surpluses will be needed. Countries should

also plan to have overall fiscal deficits that provide a buffer relative to the EU's Stability and Growth Pact (SGP) deficit limit of 3 percent of GDP to allow automatic fiscal stabilizers to operate. At the same time, fiscal policy will need to be capable of responding nimbly to restrain demand in the event of credit and demand booms.

- Second, wage and price flexibility must be protected where strong and enhanced where weak. For most countries, the record—reflected in the discussion of the OCA criteria—provides some reassurance: measures of labor market flexibility are at least on a par with the noncore euro area, although, historically, indexation practices in Slovenia are an exception. Important, however, is that, while the experiences of the noncore countries in EMU have generally been satisfactory, conditions there are not necessarily the right standard for the CECs, where employment rates are relatively low. In fact, since no quantifiable standards exist, whether wages and prices are sufficiently flexible for successful participation in a currency union is ultimately a matter of judgment.
- Third, synchronization of activity with the euro area should be strong. Again, without a quantifiable standard, the appropriate degree of synchronization is subject to judgment; but the greater the synchronization, the less often area-wide monetary policy will be inappropriate for cyclical conditions in the CECs. Here again evidence on the OCA criteria—actual correlations of activity and indirect indicators of future correlations—suggests that the CEC economies are becoming more closely linked with the euro area.
- Fourth, financial market supervision must be strong. Rapid growth of bank credit to the private sector is almost inevitable, regardless of euro adoption, as intermediation moves to equilibrium levels. But the effects of euro adoption on confidence and interest rates may hasten the process. Particularly without the scope for a monetary policy response, effective bank supervision, alongside fiscal restraint, will be key in containing the risks of asset price bubbles and overheating. The large presence of foreign banks in the CECs makes coordination of supervision with euro-area countries important.
- Fifth, an appropriate level of competitiveness must be established at the outset of monetary union. This must be reflected first in the ERM2 (Exchange Rate Mechanism) central parity and later in the conversion rate agreed jointly with the European Central Bank (ECB), European Commission (EC), and other member states. Down-

ward price or wage rigidities would make adjustment to an overvalued parity difficult and costly in terms of employment and forgone growth.

The Maastricht Criteria and ERM2

Besides preparing itself for as strong a performance as possible within EMU, each country must elaborate a strategy to meet the Maastricht criteria (see Section VI). These nominal convergence criteria formally consist of four conditions that must be assessed at a single point in time: (1) year-average inflation that does not exceed by more than 1½ percentage points that of the “three best performing Member States in terms of price stability”; (2) year-average nominal interest rate on the 10-year benchmark government bond no more than 2 percentage points above the average in the same three countries; (3) a fiscal deficit below 3 percent of GDP and public debt less than 60 percent of GDP; and (4) trade of a country's currency against the euro without severe tensions within the “normal fluctuation margins” of the Exchange Rate Mechanism (ERM2) for at least two years.⁵ Precedents and official statements suggest that exchange rates would almost certainly be deemed stable if they remained within a very narrow band (for example, $\pm 2\frac{1}{4}$ percent of the central parity), but scope exists for very short-term movements below this range when exogenous influences are at play and more prolonged movements (but still well within 15 percent of parity) above it (Box 1.3). The inflation criterion also leaves room for interpretation: the three “best performers” in the assessments in the late 1990s were the countries with the lowest inflation rates; but, with EMU in place, they might rather be identified as those with inflation rates closest to the ECB definition of price stability—close to, but below, 2 percent.

If countries wish to ensure a successful experience in EMU, they will want to go beyond the Maastricht criteria in several respects. First, structural fiscal deficits should be reduced well below 3 percent—staff calculations suggest to about 1–2 percent—of GDP to ensure that debt ratios are contained to prudent levels consistent with underlying volatility and that deficits can be kept within the SGP norms even in the face of cyclical weakness. Also, budget formulation must be flexible enough for fiscal policy to play a strong stabilizing role. Second, demonstrating wage and price flexibility will be essential, again to ensure adequate adjustment in the absence of a national monetary policy. Third, the trend seen in re-

⁵ERM2 is an arrangement that links the currencies of prospective euro-area members to the euro by establishing a ± 15 percent band for exchange rate fluctuations around an agreed central parity. The Maastricht exchange rate stability criterion, however, is not necessarily assessed with respect to this wide band.

