



EUROPEAN CENTRAL BANK

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NO. 10 / FEBRUARY 2004

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STRATEGIES TOWARDS  
ERM II AND THE  
ADOPTION OF THE  
EURO: AN ANALYTICAL  
REVIEW**

by a staff team led by  
Peter Backé and Christian Thimann  
and including  
Olga Arratibel,  
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## INTRODUCTION<sup>1,2</sup>

The ten countries joining the European Union in May 2004 are intensively discussing issues related to their future participation in ERM II and the subsequent adoption of the euro. Many of them have tabled concrete strategies for further monetary integration within the EU, elaborating in particular on the intended timing of ERM II entry and euro adoption. In some cases strategies announced in 2001 or 2002 have recently been modified or refined. Most countries appear to be opting for a relatively short participation in ERM II. However, some countries have shifted their preferred euro adoption dates backward by one or two years, compared with their original plans, which in turn implies that ERM II entry is in these cases targeted only some time after EU accession. This paper presents an analytical review of the acceding countries' strategies towards further monetary integration, with the aim of contributing to the ongoing dialogue with the acceding countries' central banks. In particular, the paper aims at examining the economic rationale of the strategies declared by most acceding countries so that also potential risks involved can be identified. It is worth noting that this paper does not explore in much detail the benefits of euro adoption per se, as it takes the institutional framework as given, which foresees the introduction of the single currency in the acceding countries at some future point (with no opt-out clauses). Rather, the paper focuses on the timing of euro adoption, i.e. on the economic merits and risks of an early adoption of the euro compared with those of introducing the euro at a later stage, in each of the country cases under consideration.

The paper should not be seen as a form of convergence assessment, but rather as a conceptual framework to study the acceding countries' declared strategies. Judgements are tentative and may change over time, as new information becomes available and additionally as the acceding countries' strategies continue to evolve.

While at the current juncture the policy focus lies on ERM II issues, the analysis needs to be

seen in light of the countries' medium to longer-term policy plans up to the adoption of the euro, as these plans set the context for the timing and the possible modalities of ERM II participation. For countries that can realistically aim at introducing the euro in the medium term, issues related to ERM II participation may be quite different than the issues facing countries for which the prospect of euro adoption is more remote. Indeed, a full examination of the consistency of ERM II strategies has to extend to the question of whether these strategies are in line with the eventual endpoint of monetary integration. In a way, one could therefore see the optimal policy planning as being solved backwards. This paper, however, takes a more chronological approach, following the sequence outlined in the Treaty, and reviews first the considerations underlying ERM II participation, and then turns to issues related to full monetary integration in the euro area.

Almost all of the ten acceding countries originally declared their intention to adopt the euro a few years after EU entry; since then, some have more recently moved towards a somewhat more extended timeline. Following the procedures laid down in the Treaty, some aim at introducing the euro at the beginning of 2007 (or perhaps already in the later part of 2006), subsequent to a two-year period within ERM II starting around mid-2004 and a positive convergence assessment thereafter. The main motives for the intended early adoption of the euro are to advance economic and financial integration with the euro area, to anchor domestic policies and to lower risk premia, thereby fostering economic growth and real

1 Special contributions by Ralph Stüppel during his stay at the ECB are gratefully acknowledged, together with contributions by Iikka Korhonen (from the Bank of Finland) and Cezary Wojcik, who provided updated empirical results, and Stefan Wredenberg, who helped with the quantitative research.

2 This paper has been discussed extensively in the ECB/ESCB and has benefited from substantive comments in the process, which are gratefully acknowledged. The authors would like to thank in particular Tommaso Padoa-Schioppa, Pierre van der Haegen, members of the International Relations Committee and representatives of the acceding countries' central banks for their helpful suggestions. It is worth recalling that the views expressed in this paper are those of the authors and do not necessarily reflect those of the ECB.

convergence. Those countries that have recently begun to envisage a somewhat longer process before adopting the euro, on the other hand, mostly refer to 2008, 2009 or 2010 as target years for joining the euro area.

This paper reviews the economic considerations surrounding entry into ERM II for the acceding countries as well as those relating to the adoption of the euro. Wherever necessary and appropriate, the paper differentiates among acceding countries, given the significant degree of diversity among them. The considerations of this paper assume that the main interest of the ECB is in ensuring an enlargement process that is smooth and follows Treaty procedures, thereby protecting the credibility of the ERM II mechanism as well as the stability of the euro area. This implies that the timing for ERM II entry and euro adoption need to be broadly appropriate and based on economic logic.

The analysis of the paper is necessarily tentative, as the underlying theory, notably on optimum currency areas (OCA) and the choice of exchange rate regimes, provides only limited guidance. Indeed, both the costs and benefits of monetary union – let alone their balance and aspects related to timing – are difficult to quantify. Moreover, the time horizon of available data is short and is influenced by several important shocks that the central and eastern European economies have experienced in recent years. Still, the paper may be useful in clarifying some of the issues at stake and in providing a conceptual framework of how to analyse and review the acceding countries' strategies towards ERM II and the euro.

The paper is organised as follows. Part 1 explores the issues related to ERM II. It recalls the main views of the acceding countries and the ECB/Eurosystem on the Exchange Rate Mechanism, and examines the constraints on exchange rate policies within ERM II, together with the likely changes in de facto exchange rate policy for individual countries. Part 2 analyses issues related to a future adoption of the euro, with a particular focus on aspects that are

relevant for timing. It deliberately looks beyond considerations relating to the Maastricht criteria, and includes standard OCA indicators as well as a discussion of catching-up-related issues, focusing in particular on the implications of structural differences in economic dynamics. Some tentative conclusions are offered at the end of the paper.

## I THE ROLE OF ERM II

This section reviews some of the economic issues related to the acceding countries' participation in ERM II. It consists of three parts: an overview of the current policy statements regarding ERM II of both the acceding countries and the Eurosystem; a short review of the main features of ERM II, as set out in the Resolution by the European Council; and an exploration of the economic issues related to participation in ERM II.

### I.1 ACCEDING COUNTRIES' AND ECB/EUROSYSTEM PERSPECTIVE

#### I.1.1 ACCEDING COUNTRIES' PERSPECTIVE

Most acceding countries regard ERM II as an institutional requirement for the adoption of the euro that cannot be avoided, but whose appropriateness as an exchange rate policy framework is questionable. Overall, they perceive ERM II as a “waiting room” that offers at best little value-added and may even entail certain risks. In their policy statements, many acceding countries have suggested that their participation in ERM II will be characterised by the following features:

- The duration of participation will be limited to only two years.<sup>3</sup>
- Actual exchange rate management shall lean towards a narrow band from the very beginning of participation. The reason for this is that the relevant interpretation of the Maastricht criterion is seen as pointing to the maintenance of the exchange rate “close to the central rates”, which in turn is interpreted as de facto meaning a narrower (possibly  $\pm 2.25\%$ ) range, with perhaps some flexibility upward but not downward.<sup>4</sup>
- The central rate should be chosen so that it facilitates the kind of exchange rate management described before, and should ideally be the future conversion rate.

The rationale for such an interpretation is based on a negative assessment of ERM II in the following four main policy areas: (i) discipline, (ii) credibility, (iii) adjustability, and (iv) multilateralism.

- Discipline: Acceding countries value the disciplinary impact of ambitious deadlines for euro adoption on macroeconomic and structural policies, but see little disciplinary effect arising from ERM II. Moreover, in terms of fiscal policy, they often refer to the disciplinary impact of the multilateral surveillance exercise that will be applied upon EU accession in any case. Any disciplinary impact in addition to the Maastricht criteria for euro adoption and the Stability and Growth Pact (SGP) is considered negligible.
- Credibility: Acceding countries regard ERM II as an intermediate exchange rate regime, subject to risks of speculative attacks. The ERM crisis in 1992/93 and the recent experience of Hungary, which faced a policy dilemma between its inflation target and its exchange rate objective, are seen as examples of these risks. In addition, the current monetary arrangements – ranging from currency boards arrangements (CBAs) to free floats with inflation targeting – are generally seen as credible overall, as evidenced in mostly low inflation rates, declining policy interest rates and well-entrenched expectations of low inflation. Some officials argue that either their country is ready to adopt the euro, in which case ERM II is not needed as the exchange rate should be stable anyway, or it is not, in which case ERM II is not a sufficiently safe framework for exchange rate and macroeconomic policy management.

<sup>3</sup> Hungary intends to participate in ERM II for a somewhat longer time period (see also Box 1).

<sup>4</sup> Poland would prefer to make use of the standard fluctuation band while participating in ERM II (see Box 1).

## Box I

## SELECTED STATEMENTS BY ACCEDING COUNTRIES ON ERM II (EXTRACTS)

- Cyprus** *“It is envisaged that the current ERM II-type exchange rate framework shall continue to be in place until the eventual adoption of the euro.” The intention of the authorities in Cyprus is “an early participation in the ERM II mechanism” which derives from “the authorities’ aim to join the euro zone as early as possible after accession.” Pre-accession Economic Programme (PEP) 2003.*
- Czech Rep.** *“The mere participation of a currency in [the] ERM II regime does not eliminate monetary turbulence (unlike irreversible fixation of the exchange rate within the framework of a monetary union). Therefore the participation in ERM II can be perceived only as a prerequisite for joining the euro zone and the central bank does not consider a longer-than-necessary stay in ERM II to be desirable. In line with this view the Czech Republic should enter the ERM II only after conditions have been created that will enable it to introduce the euro at the time of the assessment of the exchange-rate criterion (two years after joining the ERM II). In view of the development of the general government deficit expected within the framework of proposed public finance reform, the koruna would therefore remain outside [the] ERM II system, even for some time after the accession of the Czech Republic to the EU.” PEP 2003.*
- Estonia** *“Estonia will present an application to join the ERM II exchange rate mechanism immediately after EU accession in 2004... Estonia wants to keep a fixed exchange rate and the financial framework supporting the currency board system up to euro area accession and as a part of the ERM II framework, taking it as a unilaterally binding obligation to hold exchange rate stability.” PEP 2003.*
- Hungary** *“The Government, in concert with the central bank, has expressed its commitment to joining the ERM II... as soon as possible after we become [a] Member State of the EU. Unlike in the case of the vast majority of accession countries, this exchange rate mechanism is very similar to the Hungarian exchange rate system, which makes ERM II entry easier. Participation in ERM II has substantial benefits while it has no major risks. Its benefits include greater credibility and the fact that, as no unilateral decision can be taken in ERM II, the risk premium expected by foreign investors because the exchange rate policy decisions of a given country, in our case Hungary, are not fully predictable, will be reduced significantly.” PEP 2003.*
- Latvia** *“Upon reaching a mutual agreement between the Bank of Latvia and all involved EU institutions, the Bank of Latvia plans that Latvia will join ERM II together with changing the currency peg on 1<sup>st</sup> January 2005... Taking into account the requirement in the area of meeting the currency stability criterion and the so far successful practice, the Bank of Latvia has no plans for using the exchange rate*



*fluctuation limitation boundaries in the amount of  $\pm 15\%$  of the central parity... fully, but, in case of necessity, by using unilateral interventions, intends to limit the lat fluctuations against the euro to a narrower fluctuation corridor within the framework of ERM II.” PEP 2003.*

**Lithuania** *“It is purposeful to join the ERM II, at the same keeping all the features of the current exchange rate system.” PEP 2003. “We will propose to the government to jointly start talks on accession to ERM II... the earliest possible date for acceding to ERM II could be 1<sup>st</sup> May 2004, when Lithuania will join the bloc. It may also happen a little later, for instance, on 1<sup>st</sup> July in the coming year... While acceding to ERM II, Lithuania will seek to keep the current litas-euro rate but fluctuation margins will be zero, i.e. there will be no fluctuations in the litas rate with respect to the euro.” Governor Sarkinas, May 2003.*

**Malta** *“It would be appropriate to [apply] soon after membership next May to participate in the ERM II by early 2005.” Minister Dalli, November 2003.*

**Poland** *“Poland should join the Economic and Monetary Union (EMU) so soon as possible if only the macroeconomic conditions make it possible. During a two-year participation in the ERM II the zloty should be allowed to deviate from the central parity within a standard fluctuation band ( $\pm 15\%$ ).” PEP 2003.*

**Slovakia** *“The time spent inside the ERM II should be as short as possible ... the country could join the ERM II in 2005.” Strategy of the Slovak Republic for Adoption of the Euro, June 2003.*

**Slovenia** *“Slovenia intends to enter into the ERM II in the first half of 2005.” PEP 2003. Subsequently, in November 2003, the Slovenian government and the central bank agreed on a joint monetary integration strategy according to which Slovenia would intend to join ERM II “by the end of 2004”.*

- Adjustability: Acceding countries believe that the standard fluctuation band of  $\pm 15\%$ , plus the general possibility of upward realignments, might signal that the exchange rate could appreciate by as much as 15% or even more and thereby contribute to higher exchange rate volatility. Moreover, efforts to stabilise the exchange rate within the band could cause speculative attacks and thus lead to excessive exchange rate volatility rather than stability.
- Multilateralism: Acceding countries are uncertain about the involvement of the ECB with respect to coordinated intra-marginal interventions and even interventions at the margin. As a result, they fear higher foreign exchange market uncertainty and speculation.

### 1.1.2 THE EUROSISTEM POSITION

The Eurosystem position regarding ERM II is set out in the “Policy position of the Governing Council of the European Central Bank on exchange rate issues relating to the acceding countries”, published on 18 December 2003.<sup>5</sup> This document builds on earlier statements

<sup>5</sup> See <http://www.ecb.int> (‘Press release’ section).

made by the Eurosystem on ERM II. Box 2 contains a selection of these statements. In its communication, the Eurosystem put forward the view that ERM II should be seen as a useful regime in its own right, arguing that a number of policy challenges faced in the run-up to the euro may well be tackled best within that framework.

The Eurosystem has defended the rationale for ERM II membership by referring to arguments that can be seen in the same four categories as those of acceding countries, albeit with a positive assessment of the value of ERM II.

- **Discipline:** By requiring consistent economic policies, ERM II could help in providing a more stable macroeconomic environment and could moreover act as a catalyst for structural reforms.
- **Credibility:** ERM II, with its announced central parity, would provide guidance to participants in foreign exchange markets, and may thereby contribute to greater exchange rate stability. Moreover, by anchoring inflation expectations and reducing exchange rate volatility, ERM II may also contribute to lowering the level and volatility of inflation. Unlike other intermediate regimes, ERM II entails ultimate exit into the euro area, thus making the system more resilient than other alternative exchange rate regimes.
- **Adjustability:** The standard fluctuation band would leave sufficient room to adjust to asymmetric shocks and structural changes in the economy. Moreover, in the event that the catching-up process is faster than expected, a revaluation of the central rate would be possible.
- **Multilateralism:** The multilateral character of ERM II would be a feature that would enhance the credibility of the framework, as all parties would be engaged in monitoring economic and policy developments, and

assessing market reactions and possibly ultimately co-ordinating actions, if required.

The position of December 2003 recalls the dual role of ERM II, which acts as an arrangement for managing exchange rates between the currencies of Member States participating in the mechanism and the euro, while at the same time playing a role in the convergence criteria for joining the euro. It lays out the main features of the mechanism (see also Section 1.2 below) and, in doing so, maintains that the standard fluctuation band foreseen in ERM II is appropriate for Member States that are engaging in a convergence process. The position paper then turns to the issues related to entry into ERM II. A key element in this context is that to ensure smooth participation in the mechanism, major policy adjustments – for example with regard to price liberalisation and fiscal policy – have to be undertaken prior to participation in the mechanism, and a credible fiscal consolidation path needs to be followed. This notwithstanding, entry into ERM II is not subject to a set of pre-established criteria.

Regarding the length of ERM II participation, the document recalls the minimum period of ERM II membership of two years prior to the convergence assessment, highlighting that the length of participation in ERM II should be assessed in terms of what is most helpful to accompany the convergence process, rather than in terms of the required minimum period. As acceding countries differ greatly in their economic structures, exchange rates and monetary regimes, as well as in the degree of nominal and real convergence already achieved, no single path towards ERM II can be identified and recommended. For some new Member States, it might be appropriate to consider application for ERM II participation only after a further degree of convergence has been achieved. This is particularly advisable when an early rigidity in the exchange rate could precipitate disorderly realignments with potentially disruptive economic consequences, including for the credibility of the mechanism

as a whole. For other new Member States that have implemented significant structural reforms and have shown the ability to advance convergence through sound economic policies and an exchange rate regime that is in principle compatible with ERM II, entry into the mechanism can take place soon after accession, provided that there is mutual agreement on the central parity. The position of December 2003 also maintains that, in certain cases, new Member States may consider it desirable to envisage a longer stay in ERM II while further convergence takes place.

The position paper ends with a section on the adoption of the euro, which includes an explanation of how the exchange rate stability criterion has been and will continue to be applied. The criterion refers to participation in ERM II for a period of at least two years prior to the convergence assessment without severe tensions, in particular without devaluing against the euro. The assessment of 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. In this respect, the width of the fluctuation band within ERM II shall not prejudice the assessment of the exchange rate stability criterion. Finally, the position paper describes how the ECB addresses the issue of the absence of “severe tensions”.

## Box 2

## SELECTED STATEMENTS BY THE EUROSISTEM ON ERM II (IN REVERSE CHRONOLOGICAL ORDER)

*“Achieving a high degree of nominal convergence and a significant degree of ‘institutional’ convergence is essential for, first, smooth participation in the Exchange Rate Mechanism (ERM II) and, later on, successful membership in the euro area.”* **L. Papademos**, Vienna, November 2003.

*“The point [in time] of joining ERM II... should be consistent with having achieved a sufficient level of nominal and real convergence... An important ingredient of any monetary policy strategy after EU accession is to guide the choice of when to enter ERM II and later EMU. Membership of EU does not necessarily mean immediate entry in ERM II, although this may be an option for some acceding countries... For the participation in ERM II to be successful, however, it is crucial that the real and nominal convergence processes have advanced sufficiently and that economic policies and structures are consistent with this regime. It follows that premature rigidity of the exchange rate could precipitate disorderly realignments with disruptive economic consequences, including the credibility of the mechanism.”* **G. Tumpel-Gugerell**, Frankfurt am Main, November 2003.

*“Participation in ERM II may contribute to anchor expectations and support the implementation of sound macroeconomic and structural policies, thus fostering real and nominal convergence. However, participation in ERM II must be compatible with all other elements of a country’s macroeconomic policy framework, in particular with the monetary, fiscal and structural policies.”* **G. Tumpel-Gugerell**, Frankfurt am Main, October 2003.

*“The principal function of the ERM is to act as an instrument for consolidating economic policies designed to promote stability and convergence, both nominal and real. Membership of ERM II is itself a criterion for membership of Monetary Union, and should last for at least two years. There is also a qualitative requirement: this minimum period of membership must be completed without excessive tensions arising and without the currency concerned being devalued [during this period] by the participating country. ERM II is often said to play a dual role since it acts as an instrument of convergence and as a membership criterion in its own right... ERM II must not be seen as an uncomfortable two-year waiting room for accession countries, but instead as a mechanism that combines compromise and flexibility and that facilitates stability and adaptation to a new environment.”* **E. Domingo Solans**, Berlin, October 2003.

*“First of all, ERM II is a voluntary arrangement, which means it can be joined at any time following accession ... Second, ERM II is an exchange rate arrangement with fixed but adjustable central parities and a ‘normal’ fluctuation band of  $\pm 15\%$  ... which can help anchor the nominal exchange rate and, crucially, expectations. At the same time, it also leaves some room to accommodate upward pressure on the exchange rate... These phenomena have to be taken into account when deciding the modalities of ERM participation and ... in the assessment of exchange rate stability ... Third, ERM II is a multilateral exchange rate arrangement. Decisions concerning central rates and fluctuation bands will be taken on a case-by-case basis and by mutual agreement of all the parties involved, including the ECB ... If inconsistent national policies threaten to make the central parity unsustainable, the parties involved will first urge*



*the country concerned to mend its ways, to adjust its policies. If this is not feasible, a realignment can be negotiated.”* **L. Papademos**, Dublin, March 2003.

*“It is important that any decision to join ERM II is consistent with an adequate level of nominal and real convergence with the euro area ... Once in ERM II, countries will be expected to continue their convergence process until the sustainable achievement of the Maastricht criteria ... For some countries the benefits of staying longer in ERM II could more than offset the opportunity costs ... Optimally choosing the timing of adoption of the euro also implies reducing the differences in per capita income levels.”* **O. Issing**, Budapest, February 2003.

*“Upon accession to the EU, countries are expected to intensify preparations for full participation in EMU. This process will include, at some point, joining the exchange rate mechanism (ERM II) ... In this context, it was discussed in particular how to use ERM II not simply as a ‘waiting room’ before joining the euro, but as a meaningful framework to deal with the challenges related to further nominal and real convergence. Looking ahead, many accession countries expressed an interest in joining ERM II upon or soon after EU entry. At the same time, it was also stressed that the optimal time to join the mechanism and eventually adopt the euro could vary from country to country.”* **Press release, Genval Seminar** on the EU accession process, December 2002.

*“ERM II will indeed be a framework that provides both stability and flexibility – a combination that is likely to be beneficial for many of the current accession countries in their real and nominal convergence process... ERM II should not be seen as a mere waiting room prior to the adoption of the euro... Instead, it should be regarded as a meaningful and flexible framework for combining nominal and real convergence, and for tackling the challenges faced by the accession countries in the run-up to the adoption of the euro... In addition, ERM II may provide an appropriate framework to avoid major misalignments when choosing the conversion rates to the euro.”* **T. Padoa-Schioppa**, Vienna, November 2002.

*“ERM II membership needs neither to happen immediately after EU accession in all cases, nor to be limited to only two years, which is the minimum for adoption of the euro. It would be misleading to consider ERM II as a mere waiting room before the euro. On the very contrary, ERM II would allow countries to retain some limited exchange rate flexibility during the catching-up process.”* **J.-C. Trichet**, Vienna, June 2002.

*“ERM II membership does not need to happen immediately after EU accession in all cases, nor does ERM II membership need to be limited to only two years, which is the minimum for adoption of the euro. A longer membership of ERM II may, in some cases, be helpful since it would allow countries to retain the exchange rate as an instrumental policy variable during the catching-up process.”* **W. Duisenberg**, Frankfurt, November 2001.

