

Sustainable Regimes of Capital Movements in Accession Countries

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Foreword

The European Union can now look forward to the entry of ten new members, following the negotiations for entry completed under the Danish presidency. As the accession countries get ready to enter into the EU, most are expected to join the Exchange Rate Mechanism (ERM-II) in short order, prior to ultimate adoption of the euro. This period could be a time of heightened vulnerability to financial instability, requiring extremely adept economic management.

With limited exchange rate flexibility under ERM, disinflationary conditions, and no exemptions from full international capital mobility, EU accession countries are likely to experience large 'convergence play' capital inflows. Alarming, large capital inflows figured in virtually every financial crisis of the 1990s. Managing an exchange rate regime designed to limit the movements of a currency to prespecified bands while holding open the realignment option is very challenging in a world of high capital mobility. Capital inflows also stress the banking system by fuelling a lending boom, which can lead to investment in increasingly poor quality assets if the system is poorly managed or regulated, and a sudden reversal of capital flows can seriously threaten an economy with a fragile banking system.

Clearly, there are major challenges ahead for the accession economies in the run up to euro adoption. They must implement an exchange rate regime consistent with the prospect of greatly increased capital inflows, and select appropriate macroeconomic and financial policies so as to avoid an outbreak of financial instability. And they must adapt the regulation of their banking and financial systems to contain these risks.

Building on the lessons learned from past financial crises and from comparable transitional periods prior to monetary union by other EU countries, this *Policy Paper* makes recommendations for how the accession countries might establish sustainable capital mobility regimes, as they embark on the tricky path to full global financial integration and monetary union.

Hilary Beech
Chief Executive Officer
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December 2002

Executive Summary

Currency crises are not new, but financial integration is raising the costs of unsound policy design. Currency crises are particularly unwelcome in accession countries (ACs) hoping to make a smooth transition first to European Union (EU) membership and then to full adoption of the euro. Many transition economies have been shielded from capital movements by capital controls that have not yet been dismantled and by autonomy over the choice of monetary and exchange rate policy, including the option of exchange rate flexibility as a means to curtail capital movements. ACs will have to satisfy the Copenhagen criteria prior to EU entry, and then the Maastricht criteria prior to full adoption of the euro. These requirements include the dismantling of capital controls, which is already a reality in most ACs today. This report reviews the international experience with high capital mobility and exchange rate policies in the 1990s. Based on an analysis of the macroeconomic and financial market conditions in the ACs, it discusses the risks and prospects of alternative combinations of high capital mobility and exchange rate policies during the period between entering the EU and joining the euro area. It also develops policy guidelines for strengthening the sustainability of the ACs' capital account regimes.

The combination of full capital mobility and a requirement to participate in ERM-II may entail an interim period in which ACs face enhanced vulnerability to capital flows before the eventual safety of monetary union is available. In particular, ACs may face substantial capital inflows that bring two dangers: the likelihood of crisis if the flow is reversed, and the possibility of domestic overheating and protracted disinflation if the flow is not reversed. Either could delay satisfaction of the criteria for accession. The existence of such multiple equilibria is unhelpful.

A review of exchange rate crises throughout the world in the 1990s yields several general lessons. First, it is hard to guarantee soft pegs once capital mobility is high. Fiscal discipline and sound prudential regulation of banks, including limits to currency and maturity exposure, are important and helpful but may not be sufficient, not least because multiple equilibria and financial contagion are prevalent. Second, disinflation and supply-side reform are recipes for substantial capital inflows, especially when investors perceive that policy aims to limit exchange rate fluctuations. Third, such inflows are heavily intermediated through the banking system, whose vulnerability is thereby enhanced.

Thus the global experience of the 1990s flashes two warnings for the process of EU accession. First, although ERM-II may be compatible with many exchange rate regimes, from currency boards to relatively wide bands, its central characteristic as a fixed but adjustable regime without the protection of capital controls makes it an

interim stage of some danger on the road to full integration. Second, whatever prudential supervisory arrangements are adequate for western European financial institutions may not be sufficient for financial institutions in ACs during the accession process. Since financial institutions in the latter are likely to face exceptional pressures during this phase, the logical counterpart would be a (temporary) period of even stronger prudential supervision.

ACs have exhibited considerable diversity of exchange rate regimes, both across countries and over time. To some extent, there has been a move to the corners: greater flexibility or greater fixity. Nor is it accidental that the two countries in which narrow bands have persisted – Hungary and Slovenia – have been among the slowest to liberalize controls on capital movements.

The report evaluates the difficulties that capital inflows may pose. Such inflows arise because investment opportunities are large but domestic savings are small and the domestic financial system is still developing; because money demand is rising as disinflation occurs and growth prospects improve; and because an appreciating equilibrium real exchange rate offers the prospect of attractive returns, especially while real interest rates remain high.

How did western European countries cope with such convergence plays? The report examines the experience of Italy, Ireland, Spain, Greece and Portugal, both in the 1980s when rapid structural adjustment and disinflation took place, and in the 1990s in the immediate run-up to EMU.

Generally, inflows were larger in the 1980s than in the 1990s, suggesting that the ACs may already have been through some of the most difficult times. Despite sustained inflows on parts of the capital account, EU countries did not always face the consequences of monetary inflows, either because there were corresponding outflows on other parts of the capital account, or because the current account was allowed to take the strain. The fact that capital controls still existed in the 1980s may have made this easier.

There is little evidence that sterilization of capital inflows was successful in the 1980s, and EU countries generally abandoned it in the 1990s. When monetary inflows occurred, any expansionary consequences were generally countered by tighter fiscal policy. Thus the fiscal elements of the Maastricht criteria may have cushioned a loss of competitiveness by preventing domestic overheating. Fiscal policy will remain a crucial component of the smooth accession of ACs.

Two other arguments offer comfort that capital inflows do not always add to domestic excess demand and reduce competitiveness when exchange rate flexibility is curtailed. First, where inflows reflect higher money demand, the additional money is held not spent. Second, where inflows are associated with investment in productive capacity, increases in supply may follow increases in demand and remove the strain on competitiveness.

The Balassa-Samuelson effect is the tendency for a trend of real appreciation in transition economies because investment and technical progress occur disproportionately in the traded goods sector. The report examines evidence for individual transition economies and confirms that this effect is now well established and powerful.

One implication of this is that real exchange rates will still be appreciating during the ERM-II phase after initial EU entry by ACs. Such necessary, and valuable, real appreciation may be accomplished either by nominal appreciation or by inflation in excess of EU partners. If nominal exchange rate flexibility is inadequate - either because currency boards have been adopted or because there is implicit pressure to remain within invisible narrower bands - the result will be additional and unnecessary inflation. Since low inflation is a requirement of the Maastricht criteria, ERM-II may therefore impede entry to the euro.

The dangerous combination of high capital mobility and an intermediate exchange rate peg could be avoided if the ACs adopted the euro as medium of exchange unilaterally, i.e. without becoming full members of the euro area. Unilateral euroization would make economic sense for countries that are seeking fast entry into the euro area and that have already achieved fiscal responsibility, price stability and a sound banking sector. However, official readings of the Maastricht Treaty hold that unilateral euroization is not a permissible option. According to these readings, it is necessary for the ACs to join the euro area following the same process as the current members, i.e. by first satisfying certain conditions while being members of the ERM-II. These conditions include the attainment of low inflation and sustainable public finances, and the requirement not to devalue the central parity within two years of adoption of the euro.

Viewed in isolation, this makes little sense. What was necessary to establish the rules of the game is not necessary once these rules have been implemented for some time. To believe it is wise to make all ACs undergo this process, it is necessary to believe strongly in the disciplining force of intermediate exchange rate pegs and to disregard the international experience of the 1990s with currency crises and contagion connected to such regimes. Although we recognize the weight of the official positions on this issue, we still think that the economic arguments for unilateral euroization are strong enough to suggest a reconsideration by the European authorities, perhaps in the form of including it among the possible strategies for managing an exchange rate crisis when it hits.

If unilateral euroization is ruled out, two other options remain. One is to adopt a very hard peg such as a euro-based currency board. Tight fiscal discipline is a prerequisite of this strategy, the more so as countries adopting it will face the need to counteract the demand effects of large capital inflows by domestic fiscal restraint. The development of budgeting institutions promoting fiscal discipline is an important part of this strategy, since the real exchange rate appreciation entailed by the Balassa-Samuelson effect will work through the price level. It is important to ensure that this is not interpreted as an inflationary problem, i.e. a lack of monetary

and fiscal discipline.

The alternative option is a soft peg combining a full use of the exchange rate band of the ERM-II with frequent and timely adjustments of the central parity. Under this strategy, monetary policy should adopt an inflation target coordinated with the European Central Bank (ECB). Prudent fiscal policies are important under this strategy as well, calling again for the introduction of sound budgeting institutions. Countries following this strategy should announce the final conversion rates of their currencies into the euro well ahead of joining EMU and avoid any narrowing of the exchange rate band.

1. Overview

The crises in Europe in the early 1990s and in Latin America, East Asia and Russia later in the decade have made national officials, multinational institutions and academics painfully aware of the importance of appropriate policies towards international capital flows. Although currency and financial crises are neither new nor novel, recent events have highlighted the need to put in place a framework compatible with the existence of larger, more integrated and more sophisticated international financial markets, and to ensure that countries reap mainly benefits rather than costs from their exposure to international capital flows.

In this study we refer to this framework – to the policies and regulations intended to govern the flow of capital into and out of a country – as its 'regime of capital movements'. This regime aims to shape and regulate private-sector behaviour so as to achieve social goals. We distinguish market-based regulation from administrative regulation. Market-based regulation aims to affect private-sector behaviour by imposing costs and changing the prices of financial products and transactions. Administrative regulation consists of legal rules proscribing certain behaviours or imposing quantitative restrictions (such as quotas). Both types of regulation may aim at limiting the volume and composition of international financial transactions, the types of financial instruments traded on international markets and the purposes for which international finance may be used. Economists usually regard market-based regulation as less distortionary and more compatible with a market economy.

A sustainable regime of capital movements is a set of regulations that enable a country to enjoy the advantages of integration into the international financial system – full participation in international trade, efficient international allocation of capital and the ability to attract foreign capital to finance domestic investment – while limiting the likelihood of disruptive currency and financial crises. In so far as mismatches in the maturity and currency composition of bank assets and liabilities, inconsistent monetary and fiscal policies, and reputation effects figure in the emergence of financial and currency crises, a sustainable regime of capital movements must be seen as part of – and be integrated with – the broader macroeconomic, financial and prudential policies of the government and country in question.

The purpose of this study is to identify the main elements of a sustainable regime of capital movements for the ACs of the EU. We focus on the Central and East European ACs still in the process of transition to fully fledged market economies. Given the international context of this study, we also focus on those regulations that affect international capital flows.