Box I.3. Exchange Rate Criterion

Considerable debate has surrounded the question of how the exchange rate stability criterion will be interpreted for ERM2 participants. Three main pieces of information are relevant.

- First, ERM2 permits exchange rate fluctuations within a ± 15 percent band around the central parity against the euro. This requirement differs from the exchange rate stability criterion, which requires “observation of normal fluctuation margins provided by the exchange rate mechanism of the European Monetary System, for at least two years, without devaluing against the currency of any other Member State” (Article 121(I) of the Maastricht Treaty). In ERM, the exchange rate stability criterion was assessed against fluctuation margins of $\pm 2\frac{1}{4}$ percent against the median currency (European Commission, 2000, Annex D).
- Second, in line with the Maastricht Treaty, precedents from ERM indicate that use of a wide upper margin is possible. Specifically, the Irish pound was on average 4.6 percent above its central parity during the assessment period, with deviations peaking at almost 11 percent. The Greek drachma was on average more than 6 percent above its central parity

during its participation in the ERM/ERM2, and the maximum deviation reached 9 percent. Both central parities were revalued (by 3 and $3\frac{1}{2}$ percent, respectively) shortly before conversion. There were few tests of flexibility on the lower margin, although France was assessed to have met the criterion even though it slightly breached $2\frac{1}{4}$ percent below parity on two successive days.

- Third, recent official statements reaffirm the validity of these precedents. For example, a senior ECB official recently stated that “assessment of the exchange rate stability against the euro will focus on the exchange rate being close to the central rate while also taking into account factors that may have led to an appreciation, in line with what was done in the past” (Padoa-Schioppa, 2004).

On balance, a close reading would suggest that exchange rates would almost certainly be judged stable if they remained within $\pm 2\frac{1}{4}$ percent of parity. Appreciations above this (but well within 15 percent of the ERM2 band) would be allowed in some cases. Larger deviations would also likely be accepted if they were judged to stem from events beyond the authorities’ control.

cent years toward greater synchronization of activity with the euro area must be evidently continuing.

In other respects, however, the Maastricht criteria—specifically the inflation criterion together with the exchange rate stability criterion—could be overly binding for the CECs (see Section VII, “Controlling Inflation While Stabilizing the Exchange Rate”).

- Whether the inflation criterion can be met in a sustainable manner depends on its interpretation. CEC inflation under the common monetary policy is likely to be similar to that in the catching-up noncore members—3.4 percent on average during 1999–2003. Thus, achieving inflation of $1\frac{1}{2}$ percentage points above the rate in the three lowest inflation countries in the EU—some 1.4 percent in 2002—would be tougher than most CECs could meet in a sustainable manner. If, however, the standard for the inflation criterion were a rate close to the ECB inflation objective—implying inflation targets of just under $3\frac{1}{2}$ percent—it should be fully manageable while sustaining growth at its potential, provided fiscal and structural policies were appropriately supportive.
- Meeting the exchange rate stability criterion will challenge present risk management strategies.

Until they enter ERM2, the CECs, with established records of open capital accounts, can continue to rely on exchange rate flexibility and minimal official intervention in foreign exchange markets to discourage the private sector from taking excessive unhedged foreign exchange exposures and protect central banks from being caught on one side of speculative pressures. Once in the euro area, the common currency itself will protect from destabilizing effects of capital account volatility. But during ERM2, when free floating will not be possible, choosing an interim monetary framework that supports the central parity but also encompasses appropriate risk management features will require careful consideration of the options under ERM2.

ERM2 is designed to be a testing ground. The philosophy underlying ERM2 is that managing the exchange rate within a ± 15 percent band, which is eventually narrowed to a smaller margin around an announced central parity, tests policy consistency and the appropriateness of the central parity as a permanent rate. In this view, stable exchange market conditions are essential proof that the central parity is the right rate at which to irrevocably convert to the euro and that policies are sufficient to support that

rate. In addition, the central parity, especially during the final approach to euro adoption, will be a centering influence on the market.