## 1.2 RATIONALE AND FEATURES OF ERM II

To the extent that it is part of the Treaty obligations to adopt the euro, ERM II membership also imposes a legal requirement on Member States with a derogation. The exchange rate mechanism itself is defined in the “Resolution of the European Council on the establishment of an exchange rate mechanism in the third stage of the EMU” (hereafter, the Resolution).<sup>6</sup> The Resolution states:

- The main objective of ERM II is to support a stable economic environment needed for the good functioning of the single market. In particular, real exchange rate misalignments and excessive nominal exchange rate fluctuations between the euro and other EU currencies must be avoided. ERM II is expected to provide Member States outside the euro area with a reference for their conduct of sound economic policies, particularly in the monetary field, designed to foster real convergence and support their efforts to adopt the euro, and to help protect participants from unwarranted pressures in foreign exchange markets.
- The main features of ERM II include: (i) a central rate against the euro; (ii) a standard fluctuation band of  $\pm 15\%$  around the central rate; (iii) obligatory interventions at the margins, which are in principle automatic and unlimited; and (iv) availability for very short-term financing. The Resolution emphasises, however, that the ECB and the participating NCBs “could suspend intervention, if this were to conflict with their primary objective.” Such a decision to suspend intervention would “take due account of all relevant factors and in particular of the need to maintain price stability and the credible functioning of the exchange rate mechanism.”
- Participation in the exchange rate mechanism will be voluntary for the Member States outside the euro area. Nevertheless, Member States with a derogation can be expected to

join the mechanism, while a Member State which does not participate from the outset in the exchange rate mechanism may do so at a later date. The Resolution makes no mention of entry conditions and, although a common accord on the central parity and fluctuation bands needs to be reached, provides no grounds for a refusal of the application. However, “all parties to the mutual agreement, including the ECB, have the right to initiate a confidential procedure aimed at reconsidering central rates”.

As follows from the above, ERM II is meant to help participating Member States orient their policies to stability and to foster convergence. Furthermore, participation in ERM II plays a role in the convergence criteria for joining the euro, because participation in it for a period of at least two years without severe tensions and without devaluing at the country’s own initiative is one of the preconditions for joining the euro. This dual role of ERM II will have implications for the exchange rate policies of acceding countries upon ERM II entry.

Whether these two purposes can be achieved simultaneously or whether they imply a sequence, with a period in which the stabilisation role of ERM II is prevalent, followed by a convergence test period, will depend on country-specific characteristics and will, therefore, vary among acceding countries. Section 1.3 explores the risks associated with joining ERM II right upon EU accession, while Part 2 deals with issues that are relevant for the timing of euro adoption, thereby delineating possible endpoints of ERM II participation. Indeed, if the timing of ERM II is not carefully assessed, the management of exchange rate policy may be complicated and even subject to significant risks. In particular, in some acceding countries, nominal and real interest rates are still higher than in the euro area. In combination with tightly managed exchange

<sup>6</sup> Resolution of the European Council on the establishment of an exchange rate mechanism in the third stage of Economic and Monetary Union, Amsterdam 16 June 1997.

rates, this could trigger portfolio inflows linked to so-called convergence trades in financial markets, particularly in the context of an ERM II participation with very small exchange rate movements which limit the potential losses of speculative attacks. On the other hand, adjusting interest rates too early to euro area levels may run counter to disinflation progress and domestic stabilisation. Containing exchange rate appreciation in a context of persisting capital inflows through interventions would, if not sterilised, risk the prospect of disinflation or, if sterilised, be fairly ineffective and entail potentially significant sterilisation costs. Finally, the substantial fiscal adjustments envisaged in some of the larger acceding countries also pose severe risks to the management of monetary and exchange rate policies. In particular, as privatisation receipts are envisaged to decline, the authorities may increasingly need to resort to debt issuance to finance fiscal deficits, adding further pressure on capital inflows and complicating the management of monetary policy.<sup>7</sup>

As for the convergence test regarding the fulfilment of the exchange rate criterion in the two years before the convergence assessment, a key reference for exchange rate management is the Informal Ecofin document on “Acceding countries and the ERM II” adopted on 5 April 2003. In line with the ECB’s position mentioned above, this document states: “The assessment of the fulfilment of the Maastricht convergence criteria and the procedures to be followed for the introduction of the euro will ensure equal treatment between future Member States and the current participants in the euro area. A minimum stay of two years in the mechanism prior to the convergence assessment without severe tensions is expected. Moreover, *the assessment of 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*” (emphasis added). This would focus on the implementation of sound monetary and fiscal policies, which nevertheless may lead to

an appreciation of the exchange rate that is intrinsic to the catching-up process. Such developments would also mirror what has been done in the past in the cases of Ireland and Greece.

### 1.3 ECONOMIC ASPECTS OF ERM II

As it is a legal text, the Resolution does not assess the economic rationale for ERM II membership. However, in order to qualify further the acceding countries’ participation in ERM II, the economic implications of ERM II membership need to be reviewed. This section aims at reviewing some of the main economic considerations that arise in this context.

#### 1.3.1 CURRENT EXCHANGE RATE REGIMES

Several of the acceding countries have already essentially renounced an independent monetary policy, since they have traditionally maintained exchange rate strategies based on external anchors, mostly through hard pegs (see Table 1 and also Chart 1 on pp. 16-17):

- The Cyprus pound has been unilaterally pegged, with a  $\pm 2.25\%$  fluctuation band, to the ECU since June 1992 and to the euro since 1 January 1999, with the same central parity as previously adopted for the ECU. On 1 January 2001 wider bands of  $\pm 15\%$  were introduced, in order to absorb any shocks from potentially destabilising capital movements and to deter speculative capital flows. At the same time, the narrower “softer” bands of  $\pm 2.25\%$  were temporarily maintained to help anchor prices and expectations. The narrower bands were definitively abolished on 13 August 2001, leaving only the  $\pm 15\%$  margins currently in place.

<sup>7</sup> Alternatively, if the acceding countries were to resort to issuing short-term debt denominated in domestic currency, which is traditionally absorbed by players in the domestic market, this might have a crowding-out effect on private investment.

- Estonia has followed a currency board arrangement since 1992. Originally pegged to the Deutsche Mark, the Estonian kroon was re-pegged to the euro on 1 January 1999.
- Since February 1994, Latvia has followed a de facto peg to the Special Drawing Right (SDR), which was officially formalised in 1997. The weight of the euro in the SDR currently stands at around 35%.
- Lithuania has followed a currency board arrangement since April 1994. Although originally pegged to the US dollar, the currency board of the litas was re-pegged to the euro in February 2002.
- Malta has followed a currency basket peg since 1971. The weight of the euro in the currency basket has been regularly revised to reflect the trade relations of the Maltese economy, and currently stands at 70%.
- Since 1992, the Slovenian tolar has, for most of this period, been on a moderate and smooth depreciation trend against the Deutsche Mark and, since 1 January 1999, against the euro.

Overall, this strategy has served most small and very small acceding countries well, as it has supported them in significantly advancing economic convergence in recent years. In most cases, inflation and nominal interest rates stand at around levels similar to those in the euro area, while fiscal accounts are presently in balance or display relatively moderate deficits.<sup>8</sup> However, several small acceding countries are currently registering high current account deficits, which warrant continuous monitoring.

In the larger acceding countries, however, the exchange rate seems to play a macroeconomic role as a stabilisation tool, dampening to some extent output variability. Therefore, in these countries, maintaining some degree of monetary policy independence and nominal exchange rate flexibility may still be useful at the current stage and possibly for some time to come. Indeed, this policy option would be consistent with the countries' own monetary policy choices at present, as the larger acceding countries have

<sup>8</sup> The notable exceptions are Malta, with a projected budget deficit of 6.5% of GDP in 2003; Cyprus, with a projected budget deficit of 6.0% in 2003; and Slovenia, where HICP inflation stood at 5.6% in 2003. See Part B for further details, as well as on the challenges in the fiscal field.

**Table 1 Exchange rate strategies currently followed by the acceding countries**

(IMF classification)			
	Exchange rate strategy <sup>1)</sup>	Currency	Features
Cyprus	Peg to the euro, with $\pm 15\%$ fluctuation bands	Cyprus pound	The Cyprus pound has de facto fluctuated within a narrow range
Czech Republic	Managed float	Czech koruna	Inflation targeting: 2%-4% by end-2005
Estonia	Currency board to the euro	Estonian kroon	Introduced in 1992
Hungary	Peg to the euro, with $\pm 15\%$ fluctuation bands	Hungarian forint	Exchange rate regime combined with inflation targeting: max. 4.5% by end-2003, 5.5% by end-2004 and 3%-5% by end-2005
Latvia	Peg to the SDR (euro weight 35%)	Latvian lat	Fluctuation band $\pm 1\%$
Lithuania	Currency board to the euro	Lithuanian litas	Introduced in 1994; re-pegged from the US dollar to the euro in February 2002
Malta	Peg to a basket	Maltese lira	Currency basket (euro (70%), US dollar, pound sterling)
Poland	Free float	Polish zloty	Inflation targeting: 2%-4% by end-2003; 1.5%-3.5% from 2004 onwards
Slovakia	Managed float	Slovak koruna	Hybrid strategy, combined with implicit inflation targeting
Slovenia	Exchange rates within crawling bands <sup>2)</sup>	Slovenian tolar	Two-pillar strategy monitoring monetary, real, external and financial indicators

Sources: IMF and ECB.

1) Based on the IMF *De Facto Exchange Rate Arrangements and Anchors of Monetary Policy* as of 30 June 2003.

2) The regime operating de facto in the country differs from its de jure regime, which is a managed float.



**Chart 1 Units of national currencies per euro including  $\pm 15\%$  bands from average value**

(inverted scales)

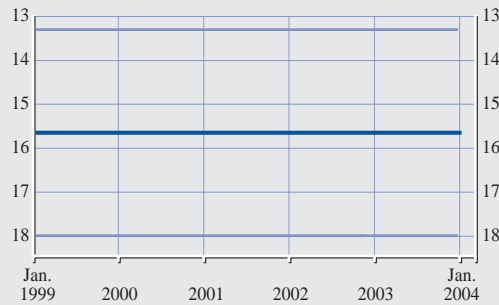
**Cyprus**



**Czech Republic**



**Estonia**



**Hungary**



**Latvia**



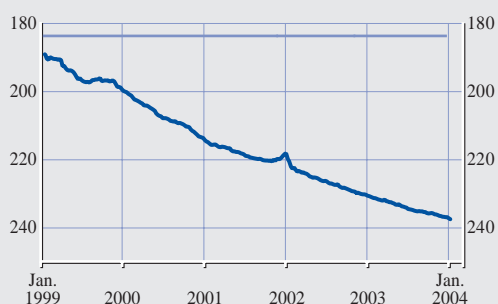
**Lithuania**



Source: ECB.

Chart I (cont')

(inverted scales)

**Malta****Poland****Slovakia****Slovenia**

Source: ECB.

felt the need to grant their currencies increased flexibility in recent years.

- The Czech Republic adopted its current strategy, a free float combined with an inflation targeting framework, in 1998. This strategy was introduced with the aim of providing a nominal anchor to monetary policy, after the severe currency crisis of 1997 triggered the abandonment of the koruna peg.<sup>9</sup>
- The Hungarian forint has moved away from the crawling fluctuation band introduced in March 1995, with the rate of the crawl being reduced gradually and the band widened. In May 2001, the crawl was abandoned and the

bands widened to  $\pm 15\%$ . The choice of this strategy was quite timely, as it coincided with the liberalisation of short-term capital flows. Moreover, it has been combined with an inflation-targeting framework. More recently, the central rate was devalued by 2.26% in June 2003.

- Poland follows a free float with an inflation-targeting framework. Starting from a currency basket peg introduced in 1991, Poland has gradually allowed increasing nominal exchange rate flexibility through a

<sup>9</sup> The koruna was fixed against a currency basket composed of DEM (65%) and USD (35%), with a fluctuation band of  $\pm 0.5\%$  from 1993 to February 1996 and of  $\pm 7.5\%$  from February 1996 to May 1997.

crawling band, introduced in 1995, with the rate of the crawl being gradually reduced and the band widened so as to finally let the currency float in 2000.

- Since the abandonment of the koruna peg in 1998, Slovakia has followed a managed float with the euro as the main reference currency.<sup>10</sup> This exchange rate framework has been combined with an implicit inflation-targeting strategy.

These policy shifts towards greater exchange rate flexibility have often been triggered by stabilisation constraints involved in the management of more rigid regimes.<sup>11</sup> They have also been facilitated by the rapid growth of foreign exchange and local securities markets resulting from capital account liberalisation, high FDI inflows and growing domestic banking sectors.

### **I.3.2 REGIME CHANGES IN VIEW OF ERM II MEMBERSHIP**

For most of the small and very small acceding countries, ERM II membership may not represent a de facto exchange rate regime shift. Indeed, euro-based CBAs and hard pegs are likely to be maintained within ERM II. First, these countries lack a clear exit strategy from their current regimes, other than the eventual adoption of the euro, and second, countries pursuing these strategies can, in principle, aim at a ERM II central parity equal to the one in their current exchange rate regime, plus a very narrow fluctuation band unilaterally declared. Clearly, the decision on the exchange rate parity will have to be made in the multilateral setting foreseen in the ERM II Resolution, and there will be a case-by-case assessment of the compatibility of the euro-based CBAs with ERM II and, later on, with the adoption of the euro.

- The Cyprus pound has continued to trade mostly within the range of the previously existing narrow band vis-à-vis the euro during the last two years, without making

effective use of the official  $\pm 15\%$  fluctuation band introduced in 2001.

- Conditional upon a positive assessment of the sustainability of the currency board arrangement and on a multilateral agreement on the central rate as well, Estonia could maintain its euro-based currency board as a unilateral ex ante commitment to exchange rate stability, augmenting the exchange rate discipline embedded in ERM II.
- Latvia also has a tradition of nominal exchange rate stability in the last decade. Still, before joining ERM II, Latvia would need to revise its current currency basket, where the euro has, at current exchange rates, a weight of only around 35%, and make the euro the sole reference currency.<sup>12</sup>
- Conditional upon a positive assessment of the sustainability of the currency board arrangement and on a multilateral agreement on the central rate as well, Lithuania could maintain its euro-based currency board as a unilateral ex ante commitment to exchange rate stability, augmenting the exchange rate discipline embedded in ERM II.
- Malta, which already operates a peg to a basket with no fluctuation band, would need to revise its current currency basket before joining ERM II to make the euro the sole anchor currency (currently the euro's weight is at 70%).
- Given that the tolar has been on a gentle depreciation path versus the euro, Slovenia would have to shift from trend depreciation to horizontal bands around a fixed parity in order to join ERM II.

<sup>10</sup> Between 1993 and 1998, the Slovak koruna was pegged to a currency basket with one devaluation of 10% in mid-1993. The basket comprised five currencies until mid-1994 and subsequently two currencies (60% DEM and 40% USD). In 1996 the fluctuation band was widened from  $\pm 1.5\%$  to  $\pm 7\%$ . On 2 October 1998, the peg was abolished and replaced by a managed float.

<sup>11</sup> For instance, the currency crises in the Czech Republic and Slovakia in 1997 and 1998 respectively triggered the abandonment of the pegs.

<sup>12</sup> The amount of euro in the SDR basket is EUR 0.426. Since the values of the amounts of each currency in the basket fluctuate along with their exchange rate, the share of the euro fluctuates as well.

Maintaining the main features of the above-mentioned regimes until the adoption of the euro may be justified on economic grounds. First, to the extent that the current exchange rate strategy is generally credible and compatible with ERM II, it may not be desirable to advocate a double regime shift before the adoption of the euro, as the latter may raise uncertainty regarding the country's medium-term monetary strategy, thereby distorting economic decisions and risking those stabilisation gains already accomplished. Second, the adoption of strong external nominal anchors has served well these very small open economies, with their extremely thin foreign exchange markets, enabling them to achieve macroeconomic stabilisation, low inflation,<sup>13</sup> and increasing their access to global financial markets. The achievements in terms of nominal convergence have not come at the expense of output growth, as structural reforms and macroeconomic policies have been set broadly in line with the maintenance of relatively rigid exchange rate regimes. Although some countries have witnessed some banking sector problems and asset price bubbles in the past, associated with sizeable current account deficits, these deficits have typically been coupled with economic restructuring and have been largely covered by FDI flows. Finally, the existing regimes have apparently enjoyed, by and large, credibility, as reflected in stable and declining long-term interest rates on assets denominated in domestic currency and in the lack of an active use of interest rate policy or pressure-related interventions to defend the exchange rate (see Chart 2).<sup>14</sup>

Unlike in the case of small and very small acceding countries, which have adopted an external nominal anchor and have, thus, largely or entirely given up an independent monetary policy, larger acceding countries have maintained some monetary policy independence, and the exchange rate has been used increasingly flexibly in recent years. Consequently, ERM II entry for these countries would imply a regime change, in particular for those countries which have not yet taken on

explicit exchange rate commitments. Experience shows that it is of crucial importance to design and manage regime changes in order to ensure a smooth course of developments and avoid welfare losses. This relates, in particular, to choosing the right timing for moving to a new regime, which requires special caution.

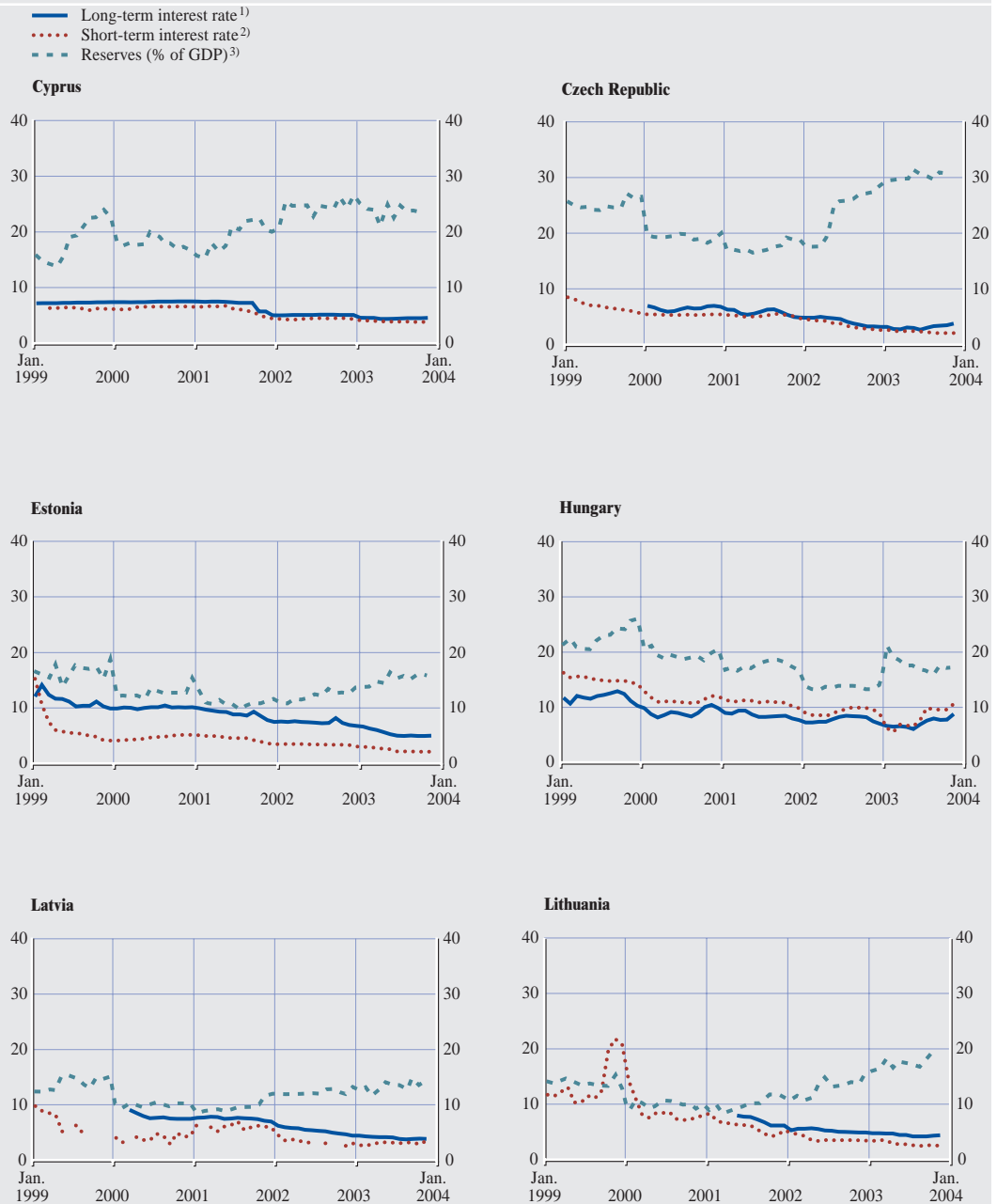
In principle, ERM II could well accommodate the need for exchange rate flexibility in the larger acceding countries. Provided that ERM II entry is well-timed and that the entry parity is chosen in line with underlying fundamentals, the mechanism, with its  $\pm 15\%$  fluctuation band, leaves significant room for adjustments to shocks and market developments. The possibility of changing the central parity under a multilateral agreement would add further room for manoeuvre, for example, if the real catching-up process is significantly faster than expected and leads to sustained upward pressure on the exchange rate. Hence, a full use of the wide bands in ERM II and the communication of the possibility of realignments would, in principle, allow for a considerable margin of de facto exchange rate flexibility. An overly tight exchange rate management "close to the central rates" as currently envisaged by some of these countries would, in all likelihood, be insufficient for the exchange rate to play a useful role as an adjustment tool.

The timing of ERM II entry also has to be considered carefully with a view to the fiscal position of a given country. This again specifically relates to the larger acceding countries, which are currently registering substantial fiscal imbalances (see also Part 2). It is obvious that ERM II participation would be substantially facilitated by a sound medium-term fiscal strategy, while at the same time also underpinning the credibility of the fiscal framework.

13 The exception is Slovenia in this group, where HICP inflation stood at 5.6% in 2003.

14 It should be noted, however, that in the absence of market liquidity, it would take a serious misalignment for interest rates to be indicative of such pressures.

Chart 2 Interest rates and reserves



Sources: ECB, Eurostat, IMF and national sources.

1) 5-year government bond yield (data series incomplete). 10-year government bond yield for Slovenia, 10-year kroon bank loans to households for Estonia.

2) 3-month money market deposit rate.

3) Total international reserves of the central bank (excl. gold).