The European Summit in Nice confirmed the EU's commitment to a speedy eastward enlargement. Although the exact timing and countries remain to be determined, it now seems certain that the EU will have a cohort of new Central and East European members by the second half of the decade. With regard to the capital movement regimes of the ACs, the European Treaty and the accession procedure suggest distinguishing three stages of the accession process (Commission, 2000a,b). First will be the pre-accession phase, when the ACs will implement the reforms and adopt the policies necessary to comply with the Copenhagen criteria, which require the existence of a functioning market economy, the capability to withstand competitive pressure and market forces within the Union, and the ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union. According to the Commission *Communication on Agenda 2000*, these criteria demand:

- that prices and trade are liberalized and that an enforceable legal system including property rights is in place;
- that a sufficient degree of macroeconomic stability has been reached and a stable macroeconomic framework has been established;
- and that the financial sector has reached a sufficient level of development.

According to the conclusions of the European Councils of Copenhagen and Madrid, the ability to take on the obligations of membership implies the ability to adopt, implement and enforce the *Acquis Communautaire*. On the basis of the earlier accessions, however, it is possible that countries may negotiate reasonable transition periods for certain aspects of the *Acquis*. But, critically in our context, no AC has as yet asked for transitional exemptions from the requirement of full liberalization of capital movements, and there is no indication that ACs will ask for such exemptions in the future. In fact, the chapter on capital movements in the accession negotiations has been closed to date for almost all countries without exemptions from international capital mobility. The implication is that full capital mobility, both with other EU member states and with third countries, will prevail at the time of accession. Countries that still have some capital or foreign exchange controls in place will have to remove them before accession, with the exception, perhaps, of regulations limiting the politically sensitive area of the acquisition of real estate.

The second stage will begin with accession. Since the ACs have neither requested nor obtained opt-outs from monetary union, they will be members of economic and monetary union with derogations from the adoption of the common currency. Compliance with the relevant parts of Title VII of the European Treaty will require that the new members treat their economic policies, including exchange rate policies, as a matter of common interest of all EU member states. This rules out competitive devaluations, fully flexible exchange rates and adopting a third country's currency as legal tender. Furthermore, the new members will, at some point though not necessarily upon entry to the EU, participate in the ERM-II, the exchange rate arrangement between the euro area and EU members outside the euro area (Commission, 2000a). Furthermore, the new members will have to grant their central

banks the independence required by the European Treaty, and they will have to ban privileged access to financial credit by the public sector. During this second stage, they will be expected to adopt and implement the policies necessary to fulfil the convergence criteria that will enable them to adopt the euro. The third stage will come with the adoption of the euro.

The discussion so far implies that important parameters of the capital account regimes of the new member states will be predetermined: there will be no restrictions on capital flows or on transactions in foreign assets. Although this is not a legal requirement, many ACs are likely to enter the ERM-II upon entry into the EU or soon thereafter and, hence, adopt a central parity for their currencies against the euro soon after accession. This report asks what the requirements are to make this scenario sustainable. Specifically, it focuses on the macroeconomic and regulatory policies needed to avoid macroeconomic instabilities and financial market crises in the new EU member states, and on what the European Commission and other EU institutions could do to contribute to the sustainability of the capital account regime. It pays special attention to the risks to economic and financial stability that may develop along the way, both in the interval between accession to the EU and entry into the monetary union, and in the early years following the adoption of the euro by the new member states.

Our analysis proceeds on the following assumptions:

1. Enlargement will occur within the time frame set at the Nice Summit, and before the accession economies have had time to completely eliminate all the economic, financial and institutional weaknesses that create the risk of capital account imbalances.
2. Official readings of the European Treaty by the European Council, ECOFIN, the ECB and the European Commission regard unilateral euroization – the unilateral adoption of the euro as legal tender by an AC – as a non-permissible option. The official reasoning behind this holds that unilateral euroization would run counter the Treaty's logic of demonstrating sustainable convergence before adopting the euro (e.g. ECOFIN, 2001; European Council, 2000; European Commission, 2000a, b; Solbes, 2001; Noyer, 2001; Padoa-Schioppa, 2000). By agreeing to close the EMU chapter in the accession negotiations, most ACs have implicitly accepted that interpretation.
3. The new members will have a strong desire to gain entry to the monetary union as soon as possible in order to become part of Europe's zone of monetary stability and to enjoy the lower interest rates that will accrue as these necessarily fall to euro-area levels.
4. The new members will experience very large 'convergence-play' financial inflows in the run-up to participation in the monetary union, as market participants anticipate that their exchange rates will stabilize *vis-à-vis* the euro and that their interest rates will fall to euro-area levels.

Our analysis suggests that these inflows and their management will constitute the principal challenge to financial stability, both during the transition to membership in the euro area and immediately thereafter. The inflow of foreign funds will strongly stimulate aggregate demand. Since they will be heavily intermediated by the banking system, capital flows will lead to large increases in the assets and liabilities of bank and non-bank financial institutions in the new member states. Recent experience, from the Scandinavian banking crisis of the late 1980s to the Asian crisis of the late 1990s, has shown that such a 'credit boom', if not adequately managed, can lead to overheating of the real economy and a significant decline in the quality of assets of bank balance sheets, on both grounds posing risks to financial stability. In the worst-case scenario, a financial bubble could develop; and when it bursts, a downturn which results in a sharp rise in non-performing loans to the property and manufacturing sectors could precipitate a sudden change in investor sentiment, a sharp reversal in the direction of capital flows and a banking crisis. In the interregnum between EU and euro-area membership, a banking crisis of this sort would be the principal threat to the ability of the accession economies to satisfy the convergence criteria of the Maastricht Treaty at an early date. And, if such an event occurs after the new member states have entered the monetary union, it could constitute the first financial crisis in the euro area.

Moreover, the credit boom contributes to powerful inflationary pressure resulting in overvaluation if the flexibility of the exchange rate is limited. A surge in inflation could jeopardize the achievement of the convergence criteria, thus lengthening the interregnum, which could trigger the feared reflux. Overvaluation could jeopardize the ERM criteria. There are no perfect solutions to this threat: sterilized interventions to prevent appreciation result in costly quasi-financial costs, which could threaten the budgetary conditions for euro-area membership; unsterilized intervention could lead to high interest rates, which would pull in even more capital inflows.

We therefore consider what steps the new member states, the Commission and other EU institutions can take to minimize these risks. We ask whether requesting the new members to delay their application for membership in the euro area is in the interest of the EU, and if so what incentives the EU can provide to encourage such gradualism. We analyse what instruments the new member states will have to moderate the impact on their macroeconomies and financial systems of the capital inflows that they will experience in the final stages of the transition. We ask how the EU and the ECB should anticipate and respond to the consequent threats to stability.

2. Lessons From the Crises of the Last Decade

The crises of the 1990s provide the backdrop for the efforts of the Central and East European countries (CEECs) to harmonize their regimes of capital movements with those of the EU. That experience underscores that pegged exchange rates and open capital accounts are a two-edged sword. It is important for the CEECs not to fall on this particular sword while preparing for EU accession.

2.1 A review of the crises in the 1990s

2.1.1 General remarks

Empirical work on the sources and characteristics of crises has developed quickly (e.g. Eichengreen, Rose and Wyplosz, 1996; Goldfajn and Valdes, 1998; Goldstein, Kaminsky and Reinhart (2000)). Research has focused on the macroeconomic variables which appear to be empirically related to crises, either because they are part of the accepted list of fundamentals (inflation, credit growth, budget deficits, external deficits, etc.) or because they may have a role in self-fulfilling crises (unemployment, external debts, open positions, banking system fragility). The results are mixed but point to the role played in crises by a combination of both first- and second-generation factors.

There is now also ample evidence that contagion exists in foreign exchange markets (Eichengreen, Rose and Wyplosz, 1996). That is, the probability of a crisis, conditioning on economic and financial fundamentals in the subject country, is significantly greater (8% greater, according to the estimates of the aforementioned authors) if there is a crisis in a neighbouring country with which it trades heavily or with which it displays similarities in macroeconomic and financial fundamentals. Again, the implication is that reasonably strong macroeconomic fundamentals may not be enough to insulate a country from crisis risk if the larger financial environment is unstable.

2.1.2 The crises of the 1990s

The 1990s was a decade of financial crises, or so it appears in retrospect. Crises are complex, and even now, with the full benefit of hindsight, commentators do not agree on the appropriate way of characterizing these events. One way of viewing the crises of the 1990s is that they provide a comprehensive catalogue of the challenges to financial stability that will confront the CEECs as they navigate the transition of EU accession and adoption of the euro. In particular, they highlight the considerable variety of threats posed by unsustainable capital flows when the regime governing

their movement is poorly developed.

The ERM crises

The factors underlying the first of these episodes, the 1992-3 EMS crisis, remain controversial, reflecting the existence of multiple causes on which different analysts place different degrees of emphasis. There were competitiveness problems in a number of European countries (notably Italy) reflecting their pursuit of policies of exchange rate based stabilization, which led in turn to significant cumulative inflation differentials and current account deficits. There was a major asymmetric shock, German unification, which resulted in pressures for the appreciation of the Deutsche mark and the need for price levels or exchange rates to fall in other European countries. There were domestic economic problems - fragile banking systems, high levels of unemployment, large public debts and mortgage interest rates indexed to money-market rates - that made it difficult for governments and central banks to respond quickly and credibly to exchange market pressures. There was a sudden increase in uncertainty about the prospects for monetary union following the Danish rejection of the Maastricht Treaty in its referendum of June 1992. Investigators continue to disagree about the relative importance of these factors, but most would acknowledge that all of them were at work to some degree.

Unsustainable capital flows are the unifying factor in these competing interpretations¹. The Single European Act had mandated the removal of controls on capital flows which EMS members had essentially dismantled between 1987 and 1992. While allowing capital to flow more freely, European countries did not put in place what we refer to in this report as a 'sustainable capital account regime'. EMS parities were sustained and European current account deficits financed by what the International Monetary Fund (IMF), in its definitive post mortem on this episode (IMF, 1993), refers to as the 'convergence play'. Large amounts of institutional finance flowed towards Europe in anticipation of the further convergence of economies and financial conditions in the run-up to monetary union. There were anticipations of interest-rate convergence: that asset valuations would rise in Europe's high-interest-rate countries as the latter came down to pan-European levels in the transition to monetary union. There were expectations of real convergence: that countries would strengthen their competitiveness and eliminate other economic weaknesses in preparation for monetary union. There were expectations of fiscal convergence, as countries cut their debts and deficits to meet the Maastricht criteria for admission to the euro area.

But the stability of this process hinged on expectations of monetary union. When doubt was cast on the latter by the Danish referendum, the direction of capital flows reversed and it quickly became clear that Europe had not put in place a sustainable capital account regime. The Maastricht debt and deficit criteria imposed no constraint on the emission of short-term liquid liabilities by the public and private

¹ Of course, these capital flows might have been sustainable under more favourable surrounding circumstances, i.e. we do not claim that they were the result of deliberately unsustainable policies. The important point is that adverse shocks cannot be excluded in real life, and that regimes for capital movements must take this possibility into consideration.

sectors, of a sort that could be easily liquidated if investors, anticipating a subsequent realignment of ERM currencies, sought to do so. No measures had been taken to limit liquid foreign financing of Europe's current account deficits. Reserves were too few to finance an extended period of outflows. Financial systems were too weak to support the high interest rates needed to attract back flight capital.