This perspective contrasts with the view that monetary policy frameworks should be instruments of risk management in emerging markets. Here, emerging markets are seen as essentially vulnerable to exchange rate changes through the interaction of two features. First, exchange rates are subject to influences such as contagion, shifts between multiple equilibria, and herd behavior that are distinct from fundamentals, though not always identifiably so. Second, incentives for building up open foreign exchange positions (for example, interest rate differentials that motivate unhedged foreign currency borrowing) mean that exchange rate changes can have large destabilizing effects. Monetary policy frameworks need to incorporate an active defense against these risks: inflation targeting, where the exchange rate floats, at least potentially, over a wide range, explicitly transfers exchange risk to the private sector; and hard pegs both reduce, by forgoing discretion, and shift risk from the exchange rate to interest rates. In this view, between these “corner solutions” the options—especially ones that entail narrow exchange rate bands—provide ambiguous signals about how market pressures will be met, do not sufficiently discourage open foreign exchange positions, and invite market tests of the rate. A challenge for the CECs is to devise monetary policy frameworks that both provide the protection of the “corner solutions” and permit countries to meet the exchange rate stability criterion.

Strategies for Meeting the Maastricht Criteria

The CECs will need well-planned policy strategies to meet the Maastricht criteria as they stand (Section VII). The centerpieces of the policy frameworks will be fiscal actions and plans, efforts to secure low inflation while enhancing price and wage flexibility, reasonable central parities, and monetary policy frameworks that embody a strategy for managing market risks. These must be coordinated with decisions on when to enter ERM2 and how long a stay to plan for.

Fiscal positions will be the bellwether of the seriousness of each country’s commitment to adopting the euro. Framing targets, demonstrating progress toward meeting them, and articulating a coherent medium-term plan will be essential. Targets should be conservative. Calculations of the cyclical sensitivity of each country’s budget and of the recent history of cyclical swings in growth suggest that countries

should aim for a substantial margin—on the order of 1–2 percent of GDP—between their deficit target and the Maastricht ceiling of 3 percent of GDP (see Section VII, “Taming Fiscal Deficits”). This margin will ensure that adverse cyclical developments, either before euro adoption or immediately afterward, do not lead to breaches of the limits of the SGP. It would also be consistent with debt ratios in the range of 40–50 percent of GDP, levels that would be safe with the volatility of revenues and rigidities in expenditures that characterize the CECs. Moreover, fiscal policy will be a critical defense against unwanted effects of credit and demand booms; deficits will therefore need to be reined in even more tightly in the event of these threats to macroeconomic stability.

Attention to the structure of the fiscal adjustment will be critical. The short-term effects of the adjustment will be depressing, although these are likely to be at least partially offset by other stimuli, such as rapid credit expansion and/or strong growth of export markets. Most important, however, careful structuring of the adjustment will produce longer-term supply-side benefits. A few points illustrate the nature of the adjustment requirement. After accounting for savings on debt service from interest rate convergence and the likely net budgetary impact of EU accession, the primary fiscal adjustment relative to GDP needed to achieve conservative fiscal positions is likely to be about $2\frac{1}{2}$ – $4\frac{3}{4}$ percentage points—in some cases more than the greatest deficit adjustment of pre-EMU member states.⁶ This adjustment should come from restraint of current spending—in particular, social transfers (which are large relative to the CECs’ per capita GDP) and subsidies. Calculations in Section VII suggest that conservative deficit targets could be reached through such expenditure restraint while leaving tax burdens unchanged and, in some cases, even increasing already low infrastructure spending. Such structural fiscal adjustment would also reduce rigidities in future budgeting and improve efficiency.

Securing low inflation will be a second pillar of the strategy (see Section VII, “Controlling Inflation While Stabilizing the Exchange Rate”). While inflation probably cannot be sustained at rates consistent with the strictest interpretation of the Maastricht inflation criterion, it will definitely need to be reduced to rates that do not impair competitiveness once countries fix exchange rates. Some of the CECs have already achieved such rates; others have a way to go. In the former, inflation gains need to be aggressively protected; in the latter monetary and fiscal policies geared toward reducing inflation might even need to be supplemented with incomes policies.

⁶This assessment excludes Slovenia, where deficits are already below the Maastricht limit.