Chart 2 (cont')



A closer assessment of individual country cases suggests that early ERM II participation may entail potential drawbacks for countries with a free or lightly managed float and a functioning and credible inflation targeting framework in place. This is particularly true in cases where such a policy set-up has been associated with substantial exchange rate volatility in the past. In principle, early entry into ERM II could be seen as less problematic for countries that have followed a unilateral “ERM II shadowing” strategy or witnessed more limited nominal exchange rate variability in recent years, provided that ERM II participation is consistent with the overall policy stance. In this respect, it is noteworthy that fiscal consolidation appears to be seriously off track in some of these countries (see Section 2.3.8).

Finally, a general caveat has to be made. Even if, at the current juncture, there may be no *prima*

*facie* evidence that the current exchange rate regimes in some acceding countries have been inappropriate from a stabilisation perspective or have been subject to significant market pressures, it would be premature to conclude that the countries are ready for membership of ERM II. Even if the current regimes may be regarded as appropriate, the choice of the central parity is an issue that needs careful assessment, as decisions concerning central rates are taken by mutual agreement of the participating members in ERM II, including the ECB. Moreover, even if only minor de facto changes seem required in some small acceding countries for participation in ERM II, a potential misalignment in these countries is a risk that cannot be ignored. More generally, the absence of significant foreign exchange market pressure in the past cannot be taken as implying an absence of such pressure in the future. Risks could, in principle, be relevant for all countries,

for example if EU entry were to prove a major asymmetric shock to the economies of the acceding countries, or if individual country-specific developments were to derail the overall monetary integration process. In such a scenario, the fact that financial markets are particularly small in some acceding countries could become a disadvantage, as the critical mass needed to trigger policy changes is also relatively limited. Hence, if a major misalignment threatening the stability of ERM II occurs, all participating members, including the ECB, have the right to initiate a procedure aimed at reconsidering central rates.

Against this background, the requirement for a two-year participation in ERM II, which acts as a testing phase for the central rate as well as the sustainability of convergence in general, would help in identifying potential misalignments in the central parity that have not been detected before. Two main issues may have to be considered in this respect: first, whether nominal exchange rate stability itself has aggravated stabilisation problems, reflected, for example, in excessive current account deficits or overheating. In this case, a change in the central parity could be warranted. Second, whether the growing size of the acceding countries' economies and their financial markets, in combination with structural differences compared to the anchor country, may warrant greater exchange rate flexibility. Although at the current juncture neither severe stabilisation problems nor strong reasons for greater exchange rate flexibility may seem pressing, these issues, which are explored in further detail in Part 2 below, should not be ruled out entirely.

## 2 CHALLENGES OF EURO ADOPTION

### 2.1 ACCEDING COUNTRIES' PERSPECTIVE

Almost all acceding countries initially indicated their intention to join the euro area as soon as possible. More recently, however, some acceding countries have begun to envisage a somewhat longer process before adopting the euro. Box 3 presents a short overview of the timeframes that are currently featuring in the acceding countries' monetary integration strategies with respect to euro adoption.<sup>15</sup> From a technical point of view, the earliest possible date for an acceding country to adopt the euro would be on 1 January 2007, assuming that euro area membership continues to occur at the beginning of a calendar year.<sup>16</sup> In such a scenario, the country would join the ERM II mechanism soon after EU accession in 2004. After spending a minimum period of two years in ERM II, the country's convergence with the euro area could be assessed in mid-2006 at the earliest. After a positive examination and following some preparatory work, the country would enter the euro area in January 2007.

At a country level, the target dates range from 2007 (with an occasional reference to the later part of 2006) to around 2010. In several countries the central banks initially seemed to favour an earlier date than the government, mainly reflecting the difficult fiscal situation in countries concerned, but more recently such differences in views about the optimal timing appear to be abating. This is *inter alia* due to the fact that in most acceding countries, the government and the central bank have formulated joint strategies on prospective monetary integration, or talks to this end have reached an advanced stage. The Economic Dialogue process between the EU and the acceding countries, in particular the Pre-accession Economic Programme (PEP) exercise, has apparently also helped the discussion process in individual countries on monetary integration matters. Most recently, for example, such joint strategy documents have been released by Slovakia (June 2003), Hungary (July 2003), the Czech Republic (October 2003) and Slovenia (November 2003).

The stretching-out of euro adoption plans in some acceding countries clearly has to do with difficulties caused by fiscal situations and concerns that rapid consolidation may entail major short-term output losses or may lack sufficient political backing on other grounds, for example owing to perceived opposition to cuts in transfers or subsidies. Some acceding country central bankers have argued, however, that the sacrifice ratio may not depend on the speed of fiscal consolidation, that rapid consolidation may be less prone to reversals, and that an early meeting of the convergence criteria would allow the benefits of monetary union to be reaped sooner rather than later. The fiscal issues and challenges that the acceding countries are facing will be discussed further in Section 2.3.8. At this point, it is worth noting that in the cases of the Czech Republic, Poland and Malta, the fiscal trajectories enshrined in the 2003 PEPs do not foresee that the budget deficit criterion will be met throughout the whole programming period, which extends from 2003 to 2006. In case the fiscal strategies of these three countries materialise along the lines laid out in the 2003 PEPs, the budget deficit criterion would not be fulfilled before the year 2007 at the earliest. This in turn would imply that a positive convergence assessment would not be possible before 2008, and that the euro could not be introduced before 2009 at the earliest, assuming that euro area membership continues to take place at the beginning of a calendar year.

15 As the 2004 enlargement approaches, the debate about the optimal timing of adopting the euro is intensifying. In fact, this debate actually started a couple of years ago, when some acceding countries considered adopting the euro unilaterally as legal tender, i.e. before joining the EU. Following strong opposition by the ECB among others, the acceding countries refrained from taking such a step, but at the same time underlined their intention to enter the euro area as soon as possible, while remaining fully in line with the Treaty.

16 If this assumption were to be relaxed, an adoption of the euro as early as the later part of 2006 could be technically feasible.



## STATEMENTS BY ACCEDING COUNTRIES ON THE TIMING OF EURO ADOPTION

<b>Cyprus</b>	<i>“The target date for adopting the euro remains the year 2007... notwithstanding the increased difficulties that have risen because of the recent fiscal slippages.”</i> <b>PEP 2003.</b>
<b>Czech Republic</b>	<i>“The Czech Republic should join the euro zone as soon as plausible economic conditions have been created.”</i> <b>PEP 2003.</b> <i>Most statements that address the timing issue more concretely point to the end of the decade as a realistic time horizon for euro adoption.</i>
<b>Estonia</b>	<i>“Estonia can obtain full European Union membership as soon as 2006.”</i> <b>PEP 2003.</b>
<b>Hungary</b>	<i>“In order to realise the benefits of the adoption of the common currency, the Government decided to introduce the euro on 1 January 2008.”</i> <b>PEP 2003.</b>
<b>Latvia</b>	<i>“The earliest period when Latvia could really join the EMU is 1<sup>st</sup> January 2008.”</i> <b>PEP 2003.</b>
<b>Lithuania</b>	<i>“Realistically, the euro would probably replace the litas from the start of 2007...”</i> <b>Governor Sarkinas, March 2003.</b>
<b>Malta</b>	<i>“We can imagine we are ready to introduce the euro in the second half of 2007 or in January 2008 at the latest.”</i> <b>Governor Bonello, February 2004.</b>
<b>Poland</b>	<i>“Poland should join the Economic and Monetary Union (EMU) so soon as possible only if the macroeconomic conditions make it possible ... Taking into account the condition of Poland’s economy and the Government’s projections of the general government deficit for the oncoming years, it should be expected that Poland will fulfil the nominal convergence criteria stated in the Maastricht Treaty in 2007, so as to become a member of the Economic and Monetary Union in 2008 or 2009.”</i> <b>PEP 2003.</b>
<b>Slovakia</b>	<i>“The earliest realistic target for admission would be 2008.”</i> <b>Strategy of the Slovak Republic for adoption of the Euro, June 2003.</b>
<b>Slovenia</b>	<i>“Both the Bank and the Government support adoption of the euro at the earliest opportunity and judge that it will be possible at the beginning of 2007.”</i> <b>Joint programme of the Slovenian Government and Bank of Slovenia for ERM II entry and adoption of the euro, November 2003.</b>

While in the initial stages of the discussion, the benefits of an early adoption of the euro were seen, by virtually all acceding countries, as far outweighing any associated costs, the picture has in the meantime become more nuanced. As for the benefits, acceding countries stress that early EMU membership would strengthen economic policy discipline, accelerate structural reforms and raise the economies' growth potential through higher investment following the elimination of exchange rate uncertainty. More specifically, some acceding country authorities and officials stress that early EMU membership "should have positive impacts on domestic economic policy [through requiring] balanced public budgets" (Czech National Bank, 2003b) and "would mobilise candidate countries to complete their structural reforms" (Balcerowicz, 2002). In particular, the central banks stress the advantage of the EU policy coordinating framework and the multilateral surveillance procedure to impose fiscal discipline on their governments. As regards the elimination of nominal exchange rate uncertainty, it is argued that this would imply benefits arising from lower transaction costs,<sup>17</sup> enhance trade and investment, and lower the risks of financial sector disturbances. At the same time, "the Stability and Growth Pact, coupled with a decline in the risk premium, ... would lead to a stabilisation of long-term interest rates at a low level" (Czech National Bank, 2003a).

The costs of an early euro adoption are in general not seen as significant in those countries that have no or only relatively moderate fiscal deficits. In the other countries, the mainly medium and long-term gains of euro adoption have increasingly been contrasted with the short-term costs of fiscal consolidation. As for other potential costs, a number of central banks have argued that the cost of relinquishing independent monetary policy and flexible exchange rates is limited owing to the high degree of trade and financial integration with the euro area (Balcerowicz, 2002). Moreover, it has been maintained that the ongoing harmonisation in economic structures and

business cycles will diminish the importance of asymmetric shocks over time (Szapary, 2002).

Overall, by taking all these arguments together, an early euro adoption is expected to boost growth in acceding countries through higher investment and trade, and thereby to contribute to real convergence with the EU countries. A study by Magyar Nemzeti Bank estimates that euro area membership will boost GDP growth in the long run by 0.6% to 0.9% per year, whereas in the short term the benefits and costs are seen to cancel each other out (Magyar Nemzeti Bank, 2002).

A number of academics openly support the acceding countries' strategies for an early adoption of the euro. They mainly refer to the fact that the capital markets of acceding countries are small and liberalised, which could make them vulnerable to financial crises or trigger excessive exchange rate volatility (see e.g. Buiter and Grafe, 2002; Coricelli, 2002; Eichengreen, 2003). The adoption of the euro could also eliminate the interest rate premium and reduce interest rates (Coricelli, 2002).<sup>18</sup> Finally, some authors argue that an ambitious timetable for the adoption of the euro would trigger earlier reforms of public finances and would thereby contribute to higher growth (Center for European Policy Studies, 2002).

## 2.2 A REVIEW OF THE PROGRESS MADE IN NOMINAL CONVERGENCE

Achieving a high degree of sustainable nominal convergence, as laid down in the convergence criteria listed in the Treaty, is a necessary condition for an EU Member State with a derogation to enter the euro area. The rationale behind these criteria is to ensure a high degree of sustainable convergence with the euro area, assessed on the basis of inflation developments, long-term interest rates, exchange rate stability

<sup>17</sup> In Hungary, reduced transaction costs were estimated to increase the level of GDP with a one-off effect of 0.18 to 0.30 percentage points (Magyar Nemzeti Bank, 2002).

<sup>18</sup> See also Mundell (2002) and Gros (2000).

and the fiscal position in terms of public deficit and debt. In addition, the Treaty mentions “other factors” that should be taken into account when assessing the degree of convergence such as “the results of the integration of markets, the situation and development of the balances of payments on current account and an examination of the developments of unit labour costs and other price indices” (Art. 121.1). On the basis of the convergence criteria and these other factors, the Commission and the ECB will examine the degree of sustainable convergence achieved by each Member State. Taking into account these reports, the European Council, acting by qualified majority on a recommendation from the Commission and having sought the opinion of the European Parliament, will decide whether or not to abrogate the derogation of the Member States concerned.

This section reviews the current performance of the acceding countries against the backdrop of nominal convergence. The purpose of this section is to inspect where acceding countries

currently stand in terms of the Maastricht criteria, and to highlight the main possible challenges that individual acceding countries face in meeting the criteria in the future. This section does not intend to provide or “pre-empt” any convergence assessment in these terms, but rather to help in assessing whether the strategy of adopting the euro a few years after EU entry is indeed a realistic policy option from today’s perspective.

When looking at economic indicators in view of the convergence criteria, it appears that a few acceding countries currently already comply *numerically* with several criteria (obviously with the exception of the two years of ERM participation). With the caveat in mind that data still have to be fully harmonised with ESA 95 standards (in particular in the fiscal area), an analysis of the most recent data available suggests the following (see Table 2).<sup>19</sup>

<sup>19</sup> In the following analysis, reference is made to weighted averages for the acceding countries as a group. Clearly, the convergence examinations will be undertaken on a country-by-country basis. The averages are presented for reasons of illustration.

**Table 2 Economic indicators in view of convergence criteria**

	HICP inflation <sup>1)</sup> (2002)	Fiscal balance (% of GDP) (2002)	Public debt (% of GDP) (2002)	Long-term yields <sup>2)</sup> (2002)	Exchange rate regime <sup>3)</sup>
Cyprus	2.8	-3.5	59.7	5.1 5-y	ERM II shadow
Czech Republic	1.4	-6.7	26.9	4.8 10-y	managed float
Estonia	3.6	1.3	5.8	7.4 10-y <sup>5)</sup>	CBA (euro)
Hungary	5.2	-9.2	56.3	7.1 10-y	ERM II shadow
Latvia	2.0	-3.0	14.6	5.3 5-y	peg to SDR
Lithuania	0.4	-1.7	22.7	5.2 5-y	CBA (euro)
Malta	2.2	-6.2	66.6	5.4 5-y	peg to basket
Poland	1.9	-3.8	41.8	7.3 10-y	float
Slovakia	3.3	-7.2	44.3	7.0 5-y	managed float
Slovenia	7.5	-2.4	27.8	6.7 10-y <sup>6)</sup>	crawling bands <sup>7)</sup>
<i>AC-10<sup>4)</sup></i>	2.7	-5.1	39.9	6.6	
<i>Reference value</i>	2.9	-3.0	60.0	6.9	

Sources: ECB, Eurostat, Pre-accession Economic Programmes 2003 and Bloomberg.

Note: Reference values are calculated for current EU Member States and in line with the ECB *Convergence Reports*.

1) Period average; CPI for Malta. The EU countries with the lowest inflation rate in 2002 were Belgium, Germany and the UK.

2) Period average.

3) Based on the IMF *De Facto Exchange Rate Arrangements and Anchors of Monetary Policy* as of 30 June 2003.

4) Weighted by nominal GDP in 2002.

5) 10-year kroon bank loans to households

6) Bank of Slovenia perceives the interest rate on RS44 government bonds issued in November 2002 as the best approximation of long-term bond interest rates in Slovenia.

7) For Slovenia, the regime operating de facto in the country is different from its de jure regime, which is a managed float.

- In 2002, the weighted average of the HICP inflation rate in acceding countries stood at 2.7%, thus even slightly below the corresponding hypothetical reference value of 2.9% for 2002.<sup>20</sup> There are six acceding countries with an inflation rate currently below the reference value: Cyprus, the Czech Republic, Latvia, Lithuania, Malta and Poland.
- As regards the fiscal criteria, deficits in acceding countries amounted on average to 5.1% of GDP in 2002, well above the threshold of 3% of GDP.<sup>21</sup> The figures varied significantly across countries, with only Lithuania and Slovenia having fiscal deficits of below 3% of GDP and Estonia even a surplus, while the Czech Republic, Hungary, Malta, Poland and Slovakia had fiscal deficits well above the threshold. The debt-to-GDP ratio stood on average at around 40% of GDP. With the exception of Malta, the ratio in all countries was below 60% of GDP.
- Concerning interest rates, long-term interest rates in acceding countries stood on average at 6.6% in 2002, compared with 6.9% according to the calculated reference value.<sup>22</sup> In fact, interest rates were below the reference value in most acceding countries, but slightly higher in Estonia, Hungary, Poland and Slovakia. However, it should be noted that in 2002 10-year bond instruments were not available in all acceding countries.

Looking ahead, the budget deficit criterion may well pose difficulties for some countries, especially for the Czech Republic, Hungary, Poland and Slovakia, as the fiscal situation has deteriorated in these countries, often significantly, in recent years. The deficit is also clearly above the 3% threshold in Cyprus and Malta. Moreover, fiscal pressures may increase in other acceding countries that have smaller deficits at this stage. Section 2.3.8 explores this issue in greater detail, with a particular focus on the challenges that have arisen in the context of achieving sustained fiscal consolidation and

restraint, while at the same time highlighting the current and prospective spending pressures the acceding countries are facing (e.g. in the area of *acquis* implementation and EU membership contributions). In addition, the remainder of this paper examines some factors in greater depth, such as current account developments, several price and competitiveness indicators, and overheating issues, which may help in assessing the acceding countries' medium-term orientation towards price stability and sustained growth.

It should be noted that the reliability of data, especially fiscal data, remains a matter of concern. While it is generally difficult to provide reliable fiscal data, problems in acceding countries are even more pronounced, for various reasons. In methodological terms, the full implementation of ESA 95 standards is still to be completed in these countries, and a number of difficult classification issues still have to be fully resolved over the next months. Furthermore, there may still be some remaining problems with providing fully consolidated accounts that incorporate all budgetary activities and display all obligations appropriately. Furthermore, in some acceding countries, the assessment of the fiscal situation may also be blurred by considerable contingent liabilities. Full compliance with EU rules in the provision of statistics will help to reduce these problem spots and is therefore of key importance.

Interestingly, a comparison between the acceding countries in 2002, five years before their intended adoption of the euro, and the current Member States five years before they qualified for EMU, i.e. 1996 for Greece and 1994 for the other euro area countries, shows

<sup>20</sup> According to the ECB *Convergence Reports*, the reference value for the inflation criterion is based on taking the annual unweighted average of the rate of inflation in the three EU countries with the lowest inflation rates, and adding 1.5 percentage points.

<sup>21</sup> Again, it should be noted that while these figures are based on the Pre-accession Economic Programmes prepared by the acceding countries, they are not yet fully adjusted to ESA 95 standards.

<sup>22</sup> According to the ECB *Convergence Reports*, the reference value for the interest rate criterion is based on taking the arithmetic average of the long-term interest rates of the three countries with the lowest inflation rates, and adding 2 percentage points.

that acceding countries have come much closer to nominal convergence. HICP inflation in 2002 was in most acceding countries far lower than in Greece, Portugal and Spain five years before they entered the euro area. As regards long-term interest rates, Greece, Italy, Portugal and Spain had, five years before they entered the euro area, much higher interest rates than acceding countries have today. Moreover, while the fiscal situation was rather mixed for both sets of countries, most acceding countries have lower debt ratios.

### 2.3 A BROADER ECONOMIC ASSESSMENT

The preceding analysis has been based on the Maastricht Treaty framework, which forms the basis for future convergence assessments of new Member States, in line with what has been done in the past, and based on the equal treatment principle between prospective and current participants in the euro area.

The approach taken in the remainder of this paper is a broader one, in line with the basic aim to get an analytical handle on the acceding countries' monetary integration strategies and, in particular, to examine in depth whether the economic logic of these strategies is sound from today's perspective. To avoid any misunderstandings, it should be underlined that this broader approach is not at all directed at identifying new criteria or "reinterpreting" the framework enshrined in the Treaty on the European Union. Nor is it the purpose of the paper to endorse or support, in any form, the announced monetary integration strategies of acceding countries. Rather, the basic aim is to provide an informed and balanced review of the economic wisdom of these strategies, in order to prepare a view of the Eurosystem on the underlying issues and foster the dialogue with acceding countries' central banks.

An obvious starting point for such a broader analysis is the optimum currency area (OCA) theory, which is the standard reference point in terms of economic theory for many current

discussions about the acceding countries' prospective readiness to join the euro area. According to the OCA theory, countries can be considered as part of an optimum currency area if they fulfil certain criteria, which determine the symmetry of external shocks and the capacity of a country to absorb shocks. These criteria refer to the similarity of economic structures, business cycle synchronisation, the degree of trade and financial integration, the flexibility of goods prices and wages, as well as factor mobility. The OCA theory suggests that if these criteria are fulfilled, a country can abandon the exchange rate as an adjustment tool.

Nevertheless, despite some important insights, the OCA theory has often been criticised for being inconclusive and offering only a limited analytical framework. For example, the theory does not provide definite answers to the effective costs and benefits, their correlation and the optimal timing of monetary integration. This is also related to the endogeneity of the OCA criteria. In fact, by reducing transaction costs and market imperfections, joining a currency union could foster trade and financial integration and increase goods and wage flexibility. Likewise, within a currency union economic structures could adjust and business cycles could become more synchronised across countries. Empirically, there is some evidence that supports the endogeneity of the OCA criteria (Rose, 2000; Rose and Van Wincoop, 2001; Melitz, 2001; Frankel and Rose, 2000), although the findings of this strand of the literature have met with considerable criticism (see Nitsch, 2002; Honohan, 2001; Persson, 2001; compare also Rose, 2001 for limited applicability in the case of EMU).<sup>23</sup> Overall, the results have therefore been interpreted and applied with caution. This is particularly true

<sup>23</sup> Moreover, one should not fully disregard Krugman's (1993) specialisation hypothesis as a theoretically possible alternative outcome. According to Krugman, an increase in trade owing to the use of a common currency does not necessarily mean a lower exposure to asymmetric shocks, but could result in countries becoming more specialised due to increasing returns to scale. As a result, the sensitivity of countries to industry-specific shocks could increase, resulting in less synchronised business cycles.

with regard to the question as to whether monetary union fosters structural reform. At any rate, it takes time for any endogenous effects to work their way through the economic system, and the dynamics of such a process are difficult to anticipate. Thus, the period that leads to the new equilibrium may well be fairly lengthy, which implies that adjustment mechanisms other than the exchange rate would be particularly important in absorbing shocks.