The most fundamental lesson of the ERM crisis may be the danger of operating a system of soft currency pegs in a world of high capital mobility. The capital inflows associated with the convergence play were encouraged by exchange rate pegs that minimized currency risk and thereby created investor moral hazard. That bands were narrow but realignments were still possible created a one-way bet for currency speculators (IMF, 1993). Strengthening Europe's protections from volatile capital movements thus required eliminating this one-way bet. Two approaches were taken. The first was greater exchange rate flexibility: the narrow bands of the ERM were widened from 2.25% to 15% in August 1993, and countries such as Sweden and the UK which left the ERM moved to floating rates; both initiatives increased the scope for losses if currency speculators got things wrong and therefore encouraged greater prudence on the part of market participants. The second option was to harden the currency peg and reinforce its credibility by affirming the commitment to complete the transition to monetary union by a hard-and-fast terminal date.

Thus one reading of this experience is that, faced by high capital mobility, European countries had to abandon the unstable middle ground of soft pegs in favour of the two corner solutions: hard pegs and greater exchange rate flexibility. Hard pegs, if they are the option chosen, must be supported by a clear and credible end point, such as a commitment to move to monetary union by a fixed date. Otherwise the countries pursuing them may get into the Argentinian bind of having no exit strategy, and the credibility of the exchange rate commitment will be undermined by political resistance fuelled by high unemployment and other economic woes. Greater exchange rate flexibility must be backed by a clear and credible monetary-policy operating strategy, or else the flexible exchange rate will be volatile and unstable. In Sweden and the UK this anchor for expectations has taken the form of inflation targeting.

This history thus suggests that these two arrangements – hard pegs (including currency boards) backed by a target for euro-area entry, and floating exchange rates backed by inflation targeting – are the two options for exchange rates consistent with a sustainable capital account regime for the CEECs. The obvious question this raises is whether either, or both, of these options is feasible for the ACs, given the constraints of the European Treaty, and whether an intermediate arrangement – a +/- 15% band with provision for realignments (one interpretation of the ERM-II) – is still a viable alternative.

The Mexican crisis

The Mexican crisis of 1994–5 serves to highlight many of the same mechanisms evident in Europe two years before. With inflation having come down only gradually, cumulative competitiveness problems had built up, creating a large

current account deficit requiring foreign finance. The crawling band for the peso, together with the successful conclusion of the NAFTA treaty, minimized perceived exchange risk. In combination with still high interest rates (reflecting the slow progress of disinflation), this fuelled financial inflows into Mexico. Following the assassination of the opposition presidential candidate investors grew jittery, and the country sought to attract and retain foreign capital flows by shortening the term structure of the debt; unfortunately, this rendered it vulnerable to an investor panic. The government indexed much of its debt to the dollar (converting cetes into tesobonos) to reassure investors that they were protected against devaluation; unfortunately, this tied the hands of a central bank that lacked the capacity to print dollars.

So when the decision to devalue was taken, destroying the credibility of the authorities' commitment to defend the currency peg, investors lost heart and sought to flee en masse. Because much of the short-term debt that they sought to liquidate was indexed to the dollar, the capacity of the Mexican authorities to pay them off was limited. The weakness of the banking system restricted the scope for raising interest rates to attract back foreign investors. The absence of a clear, coherent and credible monetary-policy operating strategy following the destruction of the exchange rate peg on which that strategy had been anchored further hindered the restoration of confidence.

Framed this way, the story of the Mexican crisis has the same implications as its European predecessor. Soft currency pegs and a policy of financing the current account deficit with short-term capital inflows are an accident waiting to happen; they do not constitute a sustainable capital account regime. Large financial inflows allow the rapid expansion of bank lending and tend to be associated with declining asset quality if internal controls and prudential standards are weak. Not only is this a red flag for investors, but banking-sector problems limit the ability of the authorities to respond to an investor panic either by raising interest rates or by depreciating the currency, an incapacity which can transform a financial problem into a full-blown crisis². In other words, weak prudential supervision and regulation is another sign of an unsustainable regime for capital movements.

Mexico's post-crisis policies, in particular the steps taken to bullet-proof the economy for the 2000 presidential election, suggest that a sustainable regime for capital movements can be put in place quite quickly. Fiscal discipline, exchange rate flexibility and strengthened prudential supervision have combined to limit the dependence of the economy on short-term finance and resulted in a significant lengthening of the maturity structure of the country's external debt. The adoption of a quasi-inflation-targeting regime has reconciled the need for greater exchange rate flexibility for prudential reasons with the stability and predictability needed for the continued expansion of international transactions.

²Thus interest rate increases are painful for the banks because of maturity mismatches on their balance sheets, but exchange rate increases are equally painful because of currency mismatches. See Eichengreen and Hausmann (1999).

The Asian crisis

The Asian crisis of 1997–8 has been described in similar terms (see, for example, Goldstein, 1998). There were problems of inadequate competitiveness (owing to inflation in Thailand, weak semiconductor prices in South Korea and intensifying Chinese competition affecting the entire region). There was excessive dependence on short-term foreign borrowing to finance the consequent current account deficits and an inadequate tendency to hedge, reflecting long-standing policies of pegging the exchange rate; this rendered economies and financial systems vulnerable to a sudden shift in investor sentiment. Weak internal controls and prudential standards allowed banks to use offshore funding to finance an impressive credit boom. And currency and maturity mismatches on their balance sheets left the authorities little leeway for using either interest-rate or exchange rate adjustments to restore balance without undermining the stability of already fragile banking systems.

With the benefit of hindsight, it appears that the Asian crisis displayed many of the same problems evident in the European and Mexican crises of the first half of the 1990s, reflecting the absence of a sustainable regime for international capital movements. The only new (or, if not new, at least more prominent) element in Asia was domestic financial weaknesses that worked to heighten dependence on short-term capital inflows and to increase vulnerability to reversals. Auditing and accounting practices were substandard. Disclosure requirements were inadequate. Connected lending and implicit guarantees were pervasive problems in banking systems. Creditor rights were weak.

So long as Asia was viewed as the home of 'miracle' or 'Tiger' economies, the lack of transparency may have even helped to sustain foreign investment; that is to say, underlying problems were hidden. The weakness of creditor rights and the absence of adequate bankruptcy and insolvency codes were no problem so long as bankruptcy and insolvency were almost unknown. But when something went wrong, these flaws in domestic financial institutions and structures became liabilities. Not knowing what problems were hidden in opaque corporate reports, panicking investors sought to liquidate their liabilities. Not knowing whether their rights were secure, foreign creditors sought to cut their losses. And because governments had liberalized the capital account of the balance of payments before strengthening supervision and regulation of the domestic financial system (and before moving towards greater exchange rate flexibility, which would have encouraged hedging), banks which had used offshore finance to lever up their bets were confronted with illiquidity and insolvency.

Thus if the Asian crisis can be said to add one lesson to those imparted by its European and Latin American predecessors, it would be the following. A sustainable capital account regime is one in which capital account liberalization is accompanied by appropriate policies to strengthen the domestic financial system. Opening the capital account before upgrading banking and financial market supervision and regulation, adopting international auditing and accounting standards, strengthening corporate governance and shareholder rights, and modernizing bankruptcy and insolvency procedures does not constitute a sustainable regime.

Argentina

In the wake of the recent disastrous collapse of Argentina's currency board, some will view more sceptically our recommendation, developed below, that the ACs adopt currency board pegs or unilateral euroization as a station on the way to monetary union. Argentina's experience shows clearly that even a hard peg may not be hard enough if other conditions for monetary stability are not present. The markets may come to doubt even a government that makes the peg the centrepiece of the entire economic policy regime, if other policies are not subordinated to the overarching imperative of maintaining that peg. Adopting a currency board, in itself, provides no guarantee that those other policy adjustments will take place. All that a hard peg can do is limit the danger that market pressures manifesting themselves as a decline in the value of the currency will further complicate completion of the requisite policy reforms.

What exactly went wrong in Argentina is still disputed. The conventional wisdom (e.g. Mussa, 2002) is that fiscal discipline was inadequate – that fiscal consolidation remained incomplete. When the economic environment deteriorated, first with devaluation in neighbouring Brazil and then with the bursting of the high-tech bubble in the United States, an already weak fiscal position weakened further, raising fears of an exploding deficit. Desperate efforts to balance the budget by raising taxes, on, inter alia, imports and financial transactions, only aggravated economic distortions and further reduced the efficiency of the Argentinian economy, and therefore further damaged policy credibility.

This story is fine as far as it goes. What it misses is the fact that Argentina had undertaken a massive fiscal effort in the years of the currency board. It had eliminated large budget deficits during the 1990s and moved the balance into primary surplus. It moved the primary balance a further 2% of GDP into surplus in 2000–1. Its deficits were small and its debts were low by the standards of, say, West European countries. This leads some observers (e.g. Hausmann and Velasco, 2002) to reject the view that fiscal profligacy was at the root of its crisis.

In the end, it was fiscal institutions as much as current fiscal policies that weakened confidence in the currency board. Argentina has the most decentralized fiscal arrangements and the largest vertical fiscal imbalances of any country in Latin America. Provincial governors, relying on patronage for political support and able to spend first and ask for transfers from the federal government later, were loath to cut spending. When further fiscal adjustments were required to support the currency board, these could be effected only by adopting highly distortionary initiatives at the federal level. The implication is that sustaining a currency board arrangement requires appropriate fiscal institutions. Fortunately, the transition economies have relatively centralized fiscal institutions conducive to quick adjustment to shocks.

This leads to a second observation, namely, that no monetary arrangement, including a currency board, is likely to display the requisite degree of stability in the absence of economic growth. The fundamental problem in Argentina was that distortions, both fiscal and other, depressed the rate of growth. Hence, when the

global economic environment deteriorated, there was no room for manoeuvre. The absence of growth deepened the country's fiscal problems. And, because living standards were not rising, there was no appetite for further fiscal consolidation. Once angry housewives began banging pots and pans in the streets, market participants could see the writing on the wall. Thus, for the monetary arrangement we envisage for the transition economies to be viable, the countries in question must continue to cultivate the policies and market flexibility necessary for sustained and successful growth.

Another problem with the Argentinian currency board was that there was no exit strategy. If the currency board collapsed, there would be a severe blow to confidence, resulting in an economic and political disaster. In the European context, in contrast, there is an exit strategy, namely, adopting the euro. If Eastern Europe's currency boards are challenged by the markets, for reasons that are not obviously the fault of the countries in question, a logical and stabilizing response would be to accelerate the adoption of the euro.

The equivalent in Argentina would have been to dollarize the economy. Dollarization would not have solved the government's debt sustainability problem; it would still have faced the challenge of mobilizing the revenues, and mobilizing the support for taxation, needed to keep up servicing its debt. Given the doubts and questions about its ability to meet this challenge, dollarization would not have obviously brought down interest rates on the public debt. It might have brought down interest rates on the debts of banks and corporations, however, by eliminating one source of investor risk, namely, residual currency risk. But, other than reducing interest burdens slightly, dollarization would have done nothing to enhance the competitiveness of Argentinian firms. Labour costs would have remained high. Work rules would have remained restrictive. Although currency risk would have been eliminated, the credit risk on these debts would have remained. Moreover, without significant progress in bringing down labour costs and enhancing the flexibility of the economy, there might still have been the cascading collapse of banks and firms.