Getting the parity right will be another key part of the strategy (see Section VII, “Choosing Parities”). The ERM crisis in the early 1990s speaks to the importance of avoiding unrealistic parities and responding quickly to signs of misalignment. Estimates of equilibrium real exchange rates will indicate a range of possible rates; decisions on where in the range to set the parity will be part of risk management strategies. The adverse effects of getting the central parity and conversion rates too low (inflation and overheating) are likely to be less disruptive than those of getting the rate too high (low growth, high unemployment, and the need for price and wage cuts). Should monetary frameworks make use of the wide ERM2 bands, two other considerations would come into play: first, because tolerance within the exchange rate stability criterion for downside deviations from parity will be substantially less than that for upside variations, the risks of market tests are greater on the downside; and second, a credible parity even more appreciated than the market rate would leave some room for interest rates to exceed euro-area levels, helping countries to constrain inflation and possible rapid credit growth.

The fourth part of the strategy will be choosing a monetary framework. Ideally, countries should continue and, in some case even refine, current inflation targeting frameworks until ERM2 entry. After entering ERM2 they will need to articulate frameworks that enhance the stabilizing effects of a well-chosen parity, maximize the chances of realizing the exchange rate stability and inflation criteria, and encompass a strategy for managing risk (see Section VII, “Monetary Policy Frameworks”). No single framework will be optimal with respect to each of these considerations. But explicit or implicit commitments to narrow bands—which would invite market tests—would be risky. Because the exchange rate stability criterion effectively rules out continuing current inflation targeting frameworks, two options would be consistent with the CECs’ circumstances.

- The option most in the spirit of ERM2 would be exchange rate targeting with wide exchange rate margins. Here, interest rate and fiscal policies would aim to stabilize the exchange rate over time at the central parity, but no explicit or implicit bands interior to the ± 15 percent ERM2 band would be set. Thus, market pressure might initially be allowed to move the exchange rate—even quite significantly—but subsequent fiscal and monetary policy adjustments would aim to guide it gradually back toward parity. Direct intervention in the foreign exchange market would be minimal so as to avoid any signals of implicit bands. Inflation would be a key secondary objective, but increasingly subordinated to the exchange rate target if and as the market rate

moved away from parity. This arrangement would rely on the magnet effect of a well-chosen central parity when policies are fully consistent with the parity and the market has clear expectations of a conversion date. Ex ante commitment to flexibility in interpreting the exchange rate criterion on both sides of the parity would be critical to establishing the credibility of potential exchange rate variations. Paradoxically, barring exogenous disturbances, these conditions could well, in the event, produce exchange rate behavior in line with a relatively narrow interpretation of exchange rate stability.

- A hard peg—akin to a currency board arrangement—would be worthy of serious consideration if the exchange rate stability criterion is expected to be interpreted narrowly. It would clearly signal the authorities’ intentions and, if credible, would address vulnerabilities. The policy requirements, however, would be rigorous: before the peg was introduced, the fiscal deficit would need to be reduced well below the Maastricht ceiling, and inflation would need to be brought into conformity with the Maastricht criterion. Then, the credibility of the parity would be strong, risk premia slashed, and interest rate convergence virtually complete from the outset of ERM2. A hard peg would, however, abandon any pretense of monetary policy control over inflation, narrow the options for addressing any overvaluation or pre-EMU demand boom, and shift the stability/consistency test from the exchange rate to the interest rate.

In ideal circumstances, these two frameworks would boil down to the same thing—rigorous macroeconomic policies producing stable exchange market conditions. The essence of the choice concerns the signal to markets on how the exchange rate will respond to exogenous disturbances. Under the hard peg, interest rates would bear the immediate brunt of any disturbance, and under the exchange rate target the exchange rate would. It is precisely the absence of such a clear signal that makes the continuum of frameworks between the two—including explicit or implicit narrow bands—more risky alternatives.

The expected time horizon for the stay in ERM2—while never subject to any guarantees—should also be carefully considered. A strong argument exists for sticking to present inflation targeting frameworks where they are successful and shifting to a framework compatible with the exchange rate stability criterion for the minimum stay in ERM2. In this approach, countries would enter ERM2 only at the point when the requisite fiscal adjustment was in hand, inflation was close to the Maastricht criterion, and the authorities were confident about the adequacy of wage and

price flexibility. This would demonstrate to markets a country's policy intentions and increase the likelihood that the parity would play a strong centering role. Provided policies remained on course and EC and ECB surveillance supported close communication on policies, judgments on the readiness for euro adoption should hold no surprises. Proponents of ERM2 as a testing ground may see this strategy as too rushed to establish the consistency of policies with the central parity. The essence of a short-stay strategy in ERM2, however, would be decisive implementation of fiscal and structural policies that demonstrate consistency with the euro area policy framework, thereby bolstering the credibility of monetary policy focusing on nominal convergence.