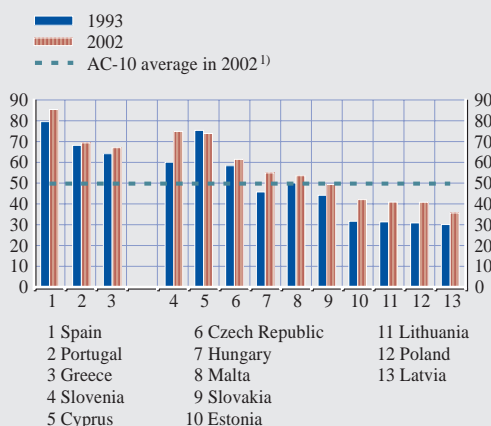
Against this background, the following chapter discusses where acceding countries stand compared with the euro area with respect to the most important OCA criteria, and how these criteria are likely to develop over time owing to EU accession and the impact of further monetary integration. The criteria considered here are the similarity of economic structures, the degree of trade integration, the flexibility of labour markets, and the degree of financial integration. Furthermore, irrespective of the traditional OCA criteria, other factors need to be taken into account, as joining the euro area too early might entail substantial costs for acceding countries. Therefore, this chapter also discusses the differences in economic dynamics in acceding countries compared with the euro area (in terms of trend growth, output volatility and business cycle synchronisation), the risks for external competitiveness, the impact of interest rates declining to the euro area level, and the optimal pace of fiscal consolidation.

### 2.3.1 ECONOMIC STRUCTURES

GDP income levels in acceding countries are still well below those in the euro area, with GDP per capita standing at around 50% of the euro area average in PPP terms, ranging from 36% in Latvia to 75% in Slovenia (see Chart 3).<sup>24</sup> Nevertheless, acceding countries have experienced strong economic expansion, with real GDP growing on average at 3.6% (weighted) over the period 1993 to 2002, which is well above the average real growth rate of around 2% in the euro area. As most countries

Chart 3 GDP per capita in PPP terms

(as a % of the euro area average)



Sources: Eurostat and European Commission.  
1) Weighted by nominal GDP in 2002.

started from a low income per capita level and experienced a severe recession at the beginning of transition, the catching-up in income levels with the euro area can be expected to take a long time for most countries. Alongside this process, acceding countries will tend to experience structural differences in economic dynamics. These real convergence issues will be dealt with in greater detail in Section 2.3.5.

Nevertheless, economic structures in acceding countries have already been continuously adjusted towards those in the euro area. In fact, acceding countries have made substantial progress in transition and have advanced both in terms of institutional convergence and in bringing their economic structures broadly in line with those in the euro area. Although similar economic structures to the euro area are far from being a sufficient condition to benefit from EMU membership, it could be interpreted as being favourable for the countries' capacity

<sup>24</sup> Income levels are highest in Slovenia, Cyprus, the Czech Republic and Hungary, and are close to those in Portugal and Greece, while per capita GDP in most of the other acceding countries is about two-thirds this level. When they joined the euro area, Spain, Portugal and Greece registered GDP per capita levels amounting respectively to 85%, 70% and 67% of the euro area average in PPP terms.

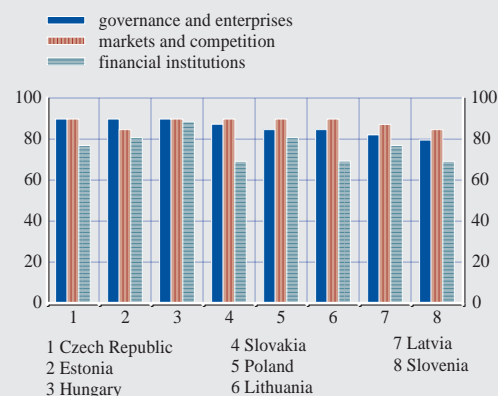
to absorb economic shocks and to face similar shocks.<sup>25</sup> Moreover, EU accession is expected to further foster convergence, as by that time acceding countries will have to complete the adoption and, even more importantly, the implementation of the *acquis communautaire* (apart from those areas where transition arrangements apply and full harmonisation will take place later). Furthermore, upon EU accession, acceding countries will be included in most of the procedures for multilateral surveillance as laid down in the EU Treaty. Yet, stronger coordination of economic policies is likely to contribute to a further deepening of economic integration with the current EU Member States.

The acceding countries' progress in completing transition was recently confirmed by the European Commission, which judged each of the ten countries to have established a functioning market economy.<sup>26</sup> As regards the acceding countries' capacity to withstand competitive pressure and market forces within the Union, this is already the case for Cyprus and Malta, while the other eight countries are judged to be sufficiently capable upon accession if they continue on their current reform paths. Moreover, acceding countries were acknowledged to have reached a high level of alignment with the *acquis communautaire* by continuously bringing institutions and regulatory frameworks into line with EU standards. At the same time, implementation and enforcement still have to be further improved in several areas by a number of countries. In this context, the Commission has established a comprehensive monitoring mechanism and an action plan to ensure compliance until accession.

This assessment is broadly in line with the EBRD transition indicators, which confirm notable progress in the areas of privatisation and liberalisation of markets and prices, although further progress would be needed with regard to financial institutions in most central and eastern European acceding countries.<sup>27</sup> Some differences also exist across countries

**Chart 4 Institutional reform (2003)**

(index: 100 = well-functioning market economy)



Sources: EBRD and ECB staff calculations.

with respect to reforms in enterprise privatisation and restructuring. In contrast, progress in the area of markets and competition is fairly homogeneous across all eight countries (see Chart 4).<sup>28</sup>

Finally, the economic size of the three broad sectors and the distribution of employment across sectors have gradually converged towards those in the euro area, despite large differences across countries (see Table 3). This evidence has to be interpreted with caution, however, since it does not take into account differences that may exist at a more disaggregated level. At the broad sectoral level, the current GDP shares of agriculture and industry are still higher in acceding countries than in the euro area (3.5% and 31.6% compared with 2.0% and 27.0% in the EU), reflecting the still ongoing restructuring process, while the

<sup>25</sup> The OCA theory suggests that countries with similar economic structures seem to be less affected by asymmetric shocks and respond to shocks in a similar way, so that business cycles are also likely to be more harmonised across countries. Under such circumstances, independent interest rate policy can be considered as being less relevant for output stabilisation. See Corden (1972) and Tavlas (1994).

<sup>26</sup> See the *Regular Report 2002* for all acceding countries. *Regular Reports* assess to which extent acceding countries already fulfil the Copenhagen criteria (i.e. EU membership criteria).

<sup>27</sup> EBRD transition indicators do not exist for Cyprus and Malta.

<sup>28</sup> For further information on financial sector integration, see Part 2, Section 2.3.4.

**Table 3 Economic size and labour distribution of sectors**

(2002)	Economic size as a % of GDP			Employment distribution as a % of total		
	Agricultural	Industry and construction	Services	Agricultural	Industry and construction	Services
Cyprus	4.1	20.3	75.6	5.1	23.4	71.4
Czech Republic	3.2	37.3	59.5	4.8	40.0	55.3
Estonia	5.4	29.3	65.3	6.9	31.2	62.0
Hungary	3.7	30.7	65.6	6.2	34.1	59.7
Latvia	4.7	24.7	70.6	15.1	24.4	60.5
Lithuania	7.1	30.5	62.4	17.4	27.4	55.2
Malta	2.8	28.1	69.1	2.0	31.7	66.3
Poland	3.1	30.3	66.5	26.3	26.2	47.5
Slovakia	4.4	31.1	64.5	6.2	38.5	55.3
Slovenia	3.3	36.0	60.7	11.0	37.0	52.0
<b>AC-10</b>	<b>3.5</b>	<b>31.6</b>	<b>64.9</b>	<b>15.8</b>	<b>31.2</b>	<b>53.0</b>
Greece	7.0	22.3	70.8	15.3	24.2	60.4
Portugal	3.5	28.0	68.5	12.0	34.0	54.0
Spain	3.2	28.5	68.2	5.9	29.4	64.7
<b>EU</b>	<b>2.0</b>	<b>27.0</b>	<b>71.0</b>	<b>3.9</b>	<b>28.2</b>	<b>67.8</b>

Source: Eurostat.

services sector (64.9% of GDP) is somewhat smaller than in the EU (71.0%).<sup>29</sup> Yet, structural differences with the EU are considerable when looking at the distribution of employment across sectors. In fact, the employment shares in acceding countries are significantly larger in the agriculture and industry sectors and lower in the services sector compared with the EU. Acceding countries' relative productivity in the agriculture sector is clearly lower, and productivity in the services sector higher, compared with economy-wide productivity than in the EU, while relative productivity in the industry sector seems comparable. Against this background, further adjustments in economic structures are conceivable during the catching-up process.

Moreover, countries display large differences with respect to sector shares and employment distribution. In particular, Latvia and Lithuania have a considerably larger agriculture sector than the EU, both in terms of GDP and employment share. In Poland, the share of employees in the agriculture sector is more than 20 percentage points higher than in the EU, while the economic size of the agriculture sector is rather similar, pointing to a much larger

productivity gap between the agriculture sector and the economy as a whole in Poland than in the EU.<sup>30</sup> Moreover, in the Czech Republic and Slovenia the industry sectors are considerably larger and the services sector smaller. The relative share of employment in the services sector is much lower in most acceding countries, with the exception of Cyprus and Malta. Nevertheless, the above figures might be affected by the fact that the shadow economy still plays a relatively larger role in most acceding countries. In addition, a more refined view of the similarity in economic structures would require further analysis of more disaggregated sectoral figures, considering also the differences in the quality of products.

### 2.3.2 TRADE INTEGRATION

Diversified export structures and strong trade links between countries, particularly when

<sup>29</sup> The following analysis takes the EU as a reference point with a view to drawing an inclusive picture. An analysis based on figures for the current euro area would yield a very similar picture.

<sup>30</sup> However, the demographic structure of the Polish agriculture sector, where the average age is close to 60, might also imply a gradual decline in the high employment share over time.



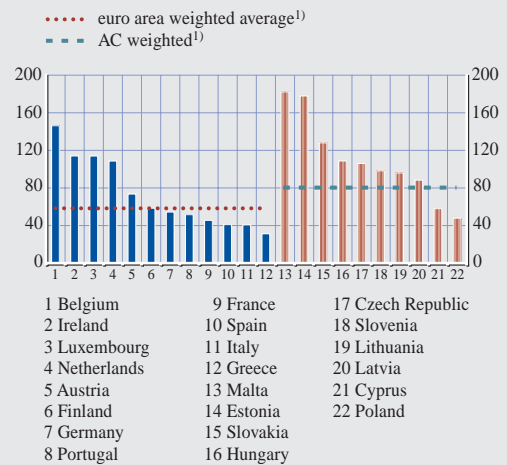
intra-industrial trade accounts for a high share of trade, are expected to reduce the exposure to asymmetric shocks and to harmonise the capacity to absorb shocks. As one of the main elements of the OCA theory, strong trade links suggest that country-specific policies, and in particular nominal exchange rate flexibility, are less needed.<sup>31</sup> This view has been contested by some authors, who argue that closer monetary integration would rather favour specialisation in production and would therefore reduce the synchronisation of business cycles.<sup>32</sup> However, it could be argued that specialisation is often related more to regions than countries.<sup>33</sup> Moreover, several empirical studies have indeed found a significant positive correlation between trade integration and shock symmetry, which is particularly strong with a higher share of intra-industrial trade.<sup>34</sup>

With the partial exception of Poland, acceding countries are small and highly open economies, with a degree of openness of around 80% of GDP, compared with 58% for the weighted average of individual euro area countries if intra-euro area trade is included (see Chart 5). The most open countries are Malta, Estonia, Slovakia, Hungary and the Czech Republic.

Acceding countries already have close trade relations with the EU, accounting for 67% of total exports and 60% of total imports (see Chart 6). Expressed in GDP terms, the acceding countries' EU trade accounts on average for 52%. This compares well with the level of trade integration among the current EU members, whose exports and imports within the EU are on average around 60% of total trade. However, large differences exist across countries, also compared with the euro area, with several acceding countries displaying somewhat less intense trade relations with the EU, measured as a share of total trade, than most of the current EU Member States. But if the process of trade orientation of the acceding countries towards the EU continues to progress as in recent years, these countries will in a few years be as highly integrated into EU trade as the current EU members.

**Chart 5 Degree of openness (2002)**

(total exports and imports as a % of GDP)



Sources: IMF DOTS and Eurostat for weights.  
1) Weighted by nominal GDP in 2002.

Interestingly, the countries that are currently highly integrated with the EU, such as the Czech Republic, Hungary, Poland and Slovenia, are not those with the highest degree of openness, while the most open economies, such as Estonia, Malta and Slovakia, are less integrated with the EU. There are specific reasons for this: for Estonia, trade with the other Baltic countries and Russia is still relatively important; Malta trades significantly with Asia; and Slovakia maintains a substantial trade share with the Czech Republic. Yet, the lower degree of trade integration with the EU might suggest that these countries, which have significant trade with non-EU/non-accession countries, could be somewhat more exposed to external demand shocks originating from third countries than the euro area.

Importantly, a large part (around 40%) of the acceding countries' trade with the euro area is intra-industrial, most of which is classified as vertical intra-industrial trade, i.e. the exchange

31 McKinnon (1963), Kenen (1969).

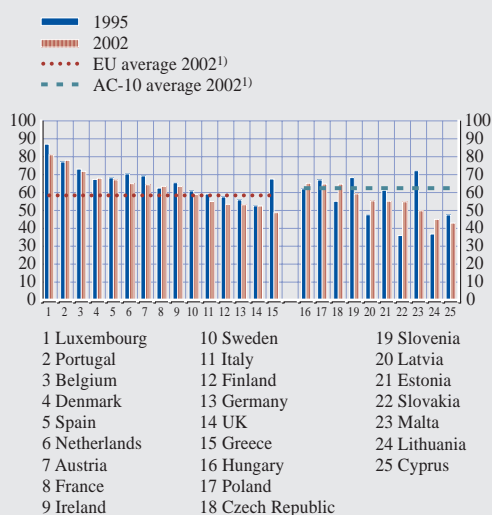
32 Krugman (1993).

33 De Grauwe and Aksoy (1999).

34 Frankel and Rose (1998), Maurel (2002), Fidrmuc and Schardax (2000).

**Chart 6** Acceding countries' trade with the EU

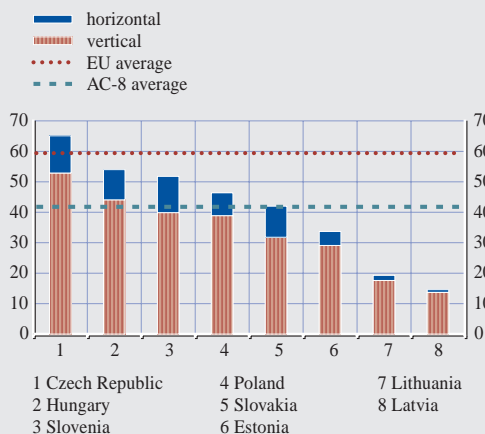
(exports and imports of goods to the EU as a percentage of total trade in goods)



Sources: IMF DOTS and Eurostat for weights.  
 Note: Data for 1997 instead of 1995 for Belgium and Luxembourg.  
 1) Weighted by nominal GDP in 2002.

**Chart 7** Share of intra-industrial trade in acceding countries

(as a % of total EU trade, 2000)



Sources: UNECE (2002) and ECB staff calculations.

of similar goods of different quality (see Chart 7).<sup>35</sup> This is important with respect to the question of euro adoption, as it suggests that countries with a high degree of intra-industrial trade will be subject to similar shocks and pattern of industrial activity. At a country level, the role of intra-industrial trade seems to be particularly high in those countries with strong trade links with the EU. In fact, the Czech Republic, Hungary, Poland and Slovenia have a high share of intra-industrial trade with the EU, ranging from 46% of total EU trade in Poland to 65% in the Czech Republic. In contrast, intra-industrial trade with the EU is relatively low in Latvia and Lithuania, which have a share of less than 20% of total EU trade.<sup>36</sup> The pattern of intra-industrial trade partly mirrors the pattern of trade specialisation and the role of technology-driven industries. For example, the importance of technology-driven industries is relatively high in the Czech Republic, Estonia, Hungary and Poland, while in Latvia and Lithuania specialisation has taken place with respect to labour-intensive industries.

In sum, the Czech Republic, Hungary, Poland and Slovenia seem to be most integrated with the EU in trade terms and have the highest share of intra-industrial trade with the EU. This suggests that they are likely to be subject to similar patterns in industrial activity and shocks as current EU Member States. In contrast, Latvia and Lithuania stand out as being among the least integrated with the EU and also have a low degree of intra-industrial trade.

### 2.3.3 LABOUR MARKET FLEXIBILITY

Flexible labour and goods markets can facilitate adjustment to asymmetric shocks. According to the OCA theory, the need for nominal exchange rate adjustments is lower the more prices and wages are flexible, particularly downwards, and

<sup>35</sup> In comparison, the share of intra-industrial trade in the euro area is well above 50%.

<sup>36</sup> However, the low degree of intra-industrial trade might also be due to the small size of the economies and their relatively lower degree of diversification.

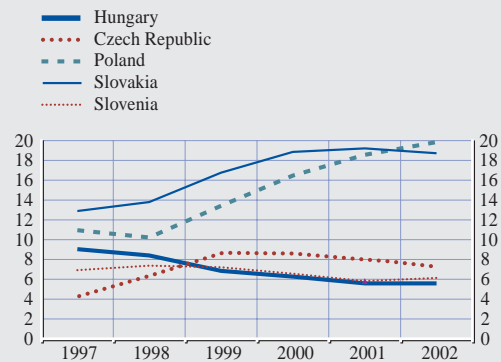
the more production factors are mobile across and within countries.<sup>37</sup> Moreover, labour market structures may have a bearing on how efficiently an economy adjusts to shocks. The flexibility of labour markets is particularly difficult to assess and quantify, but several indicators may be useful, such as the degree of labour turnover, the strictness of the employment protection legislation in place, the generosity of unemployment benefit systems, the centralisation of wage bargaining, the level of minimum wages and the flexibility of nominal wages.

Labour market developments in acceding countries generally reveal major future challenges: unemployment rates are high and rising, the share of long-term unemployment is substantial, and labour force participation is declining. However, large differences exist across countries, with unemployment rates in 2002 ranging from around 5% to 6% in Cyprus, Hungary and Slovenia to 19% in Poland and Slovakia (see Charts 8 and 9). Comparable data available for the OECD countries show that long-term unemployment shares in all four OECD members (Czech Republic, Hungary, Poland and Slovakia) are similar to those in the euro area, despite a far shorter history of unemployment in the transition economies. Labour force participation, although still higher as a legacy of the past regimes, continues to decline in practically all countries, and is gradually reaching euro area levels.

While part of the increase in unemployment may largely be a consequence of the still ongoing transition process, challenges arise mainly from its persistence over time. The increase in unemployment in some acceding countries during the late 1990s despite rapid economic growth suggests that unemployment is mostly a structural problem rather than a cyclical one. This analysis seems to be confirmed by the relatively high incidence of long-term unemployment. In most acceding countries, the share of those that have been unemployed for

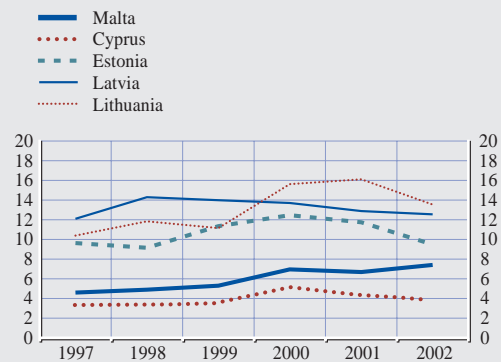
37 See Friedman (1953), Mundell (1961).

**Chart 8 Unemployment rate in the Central European acceding countries**



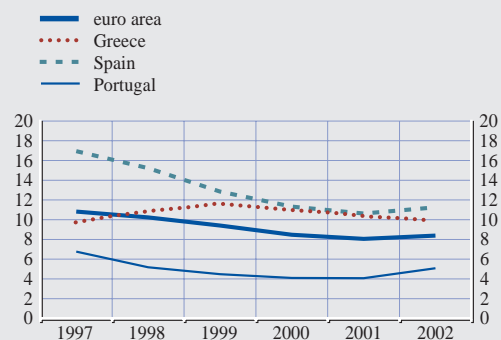
Sources: Eurostat and IMF.

**Chart 9 Unemployment rate in the Baltics, Cyprus and Malta**



Sources: Eurostat and IMF.

**Chart 10 Unemployment rate in the euro area**



Source: Eurostat.

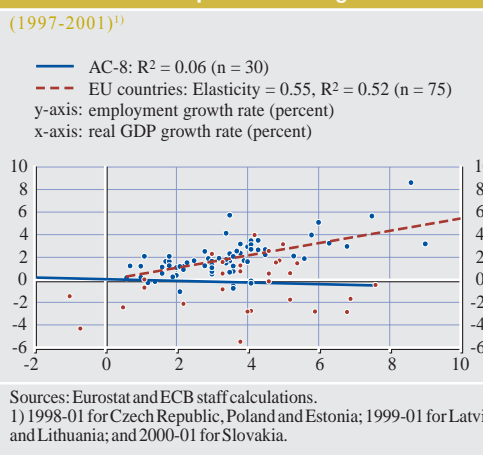
more than a year in the total number of unemployed is not only higher than the EU average, but has also been increasing in recent years, in contrast with the experience in the EU. The lack of a distinctive correlation between economic growth and employment growth in acceding countries is also in contrast with the experience across the EU (see Chart 11).

High rates of unemployment do not appear to be correlated with specific exchange rate regimes. Poland, Slovakia and Lithuania, the three acceding countries with the highest unemployment rates, themselves cover the spectrum from hard pegs to flexible exchange rate regimes. The widespread nature of unemployment points to structural reasons (such as skills mismatches) as being a likely source of these persistently high unemployment rates.

This persistence can also be partly explained by the rather low levels of inter-regional labour mobility in many countries. In fact, the incidence of high unemployment regions is much higher across acceding countries than within the EU (see Charts 12 and 13).