The bottom line is that whatever the monetary and exchange rate regime, financial stability and economic growth require flexibility. That will be required for the ACs whether they come into the euro area or stay out.

2.2 Lessons

2.2.1 General observations

Some of the lessons of the 1990s are uncontroversial. 'Soft' currency pegs like those operated by various Asian countries in the run-up to their crisis are difficult to maintain in a world of high capital mobility. If capital markets are uncertain of a government's commitment to defend its peg, they have the resources to test its resolve. This makes governments reluctant to adjust a band or peg for fear of undermining confidence in their intentions. Together, these factors render soft pegs increasingly fragile and rigid in a world of high capital mobility. They pose an obvious dilemma for ACs if admission to the economic and monetary union requires them to hold their currencies within overly narrow bands around fixed parities to the euro.

Furthermore, the combination of soft pegs and high capital mobility increases the cost of crises if and when they occur. This is evident, for example, in the exceptional severity of the Asian crisis of 1997–8. The government's stated commitment to stabilize the exchange rate implicitly insures the private sector against currency risk. It encourages unhedged borrowing and lending. This accumulation of unhedged exposures heightens financial distress if and when the peg is attacked and the authorities are forced to devalue. These interactions are evident in places like Indonesia in 1998 (Goldstein, 1998). Floating as in the Czech Republic or a hard currency peg as in Estonia ameliorate this problem of unhedged exposures, the former by giving the private sector adequate incentives to hedge, the latter by effectively ruling out unexpected exchange rate changes which can give rise to widespread financial distress and corporate bankruptcy.

As a result, a growing number of countries appear to be evacuating the unstable middle ground of soft pegs in favour of these 'corner solutions'. The number of IMF member countries classified as possessing a floating exchange rate rose in each year of the 1990s. The number of currency-board currencies has also risen, but more irregularly.

Unfortunately, this transition to sustainable exchange rate regimes has been faltering, and worries about the crisis problem remain. (The Turkish crisis of February 2001 is the most recent example.) Nor is there an easy solution to this dilemma. Emerging and transition economies are equally uncomfortable with floating, which can imply considerable volatility, and with currency boards, which imply a policy straitjacket. Few have gone all the way to currency boards, and those which officially float often intervene extensively to limit the variability of the rate (Calvo and Reinhart, 2000). Moreover, moving from a peg to a more flexible rate can be costly. If the government's entire macroeconomic strategy is predicated on maintenance of the peg, abandoning it can be a sharp shock to confidence. Capital flight, financial disruptions and recession have often been the result (Eichengreen and Masson *et al.*, 1998).

It is important to note, however, that floating exchange rates are not a panacea for avoiding financial crises in the presence of high capital mobility. Even when there are no exchange rate pegs, large and sudden movements in the exchange rate caused by sudden changes in market perceptions of economic policies can still trigger crises in the banking and financial sector owing to significant mismatches in the currency and maturity structure of this sector's assets and liabilities (Jeanne and Wyplosz, 1999). Thus, although the experience of the 1990s has caused the analysis of currency and financial crises to focus on the context of exchange rate pegs, the issue of designing a sustainable regime of capital movements remains important even under floating. In the context of this study, we therefore discuss the regulatory and institutional aspects of a sustainable regime of capital movement for both pegged and floating exchange rates.

2.2.2 The causes of crises

Perhaps unsurprisingly, the economics profession has not arrived at a consensus regarding the causes of currency crises. Much of the literature contrasts 'first generation' crises, in which imbalances in macroeconomic fundamentals produce the run on the currency (Krugman, 1979), and 'second generation' crises, in which an expectations-driven run on the currency produces (or accentuates) the imbalances in macroeconomic fundamentals which provide a justification for the run *ex post* (Flood and Marion, 1996; Obstfeld, 1996). Given the obvious problem of observational equivalence, the debate between these two schools has not been definitively resolved.

That said, there would appear to be a growing consensus that crises result when countries enter a 'grey area' of vulnerability. In this case, policies are neither so bad that an attack on the currency is preordained nor so good that it is inconceivable. Rather, the country has an economic or financial weakness (a weak banking system, a large load of short-term debt, or a high rate of unemployment) that renders the authorities reluctant to raise interest rates and hold them at the levels needed to defend the currency. If the currency is not attacked, the peg can survive indefinitely; but if it is attacked, the authorities lack the political and economic resources to defend it. (Again, the recent Turkish crisis comes to mind.) There are two implications. First, currency crises do not occur randomly; rather, they afflict countries with fundamental weaknesses. But, second, currency crises are not predictable; neither their timing nor their incidence can be forecast with confidence. The same applies to contagious crises.

2.3 Summary

To summarize, three important lessons emerge from this review of the most recent decade of currency and financial crises.

1. Exchange rate regimes designed to limit the movements of a currency to pre-specified bands (+/- 15%, for example) while holding open the realignment option have extremely demanding prerequisites in a world of high capital mobility³. The rich history of crises in the 1990s suggests that such regimes are unlikely to be sustainable except under the most benign circumstances. Having freed up capital flows, countries enter into such arrangements at their peril.
2. Capital markets open to international transactions, limited exchange rate flexibility and disinflation constitute a powerful magnet for capital inflows. Where disinflation is still under way, interest rates will be high; and where the flexibility of the exchange rate is limited, the risk of losses from currency depreciation will be perceived as low. This gives rise to the phenomenon of large arbitrage-related inflows under the label 'carry trade' or 'convergence play'. Large capital inflows figured in virtually every crisis of the 1990s. Managing them is a major challenge for policy.
3. The banking system is an important channel for transmitting the effects of capital inflows to the economy. It is also a source of vulnerability. Capital inflows lead to lending booms. Asset quality declines when a poorly managed and/or regulated banking system finds itself flush with funds (as a result of, *inter alia*, inflows from abroad). Deteriorating asset quality increases the fragility of the banking system in the face of political and economic shocks, and the distress experienced by it and the economy can be greatly deepened if the direction of capital flows suddenly turns around.

These lessons highlight the challenges for the East European ACs seeking to put in place a sustainable capital account regime. They must come to grips with the likelihood of large financial capital inflows, particularly (if not exclusively) in the period between EU accession and entry into the monetary union. They must adopt an exchange rate regime consistent with the prospect of these flows. They must adapt other macroeconomic and financial policies (fiscal and debt-management policies in particular) so as to avoid an outbreak of financial instability capable of throwing the transition to monetary union off course. And they must adapt the regulation of their banking and financial systems to contain these risks.

It is to these challenges that we now turn.

³ Clearly, the strength of these demands depends on the width of the band and is less with +/- 15% than with +/- 2.25%. However, shocks triggering exchange rate movements of that size are probably more likely for countries undergoing severe restructuring processes than for more mature economies. Furthermore, experience teaches that governments do not use the realignment option at the right time, implying that the effective room for exchange rate movements in one direction may be small even with a band of +/- 15%.

3. Assumptions and Constraints

In this section, we describe the institutional constraints of the accession process in more detail. The first important constraint regards the regulation of capital flows. Article 56 of the Treaty on European Union (TEU) requires that capital movements be fully liberalized, with regard to both other member states of the EU and third countries.

3.1 Capital account regulations

Table 1 illustrates our starting point, the capital account regulations prevailing in the Central and East European ACs in 2001/2. The table summarizes the existing legislation in each country, without, admittedly, providing much information on the severity of existing capital flow restrictions. There are a number of important and, perhaps, striking observations for our context.

Regarding direct investments, few restrictions are left. These apply mainly to certain sectors of political sensitivity, such as secondary residences and agricultural land. In contrast, foreign investment in real estate and insurance-related transactions are the most restricted types of international capital flows. International transactions in stock and securities markets are unrestricted or subject only to authorization by the relevant authorities in all countries except Slovenia. Only Romania maintains qualitative restrictions on operations in deposit accounts with financial institutions, although such transactions are subject to quantitative restrictions in Poland and Slovenia. Credits related to commercial activities and the provision of services are unrestricted in all countries except Romania and Slovenia; the latter requires registration with the central bank if their maturity exceeds 12 months. International financial loans are subject to restrictions in the Slovak Republic and Slovenia and require permission in Romania and registration in Bulgaria; in the other countries they are unrestricted. A similar picture arises with regard to personal capital movements.

Overall, the table indicates that meanwhile, in most countries, capital flows are fairly unrestricted, more so at the short end of the maturity spectrum. Remaining restrictions probably reflect traditional concerns with political sensitivities and opposition to foreign ownership more than concerns with the exposition to short-term, volatile capital movements that might cause problems of macroeconomic stability. In other words, these are not intended mainly as prudential measures. Poland and Slovenia still maintain a higher level of restrictions on capital flows, including at the short end of maturities. Romania still keeps more significant restrictions, in particular on capital outflows.

Table 1: Capital account regulations in transition countries

Type of transaction	BG	CZ	EE	HU	LV	LT	PL	RO	SK	SLO
Direct investments	Free	S	S	S	Free ³	S1	S1	S	S2	S, Q
Investments in real estate	L	L	L	L	L	S/P	L	L	L2	L
Stock market operations	Free ⁴	S	L	L	Free ¹	Free1	L	Free ^{1,2}	Free	L
Security & money-market operations	Free	Free	Free	P	Free ¹	Free1	P	P	Free	Free
Operations in current & deposit accounts with FI	Free1	Free	Free	Free	Free	Free1	Q, P	P	Free ¹	Free1
Credits related to commercial transactions	Free	Free	Free	Free	Free	Free	Free	P	Free	Free
Financial loans	R	Free	Free	Free	Free	Free	Free ⁵	P	Free	Free
Transfers in performance of insurance contracts	R	Free	Free	L	Free	L	L	Free	Free	Free
Personal capital movements	R	Free	Free ¹	Free	Free	Free	P, Q	P	Free	Free

Notes: Free: No limitations; L: Limited; P: Permission required; Q: Quantitative restrictions apply; R: Registration required; S: Free except for certain sectoral limitations.

Bulgaria: 1 April 2002; Czech Republic: 1 January 2001; Estonia: October 2001; Hungary: 16 June 2001; Latvia: November 2001; Lithuania: November 2001; Poland: 1 March 2000; Romania: August 2002; Slovak Republic: June 2002; Slovenia: June 2002.

¹Some restrictions/requirements on outward operations. ²Outward investments are free to OECD or EEA members. ³Certain requirements on citizenship and language proficiency. ⁴Acquisition of foreign items:R.

⁵Short-term investments: P.