Another strategy would be to enter ERM2 well before the two-year assessment period and make use of the wide bands while policies are gradually brought in line with the euro-area policy framework. A clear monetary framework—both to guide policy decisions and provide transparency vis-à-vis markets—would need to be defined. For some countries, a continuation of inflation targeting would probably be feasible within the ± 15 percent bands of an agreed central parity, although prompt parity changes would be essential if the bands were challenged. Countries might, however, want to switch to some form of exchange rate targeting that also made use of the wide margins, but directed policies toward a medium-term exchange rate target rather than an inflation target. The value of this approach would be in gaining experience with a monetary policy framework that included a central parity, deviations from which would help clarify policy inconsistencies.

Such a prolonged stay in ERM2 could entail significant risks. Specifically, entering ERM2 well before policies suitable for euro adoption were in place could, by removing the urgency of a clear target date for euro adoption, slow the mobilization of political support for needed policy changes. At the same time, without adequate supporting policies, even a wide band could be challenged: inflation targeting could—as it did in 2003 in Hungary—push the exchange rate to the edge of a band; and adhering even loosely to a medium-term exchange rate target, while markets remained uncertain about the timing of euro adoption, could invite speculative pressures. Alternatively, if policies could be optimally aligned quickly and credibly, exchange rates would likely be drawn to the central parity—barring any exogenous shocks—and little would be gained from delaying the benefits and security of EMU participation. In essence, entering ERM2 without proper fiscal and structural policies in place could be risky; but staying in ERM2 with the right policies in place much beyond the required two years would unnecessarily delay the benefits of being part of the euro area.

Managing the euro entry process will be a challenging task. An enlarged EMU has the potential for being a positive sum game for existing and prospective members, in part because it will produce better policies and therefore more stable conditions for all. But the risks inherent in such a major regime change are substantial. They can be minimized mainly through good policies in the candidate countries. In addition, strong surveillance and timely communications on the part of the EC and ECB will play an important role in winning the confidence of markets and enhancing countries' efforts to sustain popular support for their programs.

* * *

Several broad policy conclusions can be drawn from the analysis.

- First, euro adoption is likely to bestow substantial net gains on the CECs over the long term and make them stronger, more self-reliant members of the EU.
- Second, basic requirements for a successful experience in the euro area should be in place prior to euro adoption: activity should be closely enough aligned with the euro area to minimize risks that euro-area monetary policy will be inappropriate to domestic conditions; alternative adjustment mechanisms to monetary policy—specifically fiscal policy and wage and price flexibility—must be capable of absorbing shocks; financial market supervision must be exemplary; and conversion rates must be right.
- Third, while most CECs are in a relatively strong position vis-à-vis wage and price flexibility and are progressing well on synchronization and bank supervision, fiscal adjustment remains a key challenge.
- Fourth, some specific characteristics of the CECs will present challenges during ERM2 and afterwards. Vulnerability to capital account volatility, real appreciations, and rapid credit and demand growth will make the policy requirements for a smooth transition rigorous: fiscal adjustment prior to ERM2 entry must be substantial and well structured, inflation must be low, central parities must be set realistically, and monetary frameworks during ERM2 must incorporate adequate protection from vulnerability to capital account volatility.
- Fifth, countries need to articulate clear medium-term strategies to prepare themselves for success in the euro area. These must include plans for reducing fiscal imbalances so as to contain debt at conservative levels, securing low inflation while enhancing wage and price flexibility, and further strengthening financial market supervision.

- Sixth, medium-term plans should aim to meet the Maastricht criteria decisively and largely prior to entering ERM2. Vulnerabilities during ERM2 will be minimized and the anchoring effect of the central parity maximized, if market expectations incorporate a credible entry date. Credibility, however, will be directly related to the strength of measures in place at the time of ERM2 entry.
- Seventh, since each country will need to design and build political support for a strategy for euro adoption, a case-by-case approach to the timing of euro adoption will be necessary.
- Finally, once the CECs have put in place strong policy programs, the EC and ECB will play vital roles in advising countries on their programs and providing moral support for their efforts. Convergence reports and regular consultations will offer occasions to reinforce to both markets and the CECs themselves the commitment of the euro institutions to this next step in European integration.