Mobility across jobs and the creation of new jobs, as measured by the job turnover rate, have also declined significantly since the early

**Chart 11 Correlation real GDP growth – employment growth, EU-15 and the Central and Eastern European acceding countries**

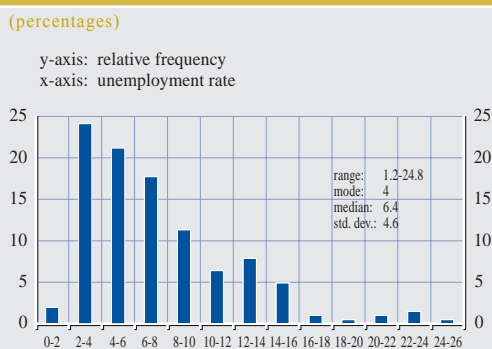


1990s, when the initial stages of transition led to a high turnover in jobs. Against this background, mobility across sectors and regions cannot be regarded as a very effective mechanism for absorbing idiosyncratic shocks.<sup>38</sup>

Other indicators of labour market flexibility, such as employment protection legislation, shed a more positive light on the situation in acceding countries. In fact, employment

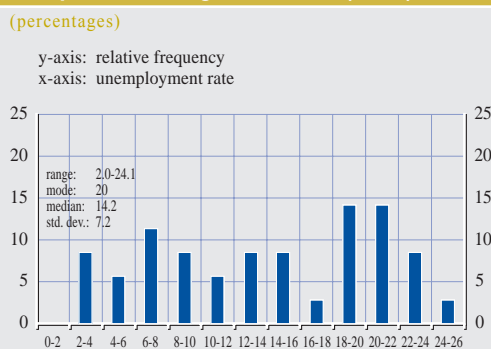
<sup>38</sup> See Fidrmuc (2002).

**Chart 12 Histogram of EU regional unemployment rates (2001)**



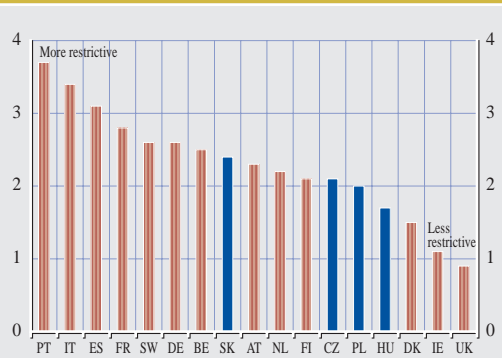
Sources: Eurostat, ECB staff calculations.

**Chart 13 Histogram of regional unemployment rates in the larger Central European acceding countries<sup>1)</sup> (2001)**



1) Slovenia and the Baltics excluded from the analysis as they are one NUTS-2 region each.

**Chart 14 Index of employment protection legislation (1999)**



Source: OECD (1999).

legislation can be regarded as less strict than in the euro area (see Chart 14).<sup>39</sup>

Nominal rigidities are difficult to measure and may change as a consequence of changes in the monetary regime. Nominal wage growth in the acceding countries has on average moderated alongside disinflation. This seems to suggest that there is some degree of nominal wage flexibility, at least in the range of positive nominal wage growth. However, there have been two episodes of high nominal wage growth which do not fit this generally positive picture, namely in the Czech Republic in the mid-1990s and in Hungary since 2001. It should be borne in mind that so far there has been little need for downward flexibility of nominal wages in acceding countries owing to the catching-up process on the one hand and higher inflation until recently on the other. An exception was the experience of some sectors in the Baltic countries after the Russian crisis, where wages appeared flexible downwards. Yet, with acceding countries approaching a low inflation environment, the need for downward flexibility of nominal wages may become more frequent and nominal downward rigidities more biting, in particular if output fluctuations are pronounced.

Flexible and sufficiently differentiated wages are of crucial importance for enhancing the

efficiency of labour markets in matching supply and demand. In this context, whether wage bargaining takes place collectively, and if so, at which level, may have implications for wage growth. Another relevant piece of information for assessing nominal rigidities relates to the duration of nominal wage contracts and to the extent to which they are synchronised or staggered. Overall, nominal wage contracts in acceding countries are typically of a relatively short duration (which may be related to the past experience of inflation persistence in some countries). Moreover, there appears to be no particular evidence that would point to an exceptionally high degree of staggering of nominal wage contracts.

Wage-setting frameworks and the role of trade unions in wage formation differ widely across countries. Table 4 hereafter shows that when collective bargaining takes place in acceding countries, it does so mostly at the company level. In Slovakia, where collective bargaining takes place predominantly at the sectoral level, there is no evidence that pay increases have been particularly hefty, as high and persistent unemployment has most probably dampened wage demands. Acceding countries also exhibit relatively low and declining rates of trade union membership.

Heterogeneity across acceding countries is also a feature of the level of the minimum wage. Excessively high statutory minimum wages may deter employment, particularly of young age groups. In January 2003, Slovenia had a national minimum wage broadly comparable to that in Portugal (416 EUR per month) or in Spain (526 EUR per month), the two Member States with the lowest minimum wages. All other continental acceding countries were clearly below EU levels (see Table 5 hereafter). However, when comparing the minimum wage with the average wage, most acceding countries have relatively generous minimum wages when

<sup>39</sup> The availability of comparable cross-country information is very limited. Given the numerous changes in labour market legislation across countries on an ongoing basis, assessment based on stock-taking exercises conducted in the past must be particularly cautious.

Table 4 Wage-setting framework in acceding countries

(2001)	Bargaining level			Collective bargaining coverage (percent of workers)	Average pay increase in 2001 (percent, adjusted for inflation)	Usual weekly working hours
	Company	Sectoral	Intersectoral			
<i>Central Europe</i>						
Czech Republic	***	*		25-30	3.9	42.3
Hungary	***	**	*	34	8.4	42.9
Poland	***	*		40	1.4	45.1
Slovakia	*	***		48	0.9	42.9
Slovenia	*	**	***	ca. 100	3.5	39.7
<i>Baltics</i>						
Estonia	***	*		29	7.2	42.4
Latvia	***	*	*	<20	3.7	44.3
Lithuania	***	*		10-15	0.8	44.8

Sources: ECB staff compilation based on EIRO/ILO (2002) and ETUC (2002).  
Note: (\*) Existing level of wage bargaining; (\*\*) Important but not dominant level of wage bargaining; (\*\*\*) Dominant level of wage bargaining.

compared with Spain (where the minimum wage represents around 35% of the average wage) and Portugal (where the corresponding figure is 44%).

The level of unemployment benefits as measured by the replacement ratio (i.e. initial benefit over previous earned income) is relatively modest in the Baltic countries, but relatively generous in countries such as Hungary, Slovenia and Slovakia. Comparing unemployment benefit systems across countries using indicators such as the replacement ratio is nevertheless subject to great uncertainty. This is because the parameters of unemployment benefits, such as the length of entitlement to benefits, differ greatly across countries according to workers' contributive history, and thus the average unemployed person may well receive a very different benefit than the statutory maximum. Thus, looking at the public expenditure on unemployment benefits as a proportion of GDP complements the information on the statutory generosity of the unemployment benefit system. This indicates that spending on unemployment benefits is particularly low in the Baltic countries, especially in Estonia and Lithuania, while

earlier data show that central European acceding countries typically spend more than the Baltics in unemployment benefits although, with the exception of Poland, they are still far below the EU average.

It should be noted that the issue of nominal rigidities not only pertains to labour markets, but equally to product markets. Nominal price flexibility is typically closely linked to the degree of product market regulation. OECD composite indicators on product market regulation that relate to the status quo in the late 1990s suggest that acceding countries have moved on fairly quickly with product market deregulation.<sup>40</sup> The ongoing adoption of the single market *acquis* has been instrumental in advancing this process. Still, a special issue for acceding countries in this regard should be mentioned, namely that of administered prices, which have a relatively high share in the consumer baskets of some of these countries. This may insert an element of inflexibility into product markets. The analysis of product market flexibility would benefit from further deepening in the future.

<sup>40</sup> Unfortunately, no updates of these indexes are available.

**Table 5 Labour market welfare systems in acceding countries**

(January 2003, unless otherwise specified)

	Minimum wage (euro p/month)	Minimum wage (% of av. wage)	Unemployment benefits			Expenditure on active labour market policies (% of GDP in 2001)
			Replacement ratio <sup>1)</sup> (%)	Maximum duration <sup>2)</sup> (months)	Total expenditure (% of GDP in 2001)	
<i>Central Europe</i>						
Czech Republic	199	47	50	6-12	0.31 (1999)	0.19 (1999)
Hungary	212	56	64	3-12	0.56 (1997)	0.40 (1997)
Poland	201	39	40	12-24	1.71 (1996)	0.49 (1996)
Slovakia	118	37	60	6-12	0.54 (1996)	0.56 (1996)
Slovenia	451	43	63	3-24	0.89 (1998)	0.83 (1998)
<i>Baltics</i>						
Estonia	138	42	50	6-12	0.13	0.06
Latvia	116	40	50	9	0.50	0.14
Lithuania	125	47	25 <sup>3)</sup>	n.a.	0.15	0.12
<i>EU average</i>			60		1.73	1.16

Sources: ECB staff compilation based on Eurostat (2003), OECD (2003), Riboud et al. (2002), Cazes (2002).

1) Initial benefit level divided by previous earned income.

2) Duration is typically a function of the worker's contributive history.

3) Lithuania's unemployment benefits do not follow an insurance principle: they are either a flat rate (state supported income) or variable up to one-fourth of the average gross wage.

The degree of labour market flexibility differs across acceding countries. Indeed, the assessment critically depends on which indicators one chooses to focus upon. Drawing conclusions from labour market flexibility indicators is, moreover, particularly difficult in the case of acceding countries since the ongoing process of transition may have a significant effect on these indicators. Despite these caveats, a number of common features emerge. Labour turnover, which had been particularly high in the first half of the 1990s, has since been decreasing in most cases to reach levels that are more comparable with those prevailing in current EU countries. Workers in many acceding countries remain on average a shorter time in their jobs compared with workers in the OECD countries. This is particularly the case in Estonia, which displays the highest proportion of workers with a short job tenure (less than one year) and the smallest share of workers with long job tenure (more than ten years), while lengthy average job tenures point towards some limitations to labour market flexibility in Slovenia and Poland.

At an individual country level, labour markets in acceding countries differ in their degree of flexibility across the range of institutional features reviewed here. Estonia and Hungary appear to have the most flexible labour markets, underpinned by relatively weak labour protection legislation, the limited role of trade unions, low levels of social protection and a high degree of wage flexibility. Hungary has seen, however, substantial pay increases in recent years and suffers from one of the highest taxation rates on labour. In addition, the job turnover rate is particularly high in Estonia. In contrast, for the Czech Republic, Poland, Slovakia and to some extent also Slovenia, several indicators, such as the wage bargaining structure and the generosity of their social benefit systems, suggest that their labour markets may be more rigid.

It is difficult to project future trends in labour market flexibility and mobility. Given the high share of long-term unemployment, however, it is clear that the high levels of structural unemployment in a number of acceding countries are likely to persist for some time. The main question with regard to future

developments appears to be to what extent acceding countries will experience stronger upward real wage pressures in the wake of EU entry, as regulations and labour standards will tend to become more comparable with the EU. A further issue is how prospective participation in the euro area would affect wage developments, in particular in a catching-up setting. However, wage pressures within a monetary union are not likely to be immediate, as the free movement of persons will be restricted for a period of up to five (and in some cases seven) years after EU accession for several countries. This issue will be discussed in more depth later in the paper.<sup>41</sup>

Cross-border labour mobility between current and new Member States is also to be limited by a transitional arrangement agreed in the context of the accession negotiations. For the first two years after accession, Member States will accept workers from the new Member States according to national rules (the transitional agreement does not apply, however, to Cyprus and Malta). Two years after accession, the Commission will report on the situation and Member States will have to announce the system they wish to use from then on, which could be applied for a further three years. Following this period, the remaining Member States that restrict access to their labour markets will again be invited to open their labour markets entirely. Only if a Member State can show serious disturbances in its labour market, or the threat of such disturbances, will it be able to continue to require work permits for a maximum of a further two years. The right of establishment is not affected by this transitional period, and people will also be completely free to deliver services across borders as self-employed persons or as companies. Austria and Germany, however, have the right to apply measures to address serious disturbances or the threat thereof in specific sensitive service sectors on their labour markets, which could arise in certain regions from the cross-border provision of services.

At this stage it is difficult to foresee what the likely impact of this transitional arrangement will be on limiting cross-border labour

mobility, as it will ultimately depend on how liberal the national measures of the current Member States turn out to be. In the past, when Spain and Portugal entered the EU, the phasing-in period of seven-ten years was subsequently shortened. In fact, in some Member States full labour market access may occur immediately upon accession. Moreover, in a declaration attached to the Accession Treaty, current Member States have committed themselves to granting increased labour market access under national law, with a view to speeding up the approximation to the *acquis*.

#### 2.3.4 FINANCIAL SECTOR INTEGRATION

A high degree of financial integration has been stressed by some authors as conducive to the sustainability of a monetary union as, in combination with sound and well-developed financial markets, it is expected to help smoothen the impact of asymmetric shocks by facilitating cross-border flows of capital.<sup>42</sup> Within the “new” OCA theory, financial integration is often seen to include the similarity of financial structures, institutions and legislation, because similar structural features, including the financing pattern of private enterprises (i.e. share of bank loans to total liabilities) and balance sheets of households (i.e. share of mortgage payments to total payments), are seen to increase and synchronise the effectiveness by which monetary policy is transmitted to the real economy. Thus, financial integration can also be expected to contribute to the better functioning of a monetary union.<sup>43</sup> To the extent that financial integration includes

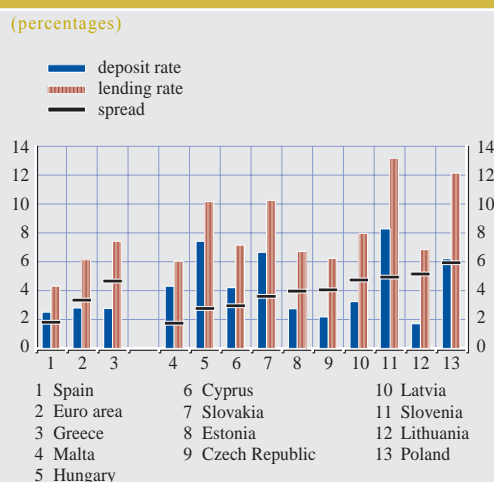
41 See especially Section 2.3.7.

42 See Ingram (1973), Scitovsky (1966). Mundell (1973) takes this argument a step further by suggesting that, under full financial market integration, countries which are exposed to asymmetric shocks may particularly profit from monetary unification. The idea underlying this argument is that using a common currency will facilitate portfolio diversification, which allows countries to adjust more smoothly and at lower costs to asymmetric real shocks, owing to mutual claims on each other's resources.

43 In this context, it should be noted that financial integration was regarded as necessary for the euro area to ensure a comparable implementation of the single monetary policy in EMU. For an overview of the empirical literature with respect to financial integration in the euro area, see Mongelli (2002).



**Chart 15 Deposit and lending interest rates (2002)**



Source: IMF (data for Portugal are not available).

**Chart 16 Size of the banking sector (2002)**



Sources: IMF and national central banks.

similar supervisory and regulatory frameworks, it could also contribute to greater financial stability.

Overall, the degree of financial integration between acceding countries and the euro area appears to be high, although considerable differences exist across indicators and countries. As for capital flows, virtually all acceding countries have experienced large and increasing inflows in recent years. By far the largest component of these flows is foreign direct investment, which has accounted for approximately two-thirds of all capital flows to acceding countries in recent years. The EU plays a very important role as a source of such FDI: in 2000, approximately 80% of FDI inflows originated from EU Member States. As a consequence, cross-border ownership has increased substantially both in the real sector and in the financial sector (see also below).

Moreover, the convergence of interest rates to levels prevailing in the euro area has been significant, and spreads between deposit and lending rates have declined to euro area levels in recent years (see Chart 15). However, significant differences at the country level

continue to exist. For example, deposit/lending spreads are considerably higher in Latvia and Slovenia than in the euro area, and are close to twice as high in Lithuania and Poland.

Acceding countries also seem to be highly integrated when the similarity of their financial structures and institutions is considered. This is largely a result of the implementation of the *acquis communautaire* and the high degree of market integration.

The level of financial intermediation, however, remains low in most acceding countries (see Chart 16), although banking assets as a ratio to GDP have risen in recent years. Only Cyprus and Malta have reached a level comparable with the euro area average. The low depth of financial intermediation partly reflects moderate GDP per capita levels. More importantly, though, it is due to the relatively short history of banking sectors and the transition process, which included bank consolidation, gradually evolving track records of new companies and private households, and a strong presence of foreign-owned companies. Financial intermediation can be expected to rise more swiftly in the period ahead, as the transition

process nears completion and the catching-up process advances. At the current juncture, intermediation is driven in particular by increased leverage of SMEs and households.

Banking sector soundness has substantially improved in most acceding countries in recent years. Capitalisation, profitability and asset quality have strengthened considerably, in particular in the Czech Republic and in Hungary. Poland is somewhat an exception to the general picture, both in terms of profitability and with regard to the share of non-performing loans, which is apparently to a large extent due to the very low growth phase in 2001 and 2002. Moreover, in some country cases, the existence of currency mismatches does warrant attention from a financial stability viewpoint before the ultimate adoption of the euro.

Taken together, all these observations imply that monetary transmission through interest and credit channels has become more effective in most acceding countries owing to improved banking sector soundness, but is still constrained as a consequence of the low depth of financial intermediation.

Another basic feature of acceding countries' financial markets is the dominance of the banking sector over capital markets, a feature which is pronounced in all ten countries. Again, this is both the result of development levels and transition strategies that mostly focused on rehabilitating the banking system; attempts in some countries to foster capital market development, however, were only partially successful. This is particularly true for the corporate bond market, which is in its infancy in all acceding countries, and for the equity market, which has made limited headway only in the Czech Republic, Hungary and Poland. While the trading volume on these markets has increased, it is indicative that the volume of new equity capital raised through these markets has remained negligible. Concerning other financial market segments, liquid foreign exchange markets have developed in four acceding

countries, namely in the Czech Republic, Hungary and Poland (both spot and forward markets) as well as in Slovakia (spot market). Government bill and bond markets are well developed in the Czech Republic, Hungary and Poland.<sup>44</sup>

A further characteristic of financial systems in acceding countries is substantial foreign ownership, which can be observed in all market segments, but mostly in the banking sector. Foreigners, mostly from EU countries, own in seven out of ten countries more than 80% of the total assets of commercial banks, which is well above the share of cross-border ownership in the EU. At a country level, Estonia, Lithuania, Malta and Slovakia have the highest foreign-owned share of total assets, compared with Cyprus and Slovenia, which have the lowest share (see Table 6). The strong presence of foreign-owned banks has been instrumental in broadly improving the performance of banks in acceding countries. Foreign ownership will transform but not necessarily mitigate supervision challenges, in particular upon EU accession, when the home country principle takes effect for branches established in acceding countries. In many cases, subsidiaries and branches in acceding countries only account for a small fraction of the balance sheets of the parent banks, while at the same time being of systemic relevance for the acceding countries' financial systems. This raises a need for strengthened cooperation between home and host supervisory authorities, for instance in the exchange of information and in potential crisis management. Foreigners, in particular from the EU, play a significant role in stock markets in the acceding countries, partly because market deepening has typically been closely linked to privatisation, a process in which foreign investors have been at the forefront. Similarly, euro area investors play a substantial role in the fixed income markets and hold a large share of acceding countries' government bonds.

<sup>44</sup> It is probably fair to say that the development of equity and corporate bond markets has a less direct bearing for the timing of monetary union participation. Still, this analysis is presented here to complete the picture.

**Table 6 Foreign ownership of banks**

(2002)

	Number of commercial banks	Of which: foreign-owned	Share of total assets being foreign-owned (as a %)
Cyprus	13	5	13
Czech Republic	37	26	86
Estonia	7	4	99
Hungary	39	27	87
Latvia	19	12	47
Lithuania	14	4	94
Malta	13	10	99
Poland	59	45	78
Slovakia	18	15	96
Slovenia	22	6	35

Sources: EBRD, national central banks and/or national supervisory authorities.

Looking ahead, financial integration in acceding countries is expected to increase further. Capital flows will increase as capital account liberalisation is fully concluded and EU accession increases confidence and reduces risks. Interest rate spreads can be expected to narrow, as financial sectors become more efficient over time. Furthermore, with respect to financial structures and institutions, further progress can be expected, with the adjustments arising from the *acquis communautaire* and central bank cooperation with the Eurosystem certainly representing a driving force.

In this context, it is worth recalling that all acceding countries will implement and enforce the *acquis* as from the date of accession, with only a few, temporary exceptions. In particular, under the chapter “free movement of capital”, negotiations have been closed with some transitional arrangements on real estate investments (Slovenia), secondary residence investments (Czech Republic, Hungary, Poland, and Cyprus)<sup>45</sup> and agricultural land and forest investments (Czech Republic, Slovakia, Hungary, Lithuania, Latvia, Estonia and Poland). Under the chapter “freedom to provide services”, some specific transitional arrangements have been granted in the financial sector regarding full compliance with the *acquis* of the cooperative credit institutions (Cyprus, Hungary and Poland), savings and loans

undertakings (Slovenia), deposit guarantee schemes (Estonia, Latvia, Lithuania and Slovenia) and investor compensation schemes (Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia). Owing to their specific nature as well as their limited duration and scope, the transitional arrangements will not genuinely affect further the financial integration of the acceding countries.

Finally, the experience of the current euro area countries suggests that the eventual adoption of the single currency will give a further boost to deepening financial integration, increasing the homogeneity of structures and the efficiency of banks and capital markets.

### 2.3.5 REAL CONVERGENCE AND STRUCTURAL DIFFERENCES IN ECONOMIC DYNAMICS

Real convergence, i.e. the catching-up of income levels and the adjustment of real economic structures to those prevailing in the euro area, is one of the key economic characteristics of acceding countries. While differences in income levels and some differences in economic structures can, in principle, be compatible with participation in a

<sup>45</sup> Malta has been granted the right to maintain on a permanent basis its national legislation regarding the acquisition of secondary residences.

monetary union, such differences can have important implications for the appropriateness of the single monetary policy to individual members. In particular, real convergence is likely to be reflected in differences in economic dynamics. Differences in economic dynamics between members are increasingly regarded as one of the main potential costs of a monetary union. If such differences are substantial and persistent, abandoning an independent monetary policy as a stabilisation instrument may entail welfare losses. Inappropriate macroeconomic policies would exacerbate periods of overheating or downturns, lead to boom-bust cycles, and may bring about higher average unemployment over time through hysteresis effects. This section explores these considerations for the current acceding countries.