Source: European Commission

This impression is confirmed by the most recent Regular Reports on the individual countries by the European Commission. According to these reports, the liberalization of capital movements is nearly completed, with the main exceptions of restrictions on the acquisition of real estate by foreigners and, in some cases, certain sectoral measures in Lithuania, Bulgaria, the Czech Republic, Estonia, Latvia and the Slovak Republic. The Commission notes the necessity to advance further the liberalization of the capital markets in Slovenia as well as in Romania, where it notes a moderate pace of liberalization of, in particular, capital outflows. In Poland, the European Commission expects full liberalization of medium- and long-term capital movements to be in place by the date of accession.

This evidence suggests that the ACs will enter the EU with almost full liberalization of capital movements. In this regard, the next enlargement will be markedly different from the enlargement of the 1980s, when Spain and Portugal entered the EU with considerable transition periods allowing them to maintain restrictions on capital flows.

3.2 Exchange rate regimes

The second important constraint is the exchange rate regime. Before accession, there are no restrictions on ACs' exchange rate regimes. The exigencies of the Treaty

regarding the choice of exchange rate regimes after accession are somewhat less clear-cut than those relating to controls on capital movements. The Treaty clearly distinguishes between membership of the EU and membership of the euro area, suggesting that the two should be treated separately. Since no candidate country has asked for an opt-out from eventual participation in the common currency, this means that the candidate countries will enter the EU with a derogation. Article 124 of the Treaty requires that countries with a derogation regard their exchange rate policies as a matter of common interest. As explained recently in a report of the ECOFIN Council to the Nice Summit, this means that the smooth functioning of the single market must not be disturbed by competitive devaluations (see also Noyer, 2001). Apart from that, the Council states that accession itself does not have any immediate implications for the choice of exchange rate regime. In particular (as noted explicitly by the Council), the ACs can enter the EU under their existing exchange rate regime. Membership of the EU also implies that countries must regard their economic policies as a matter of common concern (Article 99), and must take part in the procedures for multilateral surveillance and policy coordination accordingly. In particular, membership implies a commitment to avoiding excessive deficits.

Nevertheless, the new member states will be expected to join the ERM-II at some point after joining the EU. There is no rule in the Treaty regarding the timing of entry into the ERM-II, which could therefore also be upon entry. However, since the ERM-II is a cooperative arrangement between the ECB and countries outside the euro area, the decision to enter into the ERM-II and the setting of a central parity requires an agreement between the ECB and the country in question.

The main parameters of the ERM-II, and hence the new members' exchange rate policies, are laid down by the Amsterdam Council Resolution of 16 June 1997 and the Agreement between the ECB and the national central banks (NCBs) of non-euro-area member states of 1 September 1998. Central rates are set and adjusted jointly by the ECB and the relevant non-euro-area NCB. Adjustments to central rates should be timely to avoid misalignments. There is one standard band of +/- 15% around the central rates. Intervention at the limits is in principle automatic and unlimited and supported by Very Short-Term Financing. However, the ECB and the NCB concerned can suspend intervention if price stability is endangered. Narrower bands can be declared as a unilateral commitment of the non-euro-area central bank concerned or formally agreed at the request of the non-euro member state. In the latter case, the decision would be taken jointly by the ministers of the euro-area member states, the ECB, and the minister and the NCB of the non-euro-area state.

The ERM-II is thus compatible with a fairly broad range of exchange rate arrangements. Interestingly, the ECOFIN Council (2000) excludes only three regimes as inconsistent with the ERM-II: those without a mutually agreed central rate to the euro; those with crawling pegs; and those with pegs to currencies other than the euro. This is particularly relevant for candidate countries that maintain currency board arrangements before accession. As noted by the ECOFIN Council (2001), entering the EU with a currency board arrangement tied to the euro is compatible

with the ERM-II in the sense that it could be regarded as a unilateral commitment by the entering member state, with no obligations for the ECB beyond those implied by the regular rules of the system. However, a new member entering with a currency board arrangement would still have to reach agreement with the ECB on the central parity. In practice, this suggests that the currency board would have to have been in operation for a substantial period to prove the viability of its target exchange rate with the euro in order to be regarded as acceptable by the ECB. Therefore adopting a currency board arrangement shortly before accession is not a safe strategy for candidate countries to secure an exchange rate with the euro that will never be subject to change.

According to the Treaty, the adoption of the common currency requires the successful completion of a convergence process designed to ensure a high and sustainable degree of nominal convergence between the new entrant and the euro area. Countries that wish to adopt the euro are subject to assessment procedures to check whether a satisfactory degree of convergence has been achieved. This is based on the convergence criteria laid down in Article 121 of the TEU and the Protocol on the Convergence Criteria. In our context, the most important criterion is the one relating to exchange rate stability. According to this criterion, a country must have remained in the ERM-II for at least two years with its exchange rate remaining

Table 2: Exchange rate regimes in accession states

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Bulgaria	3	8	8	8	8	8	8	2	2	2	2	2
Czech Republic	3	3	3	3	3	3	6	7	7	7	7	8
Estonia	na	na	2	2	2	2	2	2	2	2	2	2
Latvia	na	na	8	8	3	3	3	3	3	3	3	3
Lithuania	na	na	8	8	2	2	2	2	2	2	2	2
Hungary	3	3	3	3	3	6	6	6	6	6	6	4
Poland	3	5	5	5	5	6	6	6	6	6	8	8
Romania	3	7	7	7	7	7	7	7	7	7	7	6
Slovak Republic	3	3	3	3	3	3	6	6	7	7	7	7
Slovenia	na	na	7	7	7	7	7	7	7	7	7	7

IMF Exchange Rate Regime Classification	Description
1: Dollarization or Euroization	No separate legal tender
2: Currency Board	Currency fully backed by foreign exchange reserves
3: Conventional Fixed Pegs	Peg to another currency or currency basket within a band of at most +/- 1%
4: Horizontal Bands	Pegs with bands larger than +/- 1%
5: Crawling Pegs	Pegs with central parity periodically adjusted in fixed amounts at a fixed, pre-announced rate or in response to changes in selected quantitative indicators
6: Crawling Bands	Crawling pegs combined with bands of more than +/- 1%
7: Managed Float with No Pre-announced Exchange Rate Path	Active intervention without pre-commitment to a pre-announced target or path for the exchange rate
8: Independent Float	Market-determined exchange rate and monetary policy independent of exchange rate policy

Sources: IMF (1999, 2002); von Hagen and Zhou (2001)

within the fluctuation band, without significant exchange market tensions and without a change in the central parity of its currency against the euro on the initiative of the non-euro state. The ECOFIN Council (2000, 2001) has recently affirmed that the principle of equal treatment of all member states implies the application of the convergence criteria to the new members. ECOFIN argues that this rules out unilateral euroization as a way to adopt the common currency quickly and circumvent the assessment process. The European Commission (2000a) and the ECOFIN Council have both affirmed their view that unilateral euroization would violate the reasoning of the Treaty. The European Council, in its *Nice Conclusions* (paragraph III.10) has confirmed this view. Thus ACs face an interim period of at least two years between their entry to the EU and their adoption of the euro.

Table 2 gives an overview of the exchange rate regimes of the Central and East European candidate countries since the early 1990s. It follows a classification by the IMF (1999; 2002) which is based on official statements about exchange rate policies⁴. As explained in the lower part of the table, smaller numbers refer to more rigid and larger numbers to more flexible exchange rate regimes.

At the beginning of the 1990s, conventional pegs (regime type 3) were the most common exchange rate regimes among the countries of this group. This choice was driven by the wish to use the exchange rate as the nominal anchor in the initial macroeconomic stabilization. Since the mid-1990s, however, there has been a noticeable tendency to move towards exchange rate regimes that are either relatively flexible or very rigid. The Czech Republic, Poland and the Slovak Republic have abandoned intermediate regimes of crawling pegs or bands and are now applying (managed) floats. Romania and Slovenia have officially kept such regimes since the early years of transition, although Slovenia has in practice severely limited exchange rate movements. Romania has recently moved to a crawling peg. According to this classification, Hungary and more recently Romania are the only countries maintaining an intermediate regime. In contrast, the Baltic states and Bulgaria all operate very rigid pegs. Estonia, Lithuania and Bulgaria have adopted currency board arrangements, and Latvia maintains a conventional peg with a zero fluctuation band. Whereas Estonia's and Bulgaria's currency boards were tied to the Deutsche mark and hence implicitly were, and now directly are, tied to the euro, Lithuania's currency board is tied to the US dollar and Latvia's peg to the SDR.

These developments confirm the suggestion that, in the presence of increasing international capital mobility, exchange rate regimes characterized by intermediate degrees of flexibility such as crawling pegs or bands are no longer viable (Eichengreen, 1994). Interestingly, a comparison of Tables 1 and 2 indicates that, among the more advanced ACs, it is the two that still maintain regimes of intermediate exchange rate flexibility, Hungary, Romania and, *de facto*, Slovenia,

⁴ The classifications for the years 1990-6 are obtained by applying the IMF's classification to official descriptions of the exchange rate regimes. It is well known that there is often not a perfect match between official declarations and actual exchange rate performance. Thus, for example, Slovenia declared a relatively flexible regime through the 1990s, but exchange rate volatility has nevertheless been kept low.

that also still maintain the most restrictions on short-term capital flows. The countries with rigid pegs, Estonia, Lithuania, Bulgaria and Latvia, have already completed or almost completed the liberalization of short-term capital flows.

Given the need for liberalizing capital flows (except for investments in real estate) completely upon accession and that the candidate countries did not bargain for transitional exemptions, these observations suggest that these countries will enter the EU with no remaining restrictions on capital flows and either a fairly flexible managed float or a very rigid peg, if not a fully fledged currency board. The first group can then enter the ERM-II shortly after EU accession with the standard band and a central rate to be negotiated with the ECB. They will have to decide whether the confines of the ERM-II's +/- 15% bands provide a sufficient degree of flexibility to accommodate fluctuations in capital flows and other shocks. The second group can enter the ERM-II immediately upon accession with a unilateral commitment to maintain the rigid pegs or currency board arrangements. These countries will, however, have to reach an agreement regarding the central rate during the accession negotiations. They will have to decide whether there will be a sufficient degree of real-side and fiscal flexibility and a sufficiently resilient banking system to accommodate this monetary straitjacket. More generally, both groups will have to make sure that the combination of free capital mobility and the exchange rate regime they choose yields a sustainable regime for capital movements for at least the interim period of two years before they can adopt the euro.

The fact that Lithuania's currency board and Latvia's peg are tied to currencies other than the euro adds some difficulties to this scenario. As mentioned above, participation in the ERM-II rules out currency boards or hard pegs to non-euro currencies. Lithuania and Latvia, therefore, will have to change their exchange rate regimes prior to accession. In principle, of course, they might switch all the way to a managed float and join the first group of countries. As noted by Gulde *et al.* (2000), however, such a move creates a lot of problems. Legal and institutional arrangements that form the basis for the currency board would have to be changed, and both countries would have to build the administrative and operational capacity to conduct a monetary policy not based on a rigid external anchor. Such a move is likely to be considered exorbitantly costly because the countries wish to enter the monetary union quickly anyway.