Over the past 13 years, economic growth in most acceding countries has developed quite differently from the euro area, with the exception of Cyprus and Malta.<sup>46</sup> Following initial transformational recessions in the early 1990s, most acceding economies have expanded faster than the euro area, experienced sharper cyclical fluctuations and have been subject to several major idiosyncratic shocks, including stabilisation crises. The important question is whether these structural differences in the pattern of economic dynamics between acceding countries and the euro area will remain significant beyond 2007-2009, which is the target period of many acceding countries for euro area entry. The answer to this question is mostly empirical. The following analysis examines the basic properties of output dynamics since 1996 (the first half of the decade, by contrast, was mostly shaped by systemic transformation) and aims to assess structural differences vis-à-vis the euro area. Note that owing to the short time series, all findings have to be taken with caution and estimates warrant updating as new data become available.

In this analysis, three features stand out, all of which have a bearing on the choice of timing of euro area entry and which will be briefly

addressed in this section: growth rates are persistently higher in acceding countries, as are growth fluctuations (i.e. amplitudes of upswings and downturns), while business cycles are not always closely synchronised with the euro area.

A convenient way of condensing these differences into a single indicator is Theil's inequality coefficient. This coefficient measures a scaled root mean squared difference between two series. It takes values between zero (perfect fit) and unity. The statistic provides two important benefits. First, it allows the comparison of different pairs of variables at different scales, with respect to a broad concept of inequality. Second, inequality of time series can be decomposed into its main statistical factors, i.e. mean difference, difference in variability and lack of correlation.

Chart 17 shows GDP growth inequality as measured by Theil's inequality coefficients relative to the euro area for three groups over the period 1996 to mid-2003, namely the CEE (Central and Eastern European) acceding countries, euro area peripheral countries (Greece and Portugal), and the so-called euro area pre-ins (United Kingdom, Sweden and Denmark).<sup>47</sup>

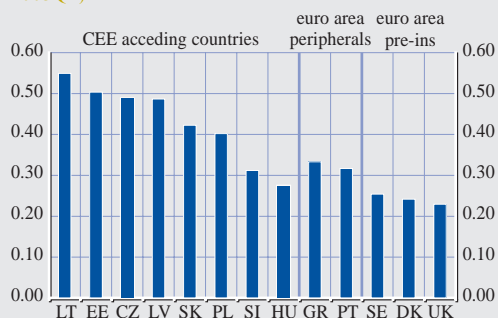
It turns out that inequality is on average higher for acceding countries (mean coefficient 0.43) than for the peripherals (0.32) and the pre-ins (0.24). Moreover, there has been considerable divergence in inequality among acceding countries. The countries with economic dynamics most similar to the euro area are Hungary (coefficient: 0.27), Slovenia (0.31) and Poland (0.40). Meanwhile, the Czech Republic, Estonia, Latvia and Lithuania post the largest differences. Chart 18 repeats the exercise using Germany as a reference. Results on the relative inequality of the acceding countries, peripherals and pre-ins are similar to

<sup>46</sup> In this section the term "acceding countries" refers to the eight Central and Eastern European acceding countries (thus not including Cyprus and Malta).

<sup>47</sup> This part of the analysis excludes Ireland, since quarterly GDP data stretching back to 1996 are not available for this country.

**Chart 17 Theil's inequality coefficients for growth between various countries and the euro area**

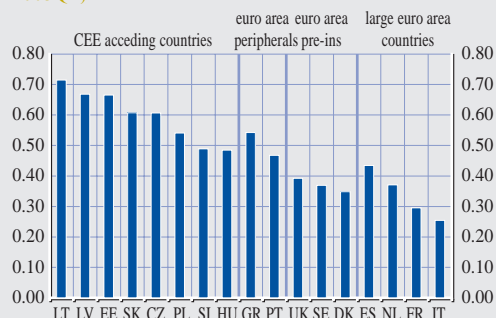
(based on year-on-year real GDP growth rates, 1996-2003Q2)



Sources: ECB staff calculations.

**Chart 18 Theil's inequality coefficients for growth between various countries and Germany**

(based on year-on-year real GDP growth rates, 1996-2003Q2)



Sources: ECB staff calculations.

those obtained against the euro area benchmark. However, two additional findings are of interest. First, inequality versus Germany is greater than versus the euro area in all cases, suggesting that there is an issue of dispersion among euro area countries in addition to the difference between different “blocks”. Second, one can add France, Italy, the Netherlands and Spain individually as an additional control. The inequality of these countries versus Germany is comparable to that of the pre-ins, but well below that of the acceding countries.

What explains these inequalities? The statistical components of different growth behaviour are shown in Charts 19 and 20. Technically speaking, they reveal how inequality is related to different means, different variances and a lack of covariance between the individual countries and the euro area (or Germany). When looking at inequality versus the euro area, it is striking that for all country groups the covariance of growth with the euro area is imperfect and roughly of a similar size. This difference may reflect lack of cycle synchrony, perhaps arising from idiosyncratic shocks. There is a considerable difference in the means and, to a lesser extent, variances of the separate country groups, however. Thus, for the pre-ins neither means nor variances put economic growth far from that of the euro area. The peripheral countries add the difference in mean

growth as a significant component of inequality. The CEE countries exhibit an even more sizeable mean difference and are additionally subject to a higher level of variance, suggesting that their trend growth and cycle amplitudes tend to be larger. The inequality versus Germany features mean growth difference as a prominent characteristic of all country groups, including the large current “euro-ins”. However, similar to the euro area benchmark, the acceding countries tend to have a relatively higher variability of output.

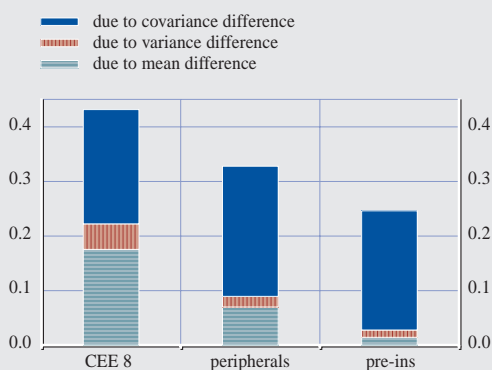
- Higher growth rates

An obvious feature of the data is that real GDP has expanded considerably faster in the acceding countries than in the euro area over the past few years. On average, the acceding countries posted GDP growth rates of 4.1% from 1996 to mid-2003, compared with 2.3% in the euro area, 2.7% and 3.6% in Portugal and Greece, respectively, and from 2.3% to 2.8% on average in Denmark, Sweden and the United Kingdom. Within the group of acceding countries, the Czech Republic is a clear outlier, with real GDP expanding by only 1.7% on average per year due to the severe stabilisation crisis of 1997-99 (see Chart 21).

Higher growth rates in acceding countries compared with the euro area can mainly be

**Chart 19 Differences in GDP growth compared to the euro area**

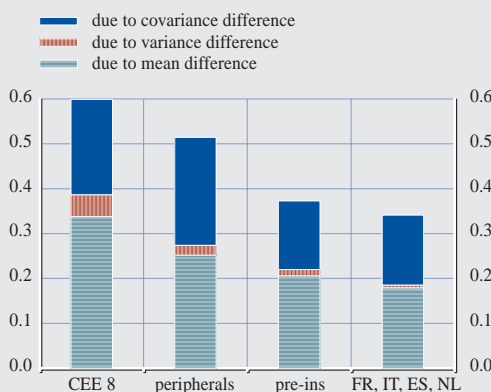
(Theil's inequality coefficients and components, 1996-2003Q2, based on year-on-year GDP growth rates)



Sources: ECB staff calculations.

**Chart 20 Differences in GDP growth compared to Germany**

(Theil's inequality coefficients and components, 1996-2003Q2, based on year-on-year GDP growth rates)



Sources: ECB staff calculations.

explained by the catching-up of these economies, as well as initially by the recovery from the “transformational recession” of the first half of the 1990s. While higher growth is needed to converge with the per capita income levels in the euro area, such structural differences in economic dynamics may increase the stabilisation costs that an acceding country would incur if it abandoned its own monetary policy. Different long-term growth rates not only imply higher inflation rates, for example through the Balassa-Samuelson effect; there is also a risk of inappropriately low nominal, and thus real, short-term interest rates. In combination with a high marginal return on capital, these lower interest rates could potentially fuel a credit boom that, owing to inevitable supply-side constraints facing the investment demands, would give rise to asset bubbles and boom-bust cycles (for further details, see also the next section).

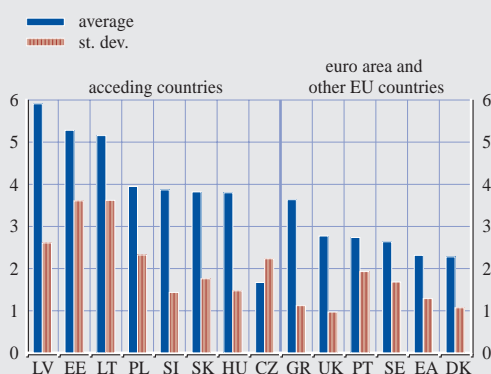
#### - Higher output fluctuations

On the heels of faster economic growth, most acceding countries have also experienced wider output fluctuations. The average standard deviation of real GDP growth was 2.4 percentage points in the acceding

countries from 1996 to mid-2003, higher than in the euro area and the euro area periphery (with respectively 1.3 and 1.5 percentage points). The variance of individual countries was on average larger in acceding countries than in the euro area, although the standard deviations are scattered in a broad range from 1.4% in Hungary and Slovenia to 3.6% in Estonia and Lithuania. The five central European economies together, namely the Czech Republic, Hungary,

**Chart 21 GDP growth and standard deviations in Europe**

(GDP, annual percentage change, 1996-mid-2003)



Sources: ECB staff calculations.

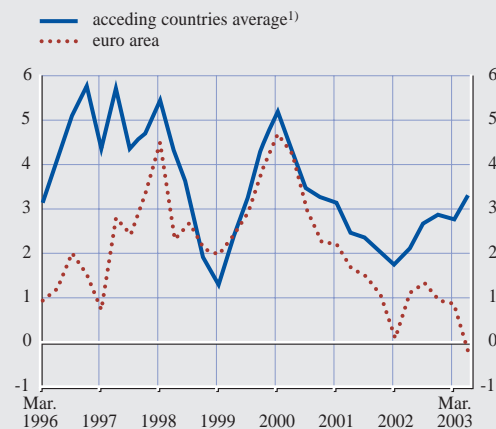
Poland, Slovakia and Slovenia, posted on average a much smaller standard deviation (1.9 percentage points) than the Baltic countries (3.3 percentage points). This finding partly reflects the recession in the aftermath of the Russian crisis of 1998 and the subsequent recovery, but may also have to do with country size.

Higher output fluctuation in acceding countries compared with the euro area can be mainly explained by the fact that the transition process and the implementation of structural reforms have followed a fairly uneven path. Moreover, acceding countries have experienced only imperfect access to international capital markets as they have been exposed to stronger changes in investor sentiment. Most importantly, high investment ratios in most acceding countries, combined with the fact that capital spending tends to be more cyclical than consumption, suggests that during the catching-up period, growth fluctuations will remain larger. Interestingly, the growth differential between the euro area and acceding countries has not diminished over the sample period. A period of narrowing growth differences from 1996 to 1999 has given way to a renewed divergence over the past few years (see Chart 22). With respect to monetary policy, large differences in output fluctuations could imply that in an enlarged euro area, monetary policy would not be sufficiently counter-cyclical for those countries with higher fluctuations.

In this context, however, it must first be investigated whether monetary policy has played a useful stabilisation role, or whether it has instead added to cyclical fluctuations. Given the predominant importance of the exchange rate channel in the transmission of monetary impulses to the real economy (interest and credit channels play a limited role as a result of the low degree of financial intermediation), the issue to be considered is whether exchange rate fluctuations have been a useful adjustment tool in dealing with adverse shocks – in which case they would stabilise domestic output growth – or whether they have disrupted trade and financial relations and have thereby

**Chart 22 GDP growth**

(quarterly data, annual percentage changes)



Source: Eurostat.

1) Weighted by nominal GDP in 2002, excl. Cyprus and Malta.

possibly magnified domestic output fluctuations. Obviously, only in the first case would the abandoning of the exchange rate tool prove costly. Background analysis on this particular issue suggests that the exchange rate has indeed played a role as a shock absorber, which has been larger in countries with flexible exchange rate regimes than in countries with tight exchange rate management.<sup>48</sup> This conclusion is based on the finding that in countries with more flexible exchange rate arrangements, both nominal and real exchange rates have reacted to shocks, rather than having led to them. This might support the view that flexible exchange rates are an efficient tool for adjusting to asymmetric shocks, also reflecting the fact that countries with more rigid regimes were less able to adjust the real exchange rate to growth differentials and fluctuations.

#### - Business cycle synchronisation

While acceding countries have on average higher and more volatile growth rates than the euro area, this does not necessarily imply divergent business cycles, which is another

<sup>48</sup> Stüppel (2003).

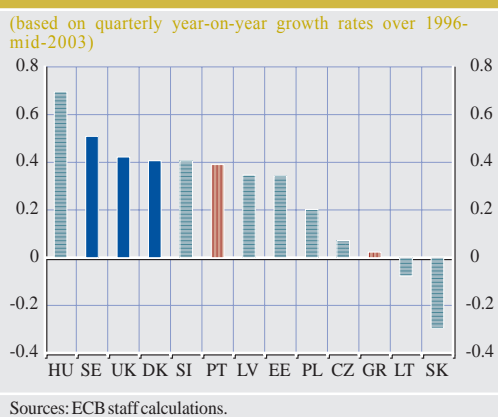
important factor when discussing whether countries are already well prepared to join the monetary union and to abandon flexible exchange rates. Strongly correlated cyclical swings across countries imply that countries are exposed to similar shocks and respond in a similar way.

With regard to the symmetry of economic fluctuations, the assessment is diverse across countries and benchmarks. Furthermore, correlation needs to be estimated and is thus more subject to judgement. The following analysis uses again data from 1996 until mid-2003 as well as four different measures to estimate correlation, in particular de-trended GDP growth, short-term trends in industrial output growth, estimated broad cycle components, and supply and demand shocks as identified by a structural VAR model. These approaches have complementary advantages and drawbacks, suggesting that results that broadly hold across methods might be reasonably robust and credible.<sup>49</sup>

The correlation coefficients of de-trended annual GDP growth (at a quarterly frequency) are presented in Chart 23.<sup>50</sup> The “euro pre-ins” (Denmark, Sweden and the United Kingdom) post the highest correlation with the euro area at an (un-weighted) average of 0.45. They are followed by a correlation coefficient of 0.21 for the acceding countries and of 0.21 as well for the two peripheral euro area economies (Portugal and Greece). Among individual acceding countries, the high correlation of Hungary and Slovenia with the euro area stands out.

The disadvantage of using GDP correlation to capture cycle synchrony is that even after long-term trend adjustment, the coefficients may be biased owing to technical correlation. In particular, the correlation of the central European economies with Germany may reflect similar weather conditions and calendar factors. A standard way of avoiding the problem is to use filters to extract the short-term GDP trends (through moving averages or medians).

**Chart 23 Correlation of de-trended GDP growth with the euro area**



However, the available times series are too short (30 observations) to do this in a meaningful way. Monthly data, which provide more observations, are better suited for such smoothing. They additionally allow to capture short-term dynamics that may be left unnoticed with lower frequency data, such as GDP series, that are available on a quarterly or annual basis.

The most popular proxy for monthly activity is industrial production. Data are more complete and have a longer history than GDP data. In particular, Ireland can now be included in the subsequent analysis. In addition, industry represents a substantial share of GDP in the acceding countries of central and eastern Europe (about 32% on average in 2002), and is typically the most decisive sector for cyclical dynamics. This series provides enough observations to extract a short-term trend from monthly growth data using a Hodrick-Prescott filter (with a smoothing factor of 100). Given the higher frequency of the data, this short-term trend is used as a proxy for cyclical fluctuations.

<sup>49</sup> It should borne in mind that estimated correlation coefficients for Greece, Ireland and Portugal with the euro area – hereafter reported – may be positively biased given that these countries are euro area Member States themselves. However, since they account for a small share of euro area GDP, this bias is unlikely to be large. For a recent other study of business cycle synchronisation between euro area countries and acceding countries, see Darvas and Szapáry (2004).

<sup>50</sup> GDP series are de-trended by subtracting a quasi linear trend estimated by the Hodrick-Prescott filter with a smoothing parameter of 14,000.



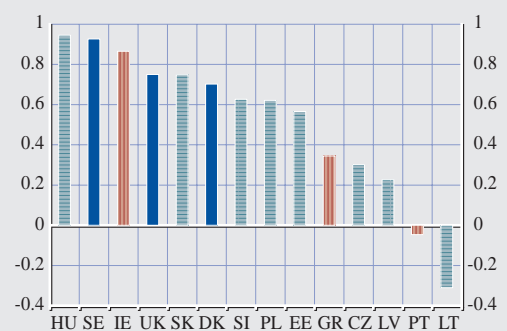
Chart 24 shows correlation coefficients for this measure. As in the GDP analysis, the correlation between the euro area and the three “euro pre-ins” is strongest with an average (unweighted) coefficient of 0.79. It is about 0.39 for the three euro area peripheral economies. The acceding countries from central and eastern Europe post an even higher average correlation coefficient of 0.47. However, the dispersion of the group is very wide. Hungary stands out with a coefficient of 0.94, which is the highest of all countries in the panel. The industry short-term trends of Slovenia, Poland and Estonia have also been strongly correlated with the euro area. The Czech Republic and Latvia post some positive correlation in their industry short-term trend with the euro area. Interestingly, unlike in the case of GDP, Slovakia is now positively correlated with the euro area. However, Lithuania remains negatively correlated.

It comes as no surprise that industry cycles are more closely aligned than GDP for all country groups. Merchandise trade integration between the euro area and the acceding countries from central and eastern Europe is high and the bulk of foreign direct investment from West to East is also mostly in the manufacturing sector. Finally, manufacturing activity across countries is subject to global cycles, particularly in inventory and investment spending. However, for all of these reasons, correlation of industry data may overstate the co-movements of the overall economies. And it is the latter that should matter for monetary policy.

Therefore a broad indicator for the business cycle is additionally estimated on a monthly basis. Compared with simple GDP growth, this has the advantage of avoiding correlation owing to joined quarterly volatility and of examining dynamics at a higher frequency. In addition, compared with the monthly industrial production series, it incorporates the dynamics of more sectors. Indeed, non-tradables sectors, such as retail services and construction, often follow dynamics that are more dependent on idiosyncratic domestic growth factors, such as monetary conditions or fiscal policy.

**Chart 24 Correlation of short-term industrial output growth trends with the euro area**

(based on quarterly year-on-year growth rates over 1996-mid-2003)



Sources: ECB staff calculations.

Three separate monthly indicator sets are used for each country to distil from them a joined cyclical factor: the annual growth of industrial production, the annual growth of retail sales volumes, and the annual growth of construction output. In some countries where not all data were available, surveys have been used to capture retail and construction activity.<sup>51</sup> The joined cyclical component has been estimated by using a state-space model of the Stock and Watson (1991) type that identifies the cycle as a joined linear component of all sectoral cycles. This component can then be smoothed again by a Hodrick-Prescott filter to rid it of short-term volatility.

The importance of looking at the broad cycle estimates rather than industry alone can be demonstrated by the example of the Czech Republic (see Charts 25 to 28 below). The chart of Czech and euro area industry growth shows that both economies have been at least broadly correlated over the sample period. The chart of the estimated joint cycle component of industry, construction and retail sales, however, suggests otherwise and is more in line with popular perceptions or GDP data. While the Czech Republic suffered a deep downturn in 1998-

<sup>51</sup> Series are reduced by dividing them by their respective standard deviation.

1999 that affected all sectors, the euro area's dip was limited to industry, and the economy as a whole remained close to a cyclical high. Then in 2000-2001, when the euro area cycle weakened, the Czech Republic recovered on a broad basis.

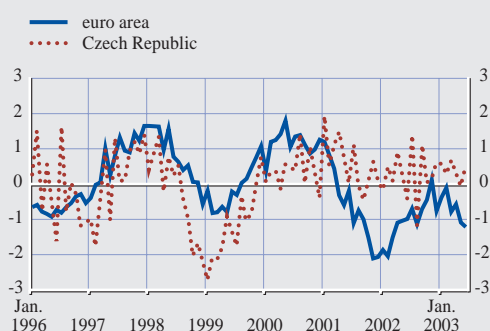
Thus the smoothed broad cycle estimates seem to be a particularly useful tool for estimating the symmetry of economic fluctuations. Correlation coefficients have been computed and are

presented in Chart 29. They deliver several important messages:

The (un-weighted) average of the correlation coefficients of the central and eastern European acceding countries with the euro area falls substantially to just 0.13. The coefficient of the "euro pre-ins" stands at 0.43, while the peripheral euro area countries still show a high correlation of 0.51. This difference relative to industry data is not too surprising, however.

**Chart 25 Czech and euro area industrial production**

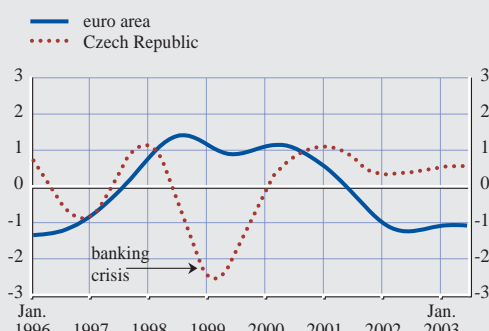
(year-on-year growth rates, as a % and normalised)



Source: Datastream.

**Chart 26 Czech and euro area broad cycle**

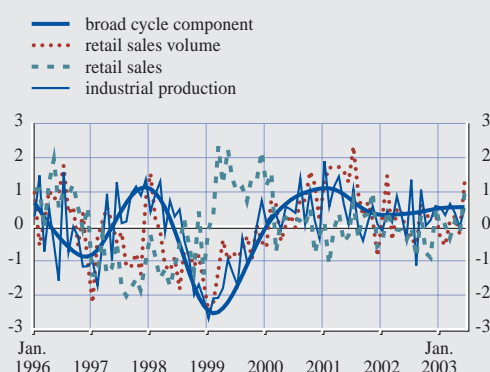
(Kalman filter estimates, smoothed and normalised)



Source: ECB staff calculations.

**Chart 27 Sector growth and broad cycle in the Czech Republic**

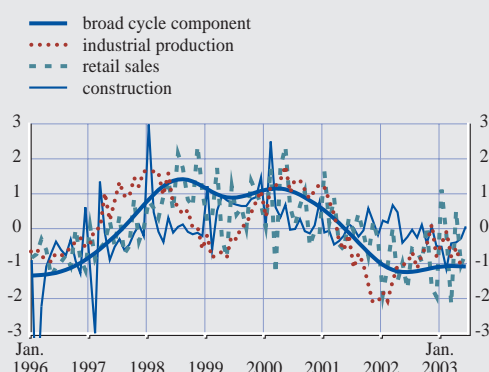
(year-on-year growth rates and HP smoothed estimates by the Kalman filter for the broad cycle; as a % and normalised)



Sources: Bloomberg, Datastream, Eurostat and ECB staff calculations.

**Chart 28 Sector growth and broad cycle in the euro area**

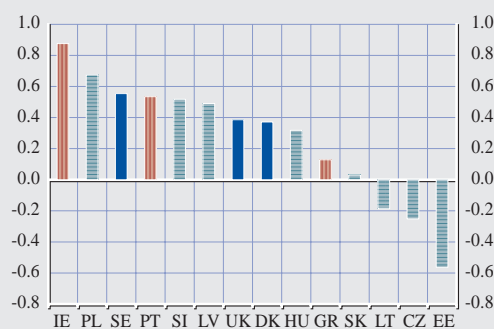
(year-on-year growth rates and HP smoothed estimates by the Kalman filter for the broad cycle; as a % and normalised)



Sources: Bloomberg, Datastream, Eurostat and ECB staff calculations.

**Chart 29 Correlation of broad cyclical trends with the euro area**

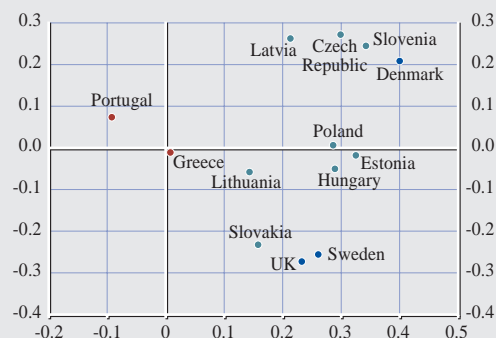
(correlation coefficients of cyclical components estimated by the Kalman filter, monthly data, 1996-mid-2003)



Sources: ECB staff calculations.

**Chart 30 Shock symmetry with the euro area**

(correlation coefficients of estimated supply shocks (x-axis) and demand shocks (y-axis) from 1996 to mid-2003)



Source: Updated from Fidrmuc and Korhonen (2003).

Given the geographic proximity, the GDP and industrial production correlations between the euro area and acceding countries from central and eastern Europe have possibly been biased to the high side by e.g. joined calendar and weather factors.

All the above analyses have looked at the correlation of various measures of aggregate output. A popular alternative is to use time series of both GDP and the GDP deflator in order to distinguish and identify aggregate demand and supply shocks via a structural VAR model of the Blanchard-Quah (1989) type.<sup>52</sup>

The correlation of the estimated demand and supply shocks for the CEE acceding countries, the “euro peripherals” and the “euro pre-ins” has been plotted in Chart 30. Countries where both demand and supply shocks are positively correlated with the euro area are located in the upper right quadrant of the plot. This group includes four countries whose de-trended GDP growth and industrial output growth trends were found to be positively correlated with the euro area, namely the Czech Republic, Denmark, Latvia and Slovenia. Interestingly, Estonia, Hungary and Poland are found to be positively correlated with the euro area in terms of their supply shocks, but not in terms of demand shocks. The euro peripherals,

particularly Greece, are found to be poorly correlated with the euro area, while the UK and Sweden exhibit positive correlation for supply shocks but negative correlation for demand shocks, similar to Lithuania and Slovakia.

To sum up, the correlation of economic fluctuations with the euro area seems overall weaker for the acceding countries from central and eastern Europe than for the euro pre-ins. However, this correlation is by and large not substantially worse than that of the peripheral euro area economies. Moreover, at the individual country level, the synchronisation of business cycles varies considerably. As for

<sup>52</sup> For an earlier analysis along these methodological lines, see Fidrmuc and Korhonen (2003), as well as Bayoumi (1992) or Bayoumi and Eichengreen (1993) for an application to euro area countries. Compare also Frenkel and Nickel (2002). Results reported are updates from Fidrmuc and Korhonen (2003) and kindly provided by Iikka Korhonen, whose contribution is gratefully acknowledged. Estimations are based on quarterly y-o-y real GDP and y-o-y GDP deflator growth rates (derived from nominal GDP data). Data were taken from the International Financial Statistics database and sampled over 1996 to mid-2003. The optimal lag length of the bi-variate VARs was almost one (occasionally two). Given the short size of the sample, absence of cointegration between the series was not tested. It is worth stressing that the Blanchard-Quah decomposition, while being frequently used in the empirical literature on optimal currency areas, was seriously challenged by Lippi and Reichlin (1993, 1994). Given the long-run neutrality condition, these authors showed that the decomposition of a VAR’s residuals into structural shocks is unique only if all the information available to agents is observable by the econometrician in the data.

Hungary, Latvia, Poland and Slovenia, output fluctuations seem to be rather symmetric with the euro area, and cycle correlation is usually within the range of – and sometimes higher than – that of the euro area peripherals, such as Portugal and Greece. Business cycle synchronisation with the euro area is, however, sometimes estimated to be lower in the Czech Republic and Slovakia, mainly due to currency turbulence and stabilisation episodes in the late 1990s. Lithuania always shows a negative correlation of economic fluctuations or of demand shocks with the euro area, which might be explained by rather different economic structures and the relatively low degree of trade integration with the euro area. Results for Estonia were not robust across methods.

Looking ahead, there are reasons to believe that business cycle synchronisation between the central and eastern European acceding countries and euro area countries will improve over the next few years, owing to further integration with the euro area, but that this will only be a gradual development. Nevertheless, different trends in growth rates and output fluctuation are likely to persist in the medium to longer term.

### 2.3.6 ADJUSTING INTEREST RATES TO EURO AREA LEVELS

In recent years, nominal interest rates have been gradually reduced in most acceding countries, mainly reflecting the decline in inflation outcomes and expectations. Nevertheless, policy interest rates are still well above the level of the euro area in most acceding countries (see Chart 31). In Hungary interest rate spreads currently amount to 1050 basis points, in Slovakia 400 basis points, in Poland 325 basis points and in Slovenia 275 basis points. Only in the Czech Republic is the spread zero.

The decreasing trend in policy interest rates has largely come to a halt since mid-2003 in most acceding countries, and Hungary has actually witnessed a significant reversal, as policy

interest rates were raised by 300 basis points to 9.5% in June and by another 300 basis points to 12.5% in November 2003.

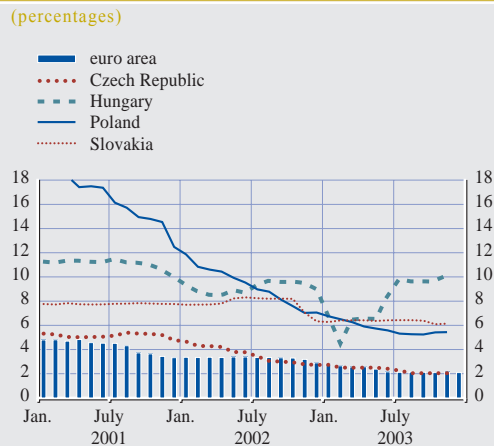
Given the current policy interest rate spreads, most countries would have to substantially cut interest rates towards the euro area level within a time span of a few years, if they were to join the euro area a few years after EU accession. The current difference in short-term interest rates between acceding countries and the euro area thus raises a key issue: will and should acceding countries have the same nominal interest rates as the euro area and, if so, how quickly should the convergence of nominal interest rates proceed? The obvious implication of monetary union and trend real exchange rate appreciation suggests that, in the wake of nominal interest rate convergence, real interest rates may fall below euro area levels. A low level of capital stock, presumed high returns on new capital and (more empirically) the outperformance of equity markets suggest that real rates should however be higher.

Chart 31 Key interest rates in the Central European acceding countries

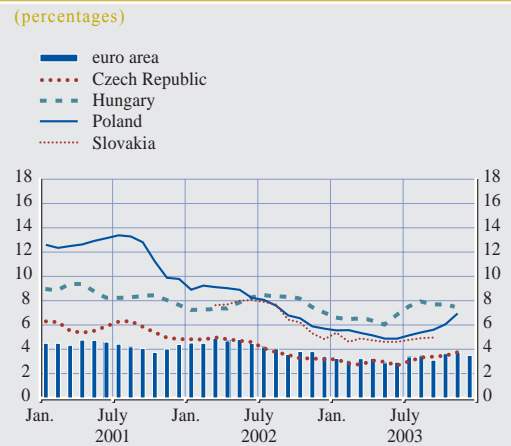


Source: National authorities.

**Chart 32 1-month money market rates**



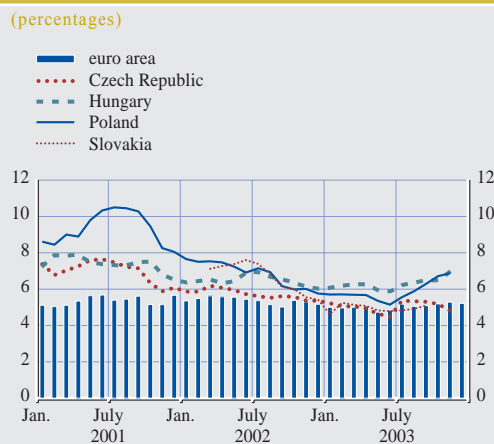
**Chart 33 5-year bond yields**



A rapid reduction in nominal interest rates in the run-up to euro area membership might also be inappropriate for some acceding countries, as inflation developments and cyclical conditions might instead call for tighter monetary conditions. In addition, the alignment of interest rates with those in the euro area would very likely exert, with a time lag, further upward pressures on inflation. In fact, a sharp reduction in real interest rates would potentially

trigger – through lower costs of borrowing – higher investment and greater consumption in acceding countries. To the extent that self-correcting mechanisms only become effective in the medium term, lower interest rates may lead to an overheating of the economy, in particular as inflationary pressures would result in even lower real interest rates. This, in turn, could easily translate into serious imbalances in sectors such as real estate and equity markets.<sup>53</sup>

**Chart 34 Implied 5-year forward interest rate in 5 years**



A further decline in interest rates is by now widely expected and discounted in the bond markets. In November 2003, while the 1-month money market yields still showed an average spread of 380 bps, the spreads were already narrower at a mean of 180 bps for 5-year maturity bonds (see Charts 32 and 33).

Most importantly, the implied 5-year forward interest rate in five years has converged to euro area levels in the Czech Republic and Slovakia, while trading at a spread of some 100-150 bps in Hungary and Poland (see Chart 34). This difference may well reflect a credit spread or a

<sup>53</sup> See Kröger and Redonnet (2002). However, this scenario depends crucially on the efficiency of the interest rate channel, which may be comparatively weak in most acceding countries. In this respect, downward pressures on nominal interest rates would further have to be fully passed onto other interest rates that have a bearing on domestic investment and consumption, such as those on domestic loans.

premium on foreign exchange uncertainty. In this context it is worth noting that, since around mid-2003, there has been a pick-up in bond yields in several acceding countries (see Chart 35 on yield curves). This increase was partly driven by international factors (the global increase in yields) but also aggravated by regional concerns over fiscal policy, leading to a more pronounced rise in yields (as well as spreads compared with euro area bond yields) in some countries, seemingly in the Czech Republic, Hungary and Poland.

Although yields in many acceding countries are still at a low level compared with other emerging markets, recent developments show that the convergence of yields is not necessarily an irreversible and smooth process, and that expectations may change in response to underlying fundamentals as well as to regional and global developments.

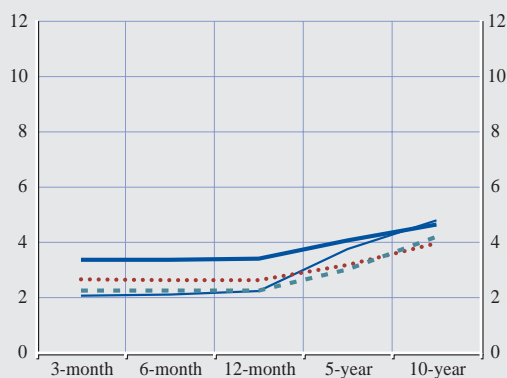
As regards the implications of interest rate convergence, the experience of catching-up economies in the euro area may be of relevance.

Chart 35 Yield curves

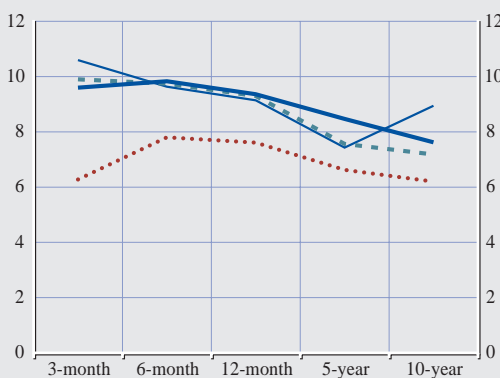
(percentages)

— July 2002  
 ..... January 2003  
 - - - July 2003  
 — November 2003

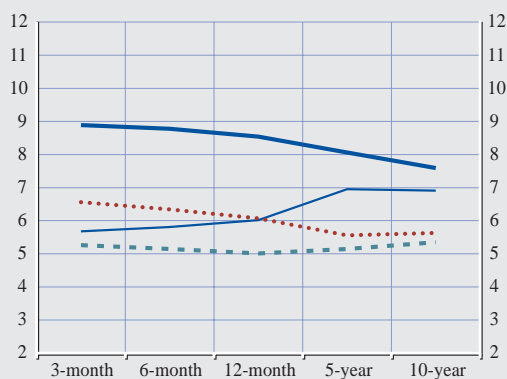
**Czech Republic**



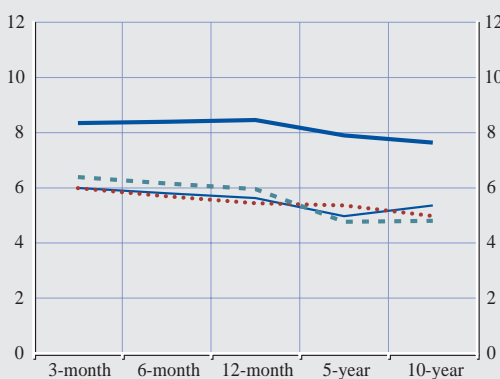
**Hungary**



**Poland**



**Slovakia**



Sources: ECB and Bloomberg.

For example in Ireland, monetary conditions had already eased in the run-up to the adoption of the euro, which resulted in strong private sector credit growth and a tangible increase in housing prices. Moreover, inflation increased considerably, at times three percentage points above the euro area average. As fiscal tightening is the only macroeconomic instrument available in a monetary union, Ireland maintained large budget surpluses of around 4.7% of GDP in 2000 to dampen GDP growth. It is questionable whether in an acceding country such a surplus would be conceivable, given the substantial pressure for public investment spending and for cushioning transition-related adverse social consequences and unemployment (see separate sub-section on fiscal issues below).

### **2.3.7 EXTERNAL ADJUSTMENTS: THE IMPACT OF CATCHING-UP ON COMPETITIVENESS**

Acceding countries are likely to be faced with the challenge of maintaining competitiveness and sustainable current account deficits in the catching-up process over the medium and longer term. As external adjustments via nominal exchange rates are no longer possible in a monetary union, competitiveness concerns could arise if countries were confronted with an excessive increase in their relative price level (e.g. through inappropriately low interest rates and resulting overheating). The ensuing losses in competitiveness could no longer be corrected through devaluation and would instead have to be corrected through a phase of lower or perhaps negative wage and price growth, which may be difficult owing to downwards nominal rigidities, as discussed above.

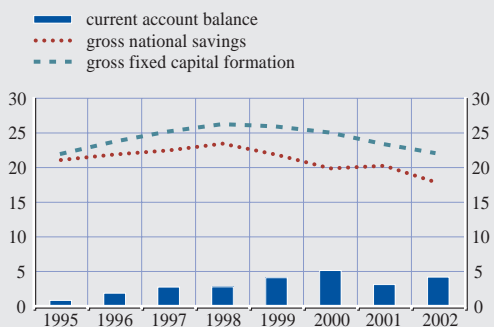
The process of catching-up is usually associated with appreciating real exchange rates, following relatively high productivity growth. Real appreciation comes about through higher inflation, nominal appreciation or a combination of both. Continuous real appreciation of acceding countries' exchange rates is not a macroeconomic problem, if

matched by productivity growth. However, a number of acceding countries have exhibited large current account deficits since the mid-1990s, even though deficits have tended to fall somewhat in recent years. In a catching-up process, current account deficits may be justified from the perspective of a rational intertemporal transfer of resources, allowing a country to finance higher investments, in turn justified by higher expected returns, or to smoothen consumption. However, large current account deficits could also signal potential complications in terms of deteriorating price competitiveness. Furthermore, depending on the financing and indebtedness structure, they may also be indicative of vulnerability of the currency to a confidence crisis.

As regards the acceding countries, current account deficits have been on average considerably higher in those countries with fixed exchange rate regimes than with flexible regimes (see Charts 36 and 37). To assess whether and, if so, to what extent current account deficits reflect competitiveness problems, or whether these imbalances are driven by more benign factors, it is worth looking at different real exchange rate measures, developments in savings and investment, as well as shares in export markets. In particular, it would be potentially problematic if current account deficits were accompanied by decreasing savings rates rather than by high investment ratios, which in turn entail healthier prospects for long-term sustainable growth. In this context, most acceding countries have relatively high investment ratios, on average around 22-24% of GDP in 2002. In the Baltic countries investments have been financed, on average, by a national savings ratio of around 17% of GDP, resulting in a current account deficit of 7% of GDP. In the larger acceding countries, investments have been covered, on average, by national savings of around 18% of GDP, resulting in a current account deficit of 4% of GDP.

**Chart 36 CEE5 – Savings and investments**

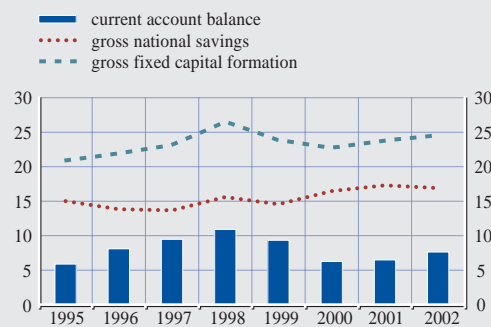
(as a percentage of GDP)



Source: European Commission.

**Chart 37 Baltics – Savings and investments**

(as a percentage of GDP)



Source: European Commission.

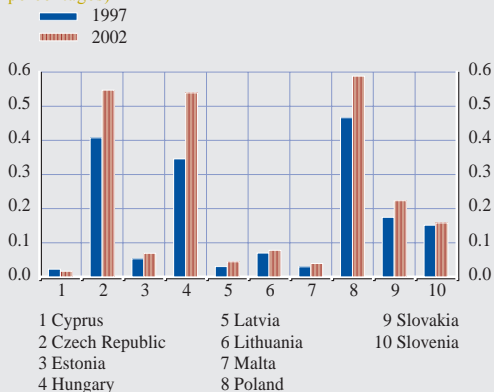
In addition, despite the persistence of relatively large current account deficits, acceding countries have been able to expand their presence in external markets, as evidenced by the increase in their share of total world exports from 1.7% in 1997 to 2.3% in 2002. Yet, as mentioned above, this increase appears to have been more moderate in countries with fixed exchange rate regimes than in countries allowing for exchange rate flexibility (see Chart 38). The evolution of acceding countries' market share in euro area imports is similar or

perhaps even more encouraging, rising from 3.2% in 1997 to 4.7% in 2002 (see Chart 39).

Looking ahead, it would be desirable that progress in transition be in due time accompanied by a recovery in the contribution of external demand to GDP growth. Such a recovery was timidly observed in 1999-2000 but has recently reversed (see Chart 40). This can, however, be explained to a large extent by weak economic activity in the euro area. Still, it goes without saying that current account

**Chart 38 Market share in world exports**

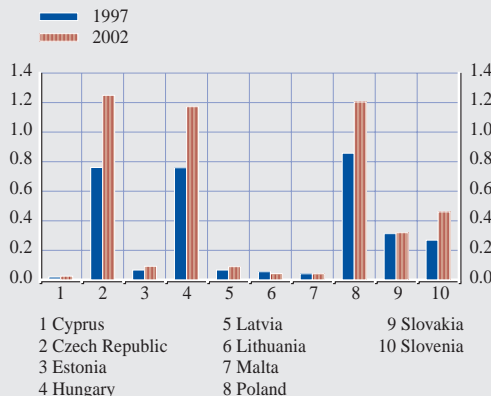
(ratio of national exports to total world exports; percentages)



Source: IMF (DOTS).

**Chart 39 Market share in euro area imports**

(country share in total euro area imports; percentages)



Source: Eurostat.



deficits need to be carefully looked at when assessing their medium-term sustainability, particularly so in countries with fixed exchange rate regimes.

Moreover, upon euro area entry, acceding countries might be confronted with excessive aggregate demand dynamics owing to declining short-term nominal and real interest rates, which could result in inflationary pressures and an ensuing loss of export competitiveness leading to current account imbalances. Rising price levels could also spur wage developments which, if not matched by productivity growth, would lead to higher unit labour costs in the tradable sector. In particular, upon euro area entry, nominal wages will become more easily comparable across Member States. Workers in acceding countries may well push for nominal wages closer to the level in core Member States, regardless of actual productivity developments. While wage pressures in countries such as Portugal and Spain were rather limited after the start of EMU, the situation might be different for most acceding countries, given that they will have common borders with high-income countries such as Germany and Austria. However, it should be borne in mind that the free movement of persons may be restricted for a period of up to five (and in exceptional cases

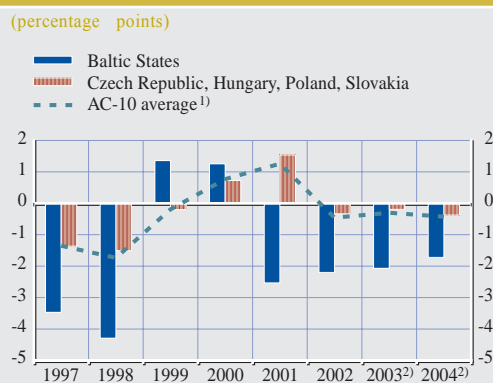
seven) years after EU accession, with the concrete decisions regarding this to be made at national level.<sup>54</sup> This may dampen pressures for wage convergence.