The alternative is to redefine the Lithuanian currency board and the Latvian peg with regard to the euro. The main issue here is timing – whether the switch should occur early rather than late. In principle, both countries could enter the EU with their current arrangements and postpone the switching until they join the ERM-II. Joining the ERM-II, however, requires an agreement on the appropriate central parity with the ECB. Any difference in the views of the two countries and the ECB regarding the central parity would create uncertainty in the markets and, therefore, raise the risk of speculative attacks on the two currencies. Both countries, therefore, have strong reasons to present clear-cut cases in favour of maintaining the parities existing upon accession as the central parities in the ERM-II. It is plausible that such a case can be made stronger if the parities existing upon accession have already been

in place for some time and have been demonstrated to be compatible macroeconomic equilibrium in the two countries. This suggests that Lithuania and Latvia should make the switch sooner rather than later.

3.3 Financial sector developments

The third important constraint in our context is the development of the financial system. The experiences with currency crises in the 1990s, reviewed above, suggest that weaknesses in the banking sector contributed significantly to the severity of currency crises and to their macroeconomic costs. Weak and badly regulated banking systems are unable to cope with abrupt and large outflows of international capital that might arise when foreign investors suddenly change their views about a country's credit quality⁵.

Experience suggests that several factors contribute to the resulting exposure to currency and banking crises.

1. The development of the banking and the non-banking sectors. The more developed and sophisticated financial intermediation is, the better the banking sector will be able to cope with a sudden withdrawal of foreign funds. Development of non-banking financial markets and institutions is important in this context as it offers substitutes for bank financing to non-banks and opportunities for refinancing to individual banks and, thus, a better allocation of liquidity risk in the economy. Furthermore, the quality of risk management in financial institutions can be expected to improve with financial development. Since state-owned banks can be expected to have lower-quality risk management than private banks, the extent to which the government is engaged in the banking industry is also a relevant factor.
2. The effectiveness of prudential regulation and supervision in preventing banks from financing low-quality investments. Effective supervision and regulation improve the transparency of financial relations within an economy and provide information necessary to judge the soundness of individual banks and the banking sector as a whole. Transparency, in turn, is a safeguard against cosy relations between banks and their borrowers that invite moral hazard and, ultimately, weaken the banking industry. EU membership has important implications in this regard, as the EU has developed its own regulatory framework for financial markets.
3. The extent of government involvement in the economy. Governments wishing to keep ailing industries alive while avoiding outright subsidies may put pressure on banks to finance loss-making operations. As international sources of funds suddenly dry up, non-performing loans build up, making the banks non-viable.

⁵ In practice, excessive short-term corporate borrowing in foreign currency also plays a role in the emergence of currency crises. This is consistent with our view, since such borrowing itself is an indication of weak financial regulation and a weak banking system.

Table 3: Financial sector development (2000)

	BG	CZ	EE	HU	LV	LT	PL	RO	SK	SLO
Private sector share in GDP (%)	70.0	80.0	75.0	80.0	65.0	70.0	70.0	60.0	80.0	65.0
Budgetary subsidies (% of GDP)	1.51 ¹	10.2	0.8	4.81	5.0	0.2	0.41	1.9	4.0	1.5
Asset share of state-owned banks (%)	19.8	28.2	0.0	8.6	2.9	38.9	24.0	50.0	49.1	42.2
Bad loans (% of total loans)	10.9	19.3	1.5	3.1	5.0	10.8	15.9	3.8	26.2	8.5
Domestic bank credit to enterprises (% of GDP)	12.2	43.81	25.9	23.6	19.6	10.1	18.8	10.51	37.6	35.91
Stock market capitalization (% of GDP)	5.1	23.2	35.2	26.3	8.3	14.0	18.8	3.8	3.9	24.0

Note: ¹1999 figures.

Source: EBRD, Transition Report, 2001

Table 3 reports a number of indicators related to these factors. The overall picture is not positive. Apart from the Czech Republic, Estonia and Hungary, banks and non-bank financial markets are clearly underdeveloped in the Central and East European ACs, as indicated by the low levels of domestic credit and stock market capitalization. In the Slovak Republic and Slovenia, where the ratio of domestic credit to GDP is higher, the share of state-owned banks is still very high. The Czech Republic and the Slovak Republic still suffer from severe bad-loan problems, but bad loans are also still quite large in Bulgaria, Lithuania, Poland and Slovenia. State-owned banks remain an important part of the banking sector in Lithuania, the Slovak Republic, Romania and Slovenia. They are also important in Poland and Bulgaria⁶. Lastly, the table shows that budgetary subsidies to enterprises remain large in the Czech Republic, Hungary, Latvia and the Slovak Republic.

The European Commission's latest *Regular Reports* on the progress of the applicant countries towards EU accession add further detail to this picture. They describe only the banking sectors of Estonia, Hungary, and the Czech Republic as sound and the banking sectors of Poland, Latvia, Lithuania, the Slovak Republic and Slovenia as small but operating satisfactorily. In Poland, restructuring is incomplete and banking intermediation not yet fully operating on the grounds of competitiveness. The banking sectors of Romania and Bulgaria are described as being fairly weak. Non-bank financial sectors of all accession countries are described as being at an early stage of development. According to these reports, financial market supervision is developed to a satisfactory extent in Hungary (with the exception of private pension funds' supervision), Poland, Estonia, Latvia, Lithuania and Slovenia, whereas in the

⁶According to the latest *Regular Reports* of the European Commission, in Bulgaria only one major state-owned bank is yet to be privatized, which is scheduled for 2003. Banking privatization is judged to be well advanced, but not completed, in Poland. Note that although Table 3 reports a fairly high asset share of state-owned banks for the Czech Republic for 2000, according to the European Commission's most recent *Regular Report*, banking privatization was completed there in 2001.

other countries it is found to be still incomplete or, as in the Slovak Republic, not yet well implemented.

These data suggest that financial sector weakness and weak supervision is an open flank of the development of capital account regimes for the accession countries.

4. Capital Inflows: Why, How Large and What To Do?

A, if not the, major challenge for ACs attempting to navigate the transition to membership in the euro area is the capital inflows problem. Large capital inflows would seem inevitable in the transition period when capital markets are open, exchange rate flexibility is limited and interest rates are still coming down to EU levels. To the extent that EU membership holds out the prospect of entry into the monetary union, the belief in prospective exchange rate stability and interest-rate convergence – and hence the capital inflows – will be stronger still.

This process has a downside, however. It will make it harder to satisfy the inflation criterion of the European Treaty. It will fuel a lending boom and lead to a deterioration in asset quality if the banking systems on the receiving end are inadequately managed and regulated. And it can threaten to disrupt financial stability, undermine the defensibility of the currency and throw the transition to monetary union off course if confidence in the sustainability of the process suffers a shock. This section therefore takes a more detailed look at the prospects for capital inflows and the options for their management.

Capital inflows may have many causes, some of which may be external, as when foreign interest rates decline. For example, Calvo, Leiderman and Reinhart (1995) conclude that the surge in inflows to middle-income countries in the early 1990s primarily reflected the low level of US interest rates that prompted global investors to try their luck elsewhere. Whatever the global circumstances, in this section we are interested not in external but in domestic explanations of capital inflows. In particular, we are interested in how accession countries navigate the period between EU entry and full accession to the euro area.

This is not to say that significant capital inflows have not been experienced by ACs prior to EU membership. Even by the mid-1990s, several ACs, most notably the Czech Republic, had experienced massive capital inflows that placed a severe strain on both macroeconomic balance and structural development, and by 1999 capital inflows to Poland had reached 10% of GDP. However, there are two reasons to focus on the prospective capital inflows to ACs during the period between EU entry and membership in the euro area. First, before EU entry a much larger range of policy responses is admissible in these countries; in particular, they can if they choose pursue a more flexible exchange rate policy than is likely to be allowed under the ERM-II. If a tighter exchange rate policy exacerbates the scope for capital flows, the problem may get worse. Second, once ACs are admitted to the EU, the EU itself will care more about the consequences of capital inflows - for example, through the extent to which they enhance the vulnerability of the banking systems in the new

member states now part of the single market. This will increase the likelihood that the current member states would be willing to financially support the new member states' efforts to prevent and resolve crises. Furthermore, mutual assistance becomes available to the new member states in the case of balance of payments crises.

We begin by reviewing what economists know about the theory of capital inflows and the possible policy responses. Then we review what we learned in practice as the founding members of EMU themselves went through this phase. From this we draw lessons for policy design in how to handle possible capital inflows during ERM-II.

4.1 Why do large capital flows occur?

We distinguish four reasons why capital inflows may occur:

1. To the extent that there is (weak) evidence that middle-income countries have the scope to grow more quickly than rich countries, middle-income countries may offer the prospect of higher returns on physical investment while they catch up. Since middle-income countries have limited scope for domestic saving, access to foreign capital allows profitable investment to be undertaken. This flow of capital may be largest at the time of initial achievement of confidence in legal infrastructure, political stability, the ability to pre-commit to allow future repatriation of profit and capital abroad, and trade liberalization.
2. Capital inflows may reflect structural distortions in domestic capital markets and easier access to global markets. Where this access has recently been increased as an act of policy, domestic residents will take advantage of the comparative advantage that foreign capital markets enjoy.
3. The demand for money increases as inflation expectations fall. In principle, the corresponding extra domestic money supply can be accomplished either through open market operations or in the finance of budget deficits. If neither mechanism operates on a sufficient scale, an inflow of foreign exchange reserves accomplishes the same outcome. The central bank then finds itself issuing domestic debt to finance its purchase of this reserve inflow, and the monetary theory of the balance of payments explains the endogenous open market operation required to maintain money supply in line with higher money demand. In fact, this is simply the standard Krugman (1979) balance of payments 'crisis' in reverse.
4. Whereas the preceding channel operates even if interest parity holds, the mechanism may also apply more widely. In particular, many countries undertaking successful disinflation with relatively independent central banks will find that domestic real interest rates are high precisely at the time that their equilibrium real exchange rate is expected to increase. Halpern and Wyplosz (1999) document the tendency for Balassa-Samuelson effects to promote real appreciation in transition economies unless rapid foreign debt accumulation creates a need for greater competitiveness to service debt interest. Clearly, when countries simultaneously offer high real interest rates and the prospect of steady real appreciation, they are likely to attract substantial portfolio and shorter-term capital inflows.

Channels for inflows are of course also potential channels for outflows. The same four channels therefore operate on the outflow side:

1. A loss of confidence, either in continuing structural reforms to sustain growth or in the commitment to political stability and smooth repatriation of foreign funds, will trigger a reversal of 'longer-term' investment. Since confidence can quickly change and existing capital stakes can be resold to domestic residents, little capital is truly long term.
2. Successful development of domestic capital markets may eventually mitigate the need to rely too heavily on foreign capital. Economists have spent three decades trying to explain the Feldstein-Horioka puzzle for developed economies: national saving and national investment are much more highly correlated than a naive interpretation of truly global capital markets would suggest.
3. Any resurgence in expected inflation will reduce the demand for domestic money, requiring some mechanism for altering domestic supply. If this is not accomplished by domestic policy, capital flows on the balance of payments will act as open market operation of last resort.
4. Lower expectations of either the trend rate of structural adjustment and real appreciation or of the path of real interest rates will make assets in that currency less attractive to global investors, prompting a capital outflow.