As a consequence of wage pressures in a setting of buoyant domestic demand spurred by low – and possibly negative – real interest rates, acceding countries could experience a loss of competitiveness after joining the euro area. While participation in monetary union will ease the external financing constraint, a sustained widening of external imbalances may lead to a build-up of external debt that may be unsustainable in the longer run. In this context, it is worth noting that the scope of debt-creating financing of external imbalances might widen for acceding countries in the medium term, as privatisation revenues are set to dry up. Furthermore, foreign direct investment, which is becoming increasingly dependent on reinvested profits (as opposed to privatisation), may be subject to global business conditions and investor sentiment and, in some cases, an increasing share of profits accruing from FDI may be transferred abroad in the future rather than being reinvested in the country concerned.

### 2.3.8 FISCAL CONSOLIDATION

Fiscal policy is likely to be a decisive issue for several acceding countries, in particular with respect to their strategies that aim at adopting the euro over the medium term. Upon EU accession, countries are subject to the EU Treaty (in particular the excessive deficit procedure) and the Stability and Growth Pact.<sup>55</sup> Additionally, countries have to comply with the Maastricht criteria before joining the euro area, according to which their fiscal deficit may not exceed the threshold of 3% of GDP. However, currently more than half of the acceding countries have a fiscal deficit well above this

**Chart 40 Contribution of net exports to GDP growth**



Source: European Commission.  
1) Weighted by nominal GDP in 2002.  
2) Projection.

<sup>54</sup> See Section 2.3.3.

<sup>55</sup> It should be noted, however, that the EU's fiscal rules do not foresee to impose sanctions on non-euro area Member States with excessive deficits. The rules are less explicit in terms of the pace of fiscal consolidation. For current euro area Member States, the target is to achieve cyclically adjusted fiscal positions close to balance by 2006.

threshold, amounting on average to 5.1% of GDP in 2002. Moreover, in some countries the fiscal situation has deteriorated in 2002, with Hungary being the most prominent example. Of course, all figures should be interpreted with caution, given that they are not yet fully adjusted to ESA 95 standards and are thereby not fully comparable.

Against this background, several acceding countries would have to consolidate their fiscal balances at a fast pace if they wanted to meet the fiscal criterion in 2005 as required for an adoption of the euro in 2007. According to the 2003 PEPs, most acceding countries have relaxed their medium-term fiscal strategies compared with 2002's plans, thereby taking a more gradual approach than envisaged earlier, or even postponing significant fiscal consolidation further into the future. Still, six countries, namely Cyprus, Estonia, Hungary, Latvia, Lithuania and Slovenia, envisage being in a position to meet the Maastricht fiscal criteria by 2005, and Slovakia now intends to reduce its fiscal deficit to below 3% of GDP in 2006. The remaining countries, the Czech Republic, Poland and Malta, intend to continue running public sector deficits of more than 3% of GDP throughout 2006.

The relaxation of medium-term fiscal strategies as laid out in the 2003 PEPs raises questions not only concerning the credibility of these plans but also as to whether consolidation efforts are sufficiently ambitious in all countries concerned. Weak fiscal track records in some countries add further concerns. The 2003 PEPs show that fiscal slippages are continuing in a number of countries and that overruns in 2003 may be considerable in a few country cases. This pertains mainly to Cyprus, Malta and the Czech Republic, where fiscal slippages are in the order of 3.5 percentage points (ppt), 3.1 ppt and 1.8 ppt of GDP respectively. Slovenia also expects an overrun of 0.6 ppt of GDP, which however still implies a relatively contained deficit of 2% of GDP and an improvement of 0.6 ppt compared with 2002. Hungary will also have a budget overrun;

however, its size is unclear, with the government expecting a slippage of 0.3 ppt of GDP, while Magyar Nemzeti Bank foresees an overrun of more than 1 ppt of GDP. In its Autumn 2003 forecasts, the European Commission expects slippages of about 0.9 ppt of GDP on average for all acceding countries. It is worth noting that overruns in 2003 are partly due to overly optimistic underlying assumptions, and partly a consequence of more expansionary fiscal policy stances than laid out in the budget frameworks.

Against this backdrop, there is clearly no ground for concerns that fiscal consolidation might entail excessive short-term costs in terms of output losses and temporarily slow real convergence with the euro area. While it is true that, in the medium term, fiscal consolidation might have a positive impact on growth, the short-term implications of a fast consolidation on growth are uncertain and could be negative. However, at the current stage, only Hungary and Slovakia are planning substantial cuts in fiscal deficits over the next few years, and their ambitious programmes are still facing the test of implementation. An improving global and in particular European growth environment in 2004 and beyond could be seen as conducive to stepping up fiscal consolidation efforts in acceding countries, as increasing external demand would help set off public consumption and investment demand. Still, a rapid fiscal consolidation strategy may face design and implementation challenges, as acceding countries are confronted – at the current stage and in the near future – with many competing demands on spending and, in some cases, with pressure to cut direct taxes.

In the coming years, acceding countries will be exposed to continuing expenditure pressures arising from the completion of the transition process, the implementation of the *acquis communautaire* (especially in the area of the environmental *acquis*, where spending needs will remain particularly high for a number of years), the budgetary requirements related to EU and NATO membership, and pending

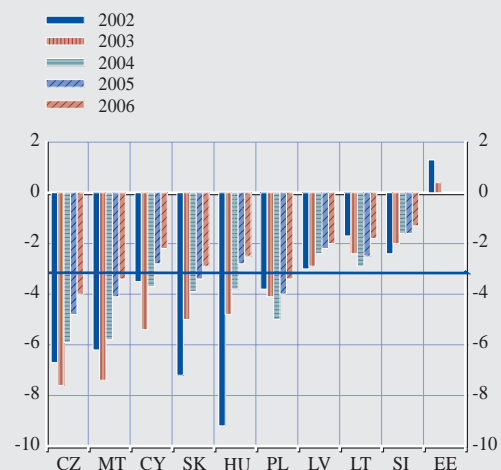
reforms of the health and pension systems. Against this backdrop, public investment is expected to pick up in a number of countries. At the same time, prospective windfall gains from interest rate convergence appear to be limited; even for countries with intermediate levels of public debt, future savings on interest payments will be much smaller than in the case of several of the EU countries which joined the euro area in 1999. Moreover, given the high tax burden in some countries, significant tax reforms are planned, which would have a bearing on government revenues and fiscal deficits as well.

It should additionally be noted that fiscal deficits in acceding countries with major fiscal imbalances seem to be mainly of a structural nature. This is also indicated by the high share of mandatory expenditures and by the limited role of automatic stabilisers in most countries. Consequently, a recovery in growth, as expected in most acceding countries from 2003 onwards, would not contribute greatly to a reduction in fiscal imbalances. Instead, given the structural nature of fiscal deficits, substantial budgetary reforms appear to be needed to achieve ambitious consolidation targets (including greater fiscal transparency, increased efficiency and less mandatory expenditures). The implementation of consolidation plans, however, may be further complicated owing to strong social preferences in central European acceding countries for retaining the welfare state. On the other hand, there is in most cases no room to undertake cuts in public investment, given the challenges outlined.

At a country level, fiscal imbalances are most profound in the Czech Republic, Hungary, Malta, Poland and Slovakia, with deficits well above the 3% of GDP threshold (see Chart 41). Hungary has the highest deficit, which stood at 9.2% of GDP in 2002 after almost doubling from 4.7% of GDP in 2001. Moreover, it should be noted that in some of the other acceding countries, fiscal deficits are presently not far below or are at the 3% threshold, namely in Latvia, Lithuania and Slovenia. The fiscal

**Chart 41 General government budget targets 2002-2006**

(as a percentage of GDP)



Source: 2003 Pre-accession Economic Programmes.  
Note: Estonia targets balanced budgets from 2004 onwards.

accounts of Latvia and Lithuania are moreover profiting, to some extent, from strong growth performance. While fiscal challenges are particularly pronounced for countries that are currently registering high imbalances, it should not be overlooked that containing deficits will be a demanding task in the other acceding countries as well, given the expenditure pressures and the need to reduce high tax burdens. Temporary increases in budget deficits to accommodate such demands may easily turn into more permanent imbalances, unless strong and coherent medium-term fiscal frameworks are in place.

Concerns that targeting a fast adoption of the euro may lead some acceding countries to follow a sub-optimal path of fiscal consolidation are related to a scenario in which fiscal consolidation in high-deficit countries would stall while current target dates for euro adoption would be retained, so that a massive fiscal correction would have to be undertaken in a short period of time a few years down the line. In this context, it should also be borne in mind that upon EU accession, new entrants should bring their deficits well below the 3% threshold

and move towards cyclically adjusted fiscal positions close to balance in the medium term to increase the room for manoeuvre in terms of fiscal policy. Only under such circumstances would fiscal policy become an important adjustment tool for smoothing the business cycle after joining the euro area. This would be particularly relevant for catching-up economies, given the potential for pronounced cyclical fluctuations in these countries.

## CONCLUDING REMARKS

This paper has reviewed the exchange rate and monetary integration strategies announced by acceding countries for the period immediately after EU entry, with a special focus on participation in ERM II, and on their intentions concerning the adoption of the euro at a later stage. As this study aims at exploring key issues at stake, outside the framework of any surveillance procedure and convergence examination, this paper has benefited from several different approaches, including a short review of nominal convergence and a more extensive optimum currency area perspective. An important aspect of the analysis has been devoted to the implications of real convergence – i.e. catching-up growth in income and adjustment of the real economic structures towards those prevailing in the euro area – on the patterns of economic dynamics in acceding countries. The fact that per capita income levels are substantially below those in the euro area, and that some segments of the structure of the real sectors are still affected by the transition process, are among the key economic characteristics of acceding countries. While different income levels can be, in principle, compatible within a monetary union, such real convergence may imply differences in economic dynamics – including the level of growth and the magnitude of fluctuations – that could make a single monetary policy inappropriate for some countries. Other aspects covered are the risks for external competitiveness in the convergence process and the appropriate pace of fiscal consolidation.

Notwithstanding the preliminary nature of the analysis, the complexity of the underlying issue and the fact that theory is in many aspects inconclusive with regard to optimum currency areas and monetary integration, the following tentative findings emerge from a comprehensive investigation based on a wide set of economic indicators.

The acceding countries display some commonalities with the euro area that may bode well for future monetary integration. In terms of

broad sectors, the economic structures of acceding countries have become similar to those of the euro area. Furthermore, the degree of openness is high, and trade as well as financial integration with the EU is well advanced in most cases. At the same time, the paper finds significant differences among the acceding countries in terms of a range of nominal, real and structural conditions. This pertains, in particular, to labour market features, policy interest rates, external positions and fiscal performance. Moreover, the degree of integration and cyclical harmonisation with the euro area also differs considerably from country to country. Against this background, the paper supports the view that the economic merits of any particular strategy towards ERM II and the later adoption of the euro will need a careful case-by-case assessment.

For some acceding countries, maintaining exchange rate flexibility for some time after EU accession may be important from a cyclical stabilisation viewpoint. In such countries, retaining exchange rate flexibility can make a valuable contribution to smoothening output volatility, especially if GDP developments display substantial fluctuations, as tends to be the case for countries that have embarked on a dynamic catching-up process. It should be noted that the standard fluctuation band of ERM II would seem to give considerable room for exchange rate variability and, thus, for a use of the exchange rate as a tool for cyclical stabilisation.

Whether it is preferable to maintain a degree of exchange rate flexibility within ERM II or outside this mechanism depends on a number of factors and thus on the specific situation of individual countries. Two important aspects in this context are the monetary and exchange rate framework in place and the fiscal performance. For instance, countries that currently rely on a monetary policy strategy based on a domestic anchor would need to switch to a combination of a domestic and external anchor when joining ERM II, if they choose to maintain such domestic

anchors. If and where such frameworks work well, there may be good reasons to retain them for some time after EU entry.

A more gradual approach towards ERM II participation pertains to countries that are currently facing high fiscal imbalances. In these cases, achieving a critical mass of fiscal consolidation and putting a credible medium-term fiscal strategy in place should precede ERM II entry in order to promote a smooth participation in the mechanism. Furthermore, choosing the optimal path of fiscal consolidation – in particular in a post-transition and EU accession context – may not be fully consistent with the targeting of a fast adoption of the euro.

Further monetary integration shall be facilitated in countries where fiscal deficits and public debt are limited, stability-oriented policies are fully maintained and further structural policies are implemented appropriately in order to support the specific economic setting. Labour market flexibility also remains crucial to adjust to possible differences in economic conditions. For acceding countries where these conditions are in place, ERM II participation may turn out to be comparatively limited in time, provided that the consistency of domestic macroeconomic policies and the sustainability of convergence in general are fully preserved.

Nevertheless, in this context, several important caveats have to be made. Even if, for a given country, *prima facie* evidence at the current juncture would seem to support the case for maintaining the current exchange rate regime, it would be premature to draw conclusions about the country's readiness for membership in ERM II and for a subsequent adoption of the euro. Moreover, the choice of the central parity within ERM II is a key issue, as decisions in this regard will be taken by mutual agreement of the participating members in ERM II, including the ECB. In addition, even if only minor exchange rate regime changes are required in some cases for participation in ERM II, a potential misalignment in these countries is a

risk that cannot be ignored. More generally, the absence of significant foreign exchange market pressure in the past cannot be taken as implying an absence of such pressure in the future.

These analytical findings are very preliminary, as the paper offers above all a conceptual framework designed to review the acceding countries' strategies towards ERM II and the adoption of the euro. This does not therefore preclude that the analysis will evolve, as it is refined over time and takes account of new economic developments and changing policy stances in the acceding countries.

## REFERENCES

- Balcerowicz, L. (2002): "The Way to EMU from a Candidate Country's Perspective", in: Latschet, A. and F. Plüger, *Der Euro und Europa*.
- Bayoumi, T. (1992): "The Effects of the ERM on Participating Economies", IMF Staff Paper, No. 39.
- Bayoumi, T. and B. Eichengreen (1993): "Shocking Aspects of European Monetary Integration", in Torres, F. and F. Gavazzi, *Growth and Adjustment in the European Monetary Union*, pp. 193-230.
- Blanchard, O. and D. Quah (1989): "The Dynamic Effects of Aggregate Demand and Supply Disturbances", *American Economic Review*, 79, 4, pp. 665-73.
- Buiter, W. and C. Grafe (2002): "Anchor, Float or Abandon Ship: Exchange Rate Regimes for Accession Countries", CEPR Discussion Paper, No. 3184.
- Cazes, S. (2002): "Do Labour Market Institutions Matter in Transition Economies? An Analysis of Labour Market Flexibility in the Late Nineties", Discussion paper No. 140, International Institute for Labour Studies (ILO).
- Centre for European Policy Studies (2002): "The Euro at 25: Special Report of the CEPS Macroeconomic Policy Group", Brussels.
- Corden, W. (1972): "Monetary Integration", *Essays in International Finance*, No. 93, Princeton University.
- Coricelli, F. (2002): "Exchange Rate Arrangements in Transition to EMU: Some Arguments in Favour of Early Adoption of the Euro", in Tumpel-Gugerell, G., L. Wolfe and P. Mooslechner (eds): *Completing Transition: The Main Challenges*, pp. 203-14.
- Czech National Bank (2003a): "The Czech Republic and the Euro-Draft Accession Strategy", January, <http://www.cnb.cz>.
- Czech National Bank (2003b): "The Czech Republic's Euro Area Accession Strategy", Joint document of the Czech Government and the Czech National Bank, 13 October 2003, [http://www.cnb.cz/en/pdf/en\\_eurostrategie\\_09\\_2003.pdf](http://www.cnb.cz/en/pdf/en_eurostrategie_09_2003.pdf).
- Darvas, Z. and G. Szápany (2004): "Business Cycles Synchronization in the Enlarged EU: Comovements in the New and Old Members", MNB Working Paper, February.
- De Grauwe, P. and Y. Aksoy (1999): "Are Central European Countries Part of the European Optimum Currency Area?", in: De Grauwe, P. and V. Lavrac (eds): *Inclusion of Central European Countries in the European Monetary Union*, pp. 13-36.
- Eichengreen, B. (2003): Interview in *Handelsblatt*, 13 January.
- EIRO/ILO (2002): "Industrial Relations in the Candidate Countries", July.
- ETUC (European Trade Union Confederation) (2002): "Wage Formation in the Central and Eastern European Candidate Countries", April.
- Eurostat (2003): "Minimum Wages, EU Member States and Candidate Countries, January 2003", *Statistics in Focus*, Theme 3, 10/2003.
- Fidrmuc, J. (2002): "Migration and Regional Adjustment to Asymmetric Shocks in Transition Economies", ZEI, University of Bonn, mimeo.
- Fidrmuc, J. and I. Korhonen (2003): "Similarity of supply and demand shocks between the euro area and the CEECs", *Economic Systems*, 27, pp. 313-334.

- Fidrmuc, J. and F. Schardax (2000): "More 'Pre-ins' Ante Portas?", *Focus on Transition*, 5, 2, pp. 28-47.
- Frankel, J. and A. Rose (1998): "The Endogeneity of the Optimum Currency Area Criteria", *Economic Journal*, 108, pp. 1009-1025.
- Frankel, J. and A. Rose (2000): "Estimating the Effect of Currency Unions on Trade and Output", CEPR Discussion Paper, No. 2631.
- Frenkel, M. and C. Nickel (2002): "How Symmetric are the Shocks and the Shock Adjustment Dynamics between the Euro Area and Central and Eastern European Countries?", IMF Working Paper, No. 222, December.
- Friedman, M. (1953): *Essays in Positive Economics*, University of Chicago.
- Gros, D. (2000): "One Euro from the Atlantic to the Urals?", CESifo Forum, No. 2.
- Honohan, P. (2001): "Discussion", *Economic Policy*, 33, pp. 457-61.
- Ingram, J. (1973): "The Case for European Monetary Integration", Princeton University, Essays in International Finance, No. 98.
- Kenen, P. (1969): "The Optimum Currency Area: An Eclectic View", in: Mundell, R. and A. Swoboda (eds): *Monetary Problems of the International Economy*, Chicago.
- Kröger, J. and D. Redonnet (2002): "Exchange Rate Regimes and Economic Integration: The Case of the Accession Countries", CESifo Forum, No. 1, pp. 6-13.
- Krugman, P. (1993): "Lessons of Massachusetts for EMU", in: Torres, F. and F. Giavazzi (eds): *Adjustment and Growth in the European Monetary Union*, pp. 241-69.
- Lippi, M. and L. Reichlin (1993): "The Dynamic Effects of Aggregate Demand and Supply Disturbances: Comment", *American Economic Review*, 83, pp. 644-652.
- Lippi, M. and L. Reichlin (1994): "VAR Analysis, Nonfundamental Representations, Blaschke Matrices", *Journal of Econometrics*, 63, pp. 307-325.
- Magyar Nemzeti Bank (2002): "Adopting the euro in Hungary: Expected Costs, Benefits and Timing", *NBH Occasional Paper 24*, A. Csajbók and A. Csermely (Eds).
- Maurel, M. (2002): "On the Way to EMU Enlargement towards CEECs: What Is the Appropriate Exchange Rate Regime?", CEPR Discussion Paper, No. 3409.
- McKinnon, R. (1963): "Optimum Currency Areas", *American Economic Review*, 52, pp. 717-25.
- Melitz, J. (2001): "Geography, Trade and Currency Union", CEPR Discussion Paper, No. 2987.
- Mongelli, F. (2002): "New Views on the Optimum Currency Area Theory: What Is EMU Telling Us?", ECB Working Paper No. 138.
- Mundell, R. (1961): "A Theory of Optimum Currency Areas", *American Economic Review*, 51, pp. 657-65.
- Mundell, R. (1973): "Uncommon Arguments for Common Currencies", in: Johnson, H. and A. Swoboda (eds): *The Economics of Common Currencies*, Allen and Unwin, St. Leonards.
- Mundell, R. (2002): "Exchange Rate Arrangements in Central and Eastern Europe", in: Austrian Ministry of Economic Affairs: *Eastern Enlargement: The Sooner, the Better?*, Vienna.



- Nitsch, V. (2002): "Honey, I Shrunk the Currency Union Effect on Trade", *World Economy*, 25, 4, pp. 457-74.
- OECD (1999): "Employment Protection and Labour Market Performance", *Employment Outlook*, Chapter 2, July.
- OECD (2003): "Labour Market and Social Policies in the Baltic Countries", April.
- Persson, T. (2001): "Currency Unions and Trade: How Large Is the Treatment Effect?", *Economic Policy*, 33, October, pp. 435-461.
- Riboud, M., C. Sánchez-Páramo and C. Silva-Jáuregui (2002): "Does Eurosclerosis Matter? Institutional Reform and Labor Market Performance in Central and Eastern European Countries in the 1990s", Social Protection Discussion Paper Series, World Bank, March.
- Rose, A. (2000): "One Money, One Market: The Effect of Common Currencies on Trade", *Economic Policy*, 30, April, pp. 9-45.
- Rose, A. K. (2001): "Currency Unions and Trade: The Effect Is Large", *Economic Policy*, 33, pp. 449-61.
- Rose, A. and E. van Wincoop (2001): "National Money as a Barrier to Trade: The Real Case for Currency Union", *American Economic Review* (Papers and Proceedings), 91, 2, pp. 386-90.
- Scitovsky, T. (1966): "The Theory of Balance-of-Payments Adjustment", *Journal of Political Economy*, 75, 4 (2), pp. 523-31.
- Stock J. and M. Watson (1991): "A Probability Model of the Coincident Economic Indicators", in K. Lahiri and G. Moore (eds.), "Leading Economic Indicators: New Approaches and Forecasting Records", pp. 63-89.
- Süppel, R. (2003): "Economic Dynamics in EU Accession Countries: A Case for Exchange Rate Flexibility?", mimeo.
- Szapáry, G. (2002): "Is Maastricht too Much for the Candidate Countries?", mimeo.
- Tavlas, G. (1994): "The Theory of Monetary Integration", *Open Economies Review*, 5, 2, pp. 211-30.
- UNECE (2002): *Economic Survey of Europe*, United Nations, 1.

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