These four channels reflect the effect of an economy's fundamentals on the incentive to allocate global capital. However, it must also be recognized that capital flows sometimes respond to bubbles unrelated to fundamentals. Investor sentiment may also exhibit contagion, in which views about one country are then projected on to 'similar' countries, whether or not these share all the characteristics of the country about which investors initially revised their opinion.

Large capital flows would of course be unlikely if capital mobility was low or capital movements outlawed. The increasing prevalence of large capital flows in the last two decades should be viewed through the spectacles of financial liberalization and innovation and increasing financial market integration. In terms of the size and potential reversibility of capital inflows, this also suggests that channels three and four – those associated with money demand and short-term capital flows – are likely to be the most significant. In turn these highlight the role of fiscal and monetary policy, including the choice of exchange rate regime. We now turn to a discussion of policy.

4.2 Policy responses to capital inflows

The appropriate response depends on the diagnosis of the reason the capital inflow exists in the first place. Consider first the idea that capital inflows reflect opportunities for profitable long-term investment, combined with inadequate domestic saving (channel 1) or initial distortions in domestic capital markets (channel 2).

ACs are in the process of economic transition, which can be thought of as a vast investment project. Like other investment, there are big costs up-front and most of the benefits accrue in the future. The first-best response of a country would be to borrow the entire amount abroad and long term, and plan eventually to run a trade surplus to service the debt. However, moral hazard and adverse selection are severe problems. Countries find themselves unable to borrow nearly as much as they would like. Even if they can, they know that multiple lenders confer externalities on one another, setting up individual incentives to panic at the first sign of crisis when collectively it would be better for lenders not to call in their loans⁷.

But for this second problem, the appearance of capital inflows would constitute an unambiguous easing of a country's external constraint. They allow additional spending on investment and consumption: investment because the rate of return on new capital is high; consumption because it is the early generation that bears an undue share of the costs of transition and because maintaining political support for economic progress is a constraint. When a transition economy is close to full capacity, it may be optimal to spend most of the inflow immediately.

Will the capital account surplus induce a current account deficit of comparable size? If so, there will be no change in the domestic money stock or much overheating of the domestic economy, since extra demand for consumption and investment has been matched by extra import supply.

Generally, however, additional borrowing will be spent on both traded and non-traded goods; the first-round effect is therefore to induce a current account deficit that is smaller than the capital inflow, and hence to provide a net reserve inflow. The market mechanism that would ensure that the current account deficit matched the capital account inflow is a real appreciation of the exchange rate, which switches the additional domestic spending to traded goods. Nor need this threaten solvency in the long run. To the extent that inflows are being spent on capacity-enhancing investment (including human investment), it may be possible to remain competitive with a higher real exchange rate (Balassa-Samuelson again).

Note, crucially, that if these effects take place, it is then misguided to complain about the size of the current account deficit. However, this presupposes that the

⁷The Mexican crisis is an obvious example. Sachs, Tornell & Velasco (1996) discuss the extent to which the Mexican crisis reflected a self-fulfilling run. For a comprehensive analysis of such problems and their possible solutions, see Eichengreen and Portes (1995).

inflows are long term and not subject to future reversal. In practice, moral hazard and adverse selection limit such commitments. As in other spheres of economic activity, financing illiquid investment with borrowing of a shorter maturity is risky behaviour, and a fortiori if this also entails any currency mismatch.

A wise response will entail taking prudential supervision of banks seriously, including early limits to excessive exposure. Such microeconomic responses are dealt with elsewhere in our report and are not the principal purpose of the analysis of this section, which emphasizes the remaining two channels of capital flows, associated with variations in money demand and in the perceived short-term return on other financial assets. Another element of a safety-first policy may be to prefer greater exchange rate flexibility: if capital account inflows cannot exceed current account outflows, this limits the size of the inflow, and what has not flowed in cannot subsequently flow out. Nevertheless, this argument should not be overstated: by 1999 Poland had a current account deficit of 8% of GDP despite adoption of inflation targeting and a fair degree of exchange rate flexibility.

We turn now to channel 3. Where monetary inflows reflect an increase in demand for domestic money, the money supply can be correspondingly increased without raising expected spending and without putting upward pressure on prices. This sounds simple in theory, but in practice is complicated by two considerations. First, it is always difficult quickly to diagnose the reason for capital inflows. Monetary accommodation of inflows that are unconnected with increases in money demand will prove to be inflationary. Second, if fickle short-term investors subsequently revise their opinions and withdraw their capital, a rapid reduction in the money stock may be much more costly than the earlier rapid increase. For example, banks may have used additional deposits to finance less liquid lending, leaving them vulnerable to rapid contraction.

For this reason, many governments seek to take out insurance by using sterilized intervention as the first line of defence. The central bank issues domestic liabilities to finance the acquisition of reserve inflows that accompany a balance of payments surplus. Sterilized intervention often occurs when the government is reluctant to allow the exchange rate to appreciate and, at the same time, does not want to allow the money stock to expand.

Do we expect sterilized intervention to work? The standard answer is that (a) the more mobile is international money the harder it will be to choose independently the money supply and the exchange rate; and (b) such intervention may nevertheless have a very short-term effect, even with capital mobility, if it is thought to signal future changes in monetary policy.

In the ACs capital mobility has risen, but from a low base. What level it has reached now is therefore the subject of some dispute. For example, comparing onshore and offshore financial markets during the Asian crisis, Begg and Wyplosz (2001) conclude that capital mobility was pretty perfect in relation to the Czech koruna but less so in relation to the Hungarian forint. However, given that ACs are intent on joining the

EU and are acceding to demand that capital controls be completely dismantled, it seems unwise to base policy advice on any significant role for sterilized intervention.

In such circumstances, the main effect of an attempt to sterilize capital inflows is that it frustrates the adjustment in interest rates that would eventually have choked off the inflow. Even if the government takes the view that it wishes to manage the exchange rate and prevent a large appreciation, unsterilized intervention is then more appropriate. By allowing the reserve inflow to augment the money supply, the policy reduces interest rates and makes financial inflows less attractive.

Box 1: Transition economies already experienced large capital inflows

In May 1997, a speculative attack forced the Czech Republic to abandon the exchange rate peg it had maintained since 1991. In the preceding two years, the current account deficit had spiralled, despite a central government budget close to balance. The table below documents the escalating current account deficit, falling competitiveness and the scale of capital inflows, which reflected short-term as well as longer-term capital.

The table shows the scale of sterilization, as the central bank issued domestic debt in order to accumulate foreign reserves in an attempt to prevent large inflows spilling over into the domestic money supply. Begg (1998) argues that the policy was unsuccessful: by preventing inflows from reducing domestic interest rates it merely stimulated further inflows. Nor did it avert the final crisis.

Although fiscal policy had been fairly tight, credit liberalization had been substantial and private demand was increasing rapidly. Budget balance was not tight enough; when the private sector runs a large deficit, only a substantial public-sector surplus will prevent a dangerously large current account deficit. Further tightening of fiscal policy as a result of the crisis helped soften the subsequent landing.

Czech economic indicators (1993–6, end-year)	1993	1994	1995	1996
Inflation (%)	18	10	8	9
Real effective exchange rate (relative producer prices, 1992=100)	118	122	125	133
Balance of payments surplus	9.8	9.7	15.8	-1.5
of which				
current account	2.2	-0.2	-2.9	-8.2
capital account	7.9	12.5	17.4	7.4
of which				
net FDI	1.8	2.1	5.4	2.5
net portfolio investment	5.1	2.3	2.9	1.3
Central bank balance sheet				
Assets (bn Czech crowns)				
Net foreign assets	17	83	180	364
Net domestic assets	99	29	-33	-170
Liabilities				
Narrow monetary base	116	112	147	194

Source: Begg (1997)

This prescription also reduces somewhat the significance of the distinction between fixed and floating exchange rate regimes. Under floating exchange rates, capital inflows cause a nominal appreciation that reduces competitiveness; under pegged exchange rates, deciding not to sterilize reserve inflows will allow a monetary expansion, inflation and a similar loss of competitiveness, unless higher money demand was the sole cause of the original inflow.

Similarly, where the policy mix entails high real interest rates plus an appreciating real exchange rate, capital inflows are likely whatever the exchange rate regime. The decision to fix or float may affect the scale of the inflow but is not itself a means of preventing it.

Where the government is reluctant to conclude that inflows reflect an increase in money demand but also reluctant to allow the exchange rate to appreciate, the only reliable fallback position is a tightening of fiscal policy. By reducing aggregate demand, this reduces money demand and allows a fall in domestic interest rates for a given money supply. Sustainably lower interest rates reduce the incentive for global capital to pile into the currency. Preventing tidal waves of speculative, and therefore reversible, inflows is an important component of a sound strategy to diminish vulnerability to sudden and damaging outflows.

4.3. Evidence from existing EMU members

So much for the theory. Did it work in practice? We now discuss how some existing EMU countries fared over recent years. This raises the questions of which countries to examine and over what period. We look not at the hard inner core but at the periphery, countries that were either later entrants to the EU or slower to disinflate, or both. We examine the Southwestern-5: Italy, Portugal, Spain, Greece and Ireland. To avoid prejudging the relative importance of monetary policy credibility, fiscal discipline and access to the EU itself, we present data from 1986 onwards. In some cases (those where inflows occurred in the late 1980s), this section therefore elaborates the discussion of European experience summarized in Section 3. In other cases (those where inflows occurred after the early 1990s), it transcends that discussion⁸.

⁸ For EC founding members (such as Italy) and early entrants (such as Ireland, 1973), 1986 marks both the signing of the Single European Act and the start of the New EMS, in which exchange rate discipline became much tighter. For these early members it is impossible to distinguish the effects of the Single European Act and the New EMS. However, Spain and Portugal joined the EU in 1986 but did not join the EMS until later (Spain, 1989; Portugal, 1992). Greece had joined the EU in 1981. Although it participated in the single market, its slow progress in macroeconomic convergence meant that it did not join the ERM until 1998. All five countries are now members of EMU, Greece having joined in 2001 and the others at the outset in 1999.

Table 4: Existing EMU members: episodes of capital inflow (1986-99)**4a) Italy**

	Current	Financial Account				Balance	BoP/	(Bop-CA)/	CA/GDP	Relative	Interest	Central bank balance sheet			Structural
	account	Total	FDI	Portfolio	Other	of	GDP	GDP	(%)	ULC	differential	(-)	(+)	budget/	
	(US\$bn)	(US\$bn)	(US\$bn)	(US\$bn)	(US\$bn)	payments	(%)	(%)	(%)	(1995=100)	with	currency	net assets	GDP	
											Germany	foreign	domestic		
												Trillions of local currency			(%)
Italy															
86	2.5	2.0	-2.3	-1.1	5.4	2.3	0.3	0.0	0.3	131.2	8.8	51.6	61.4	-9.8	-10.8
87	-2.6	8.9	2.1	0.0	6.8	5.5	0.7	1.0	-0.3	131.0	7.3	55.6	71.4	-15.8	-10.6
88	-7.2	16.7	2.1	0.3	14.3	8.4	1.0	1.8	-0.8	130.4	6.5	60.2	82.8	-22.6	-11.1
89	-12.8	24.7	0.0	3.2	21.5	11.3	1.3	2.7	-1.3	135.1	5.5	71.4	93.2	-21.8	-10.6
90	-16.5	42.6	-1.0	-0.1	43.7	11.6	1.0	2.5	-1.5	142.6	3.7	74.8	103.4	-28.6	-11.8
91	-24.6	24.2	-5.1	-4.7	34.0	-6.7	-0.6	1.6	-2.1	145.6	3.0	82.0	94.3	-12.3	-10.4
92	-29.2	11.6	-1.0	8.4	4.2	-24.0	-2.0	0.4	-2.4	138.3	4.5	90.8	67.3	23.5	-9.3
93	7.8	5.3	-3.6	50.0	-41.1	-3.1	-0.3	-1.0	0.7	115.1	2.9	95.2	83.9	11.3	-7.9
94	13.2	-14.2	-3.1	-7.8	-3.3	1.6	0.2	-1.1	1.2	109.9	-0.9	101.9	91.4	10.5	-8.0
95	25.1	-2.9	-2.2	40.6	-41.3	2.8	0.3	-2.1	2.3	100.0	6.0	105.2	91.2	14.0	-7.2
96	40.0	-8.0	-5.1	49.1	-52.0	11.9	1.0	-2.3	3.2	113.9	5.5	108.2	106.8	1.4	-6.5
97	32.4	-6.9	-6.7	11.5	-11.7	13.2	1.1	-1.7	2.8	118.8	3.6	116.2	133.6	-17.4	-2.0
98	20.0	-18.1	-9.8	2.9	-11.2	-21.5	-1.8	-3.4	1.8	119.4	1.5	124.9	88.8	36.1	-2.0
99	8.2	-20.0	2.0	-23.4	1.4	-8.9	-0.8	-1.6	0.6	120.0	0.0				-0.8

4b) Portugal

	Current account		Financial Account			Balance of payments	BoP/GDP (%)	(Bop-CA)/GDP (%)	CA/GDP (%)	Relative ULC (1995=100)	Interest differential with Germany	Central bank balance sheet			Structural budget/GDP (%)
	(US\$bn)	Total (US\$bn)	FDI (US\$bn)	Portfolio (US\$bn)	Other (US\$bn)							(-)	(+)	(+)	
												currency	net assets foreign	domestic	
												Trillions of local currency			
Portugal															
86	1.2	-1.4	0.2	1.1	-2.7	-0.1	-0.3	-3.6	3.3	69.8	11.0	0.4	0.7	-0.3	na
87	0.4	0.7	0.3	3.7	-3.3	1.8	4.5	3.5	1.0	69.8	9.9	0.5	0.9	-0.4	na
88	-1.0	0.3	0.9	2.3	-2.9	0.9	1.8	3.8	-2.0	72.1	8.7	0.5	1.5	-1.0	na
89	0.2	4.0	1.6	8.0	-5.6	4.7	7.1	6.8	0.3	73.5	7.8	0.6	2.3	-1.7	na
90	-0.2	2.6	2.5	9.0	-8.9	3.5	5.3	5.6	-0.3	79.4	8.4	0.6	2.6	-2.0	na
91	-0.7	4.5	2.0	20.1	-17.6	5.7	6.5	7.3	-0.8	89.1	8.5	0.7	3.5	-2.8	na
92	-0.2	-1.0	1.2	9.1	-11.3	-0.2	-0.1	0.0	-0.2	99.7	6.6	0.7	3.6	-2.9	na
93	0.2	-3.0	1.4	48.7	-53.1	-2.9	-3.9	-4.1	0.4	97.5	5.2	0.8	3.7	-2.9	na
94	-2.2	1.0	1.0	-22.3	22.3	-1.4	-1.5	0.8	-2.4	99.1	1.7	0.8	3.3	-2.5	na
95	-0.1	3.0	0.0	21.2	-18.2	-0.3	-0.2	-0.1	-0.1	100.0	5.3	0.8	3.1	-2.3	-3.9
96	-4.5	4.4	0.6	2.4	1.4	0.7	0.6	4.6	-4.0	97.9	4.1	0.9	3.2	-2.3	-3.6
97	-5.5	6.3	0.6	-4.7	10.4	1.2	1.1	6.3	-5.2	97.1	2.4	0.8	3.5	-2.7	-2.5
98	-7.2	6.5	-1.2	-27.5	35.2	0.5	0.5	7.0	-6.5	99.2	0.8	0.9	3.3	-2.4	-2.3
99	-9.0	10.4	-2.1	-1.0	13.5	-2.9	-2.6	5.5	-8.9	100.5	0.0				-2.0

4c) Spain

	Current account		Financial Account			Balance of payments (US\$bn)	BoP/GDP (%)	(Bop-CA)/GDP (%)	CA/GDP (%)	Relative ULC (1995=100)	Interest differential with Germany	Central bank balance sheet			Structural budget/GDP (%)
	(US\$bn)	Total (US\$bn)	FDI (US\$bn)	Portfolio (US\$bn)	Other (US\$bn)							(-) currency	(+) net assets foreign	domestic	
Spain															
86	3.9	-1.6	3.1	2.2		2.3	0.9	-0.7	1.6	89.1	7.1	2.4	1.9	0.5	-4.1
87	-0.3	14.2	3.8	3.8		12.7	4.4	4.5	0.0	90.0	11.8	2.7	3.6	-0.9	-2.9
88	-3.8	14.6	5.8	2.3	6.5	8.4	2.2	3.2	-1.0	96.3	7.4	3.2	4.5	-1.3	-3.4
89	-10.9	18.3	7.0	8.0	3.3	4.7	1.2	3.9	-2.7	103.7	7.9	3.8	4.9	-1.1	-4.2
90	-18.0	23.0	10.4	9.0	3.6	7.2	1.4	4.9	-3.5	114.6	6.7	4.5	5.3	-0.8	-5.1
91	-19.8	32.0	8.0	20.0	4.0	14.3	2.6	6.2	-3.6	117.5	4.0	5.6	6.7	-1.1	-5.0
92	-21.5	6.0	11.1	9.3	-14.4	-17.9	-3.0	0.6	-3.6	120.3	3.8	6.0	5.5	0.5	-3.7
93	-5.8	-0.4	6.5	47.7	-54.6	-5.2	-1.0	0.2	-1.2	107.6	4.4	6.5	6.4	0.1	-4.7
94	-6.3	4.5	5.2	19.4	-20.1	0.0	0.0	1.3	-1.3	101.2	-1.4	7.2	7.1	0.1	-3.9
95	0.8	-8.0	4.1	21.1	-33.2	-6.4	-1.1	-1.2	0.0	100.0	4.9	7.5	4.5	3.0	-4.3
96	0.4	20.1	1.2	-0.5	19.4	24.3	4.2	4.2	0.0	103.1	4.2	7.9	7.8	0.1	-2.3
97	2.5	8.6	-6.0	-4.7	19.3	11.8	2.1	1.7	0.4	101.8	2.1	8.4	10.6	-2.2	-1.1
98	-3.1	-14.2	-7.1	-27.5	20.4	-14.4	-1.9	-1.7	-0.2	105.5	0.7	8.4	8.7	-0.3	-1.2
99	-12.6	-11.2	-26.0	-1.0	15.8	-22.8	-3.8	-1.7	-2.1	106.5	0.0				

4d) Greece

	Current account	Financial Account			Balance of payments	BoP/GDP	(Bop-CA)/GDP	CA/GDP	Relative ULC	Interest differential with Germany	Central bank balance sheet		Structural budget/GDP		
	(US\$bn)	Total (US\$bn)	FDI (US\$bn)	Portfolio (US\$bn)	Other (US\$bn)	(US\$bn)	(%)	(%)	(1995=100)		(-) currency	(+) net assets foreign	domestic	(%)	
	(Trillions of local currency)														
Greece															
86	-1.7	2.4	0.4	0.0	2.0	0.7	1.5	5.1	-3.6	90.1	13.9	1.0	0.3	0.7	-10.1
87	-1.3	2.0	0.4	0.0	1.6	1.0	1.8	4.1	-2.3	86.0	15.0	1.3	-0.5	1.8	-8.6
88	-1.0	1.9	0.7	0.0	1.2	1.0	1.5	3.1	-1.7	94.7	14.9	1.4	-0.5	1.9	-11.9
89	-2.6	2.8	0.9	0.0	1.9	-0.3	-0.4	3.4	-4.0	99.9	11.9	1.5	-0.8	2.3	-15.7
90	-3.5	4.0	0.8	0.0	3.2	0.3	0.4	4.5	-4.6	105.5	14.5	1.9	-0.9	2.8	-16.6
91	-1.6	4.0	1.0	0.0	3.0	2.2	2.4	4.2	-2.1	98.7	14.1	2.1	-0.6	2.7	-12.3
92	-2.1	2.6	1.1	0.0	1.5	-0.4	-0.4	1.7	-2.8	96.0	12.2	2.3	-1.0	3.3	-13.0
93	-0.8	4.8	1.1	0.0	3.7	3.4	3.7	4.5	-1.4	90.0	14.0	2.5	-1.0	3.5	-12.6
94	-0.2	6.9	1.0	0.0	5.9	6.3	6.3	6.5	-0.7	93.2	9.9	3.5	-1.0	4.5	-8.8
95	-2.9	3.2	1.1	0.0	2.1	0.0	0.0	2.5	-3.0	100.0	11.0	3.6	1.4	2.2	-8.9
96	-4.6	8.7	1.1	0.0	7.6	4.2	3.4	7.1	-4.2	102.0	9.5	4.1	2.1	2.0	-6.4
97	-4.8	-7.5	1.7	-1.8	-7.4	-5.8	-4.8	-0.8	-4.1	104.6	7.1	4.7	3.5	1.2	-3.5
98	-3.7	4.3	5.7	-12.0	10.6	4.9	4.1	7.2	-3.2	101.6	8.1	6.1	4.1	2.0	-1.5
99	-5.1	-3.0	13.0	-15.3	-0.7	0.8	0.6	4.8	-4.2	103.6	5.9				-1.0

4e) Ireland

	Current account		Financial Account			Balance of payments	BoP/GDP (%)	(Bop-CA)/GDP (%)	CA/GDP (%)	Relative ULC (1995=100)	Interest differential with Germany	Central bank balance sheet			Structural budget/GDP (%)
	(US\$bn)	Total (US\$bn)	FDI (US\$bn)	Portfolio (US\$bn)	Other (US\$bn)							(-)	(+)	(+)	
Ireland															
86	-0.9	1.8	0.0	1.8	0.0	-0.1	-0.3	2.8	-3.1	162.8	7.9	1.1	2.3	-1.2	-7.3
87	-0.1	0.6	0.1	-0.2	0.7	0.9	2.3	2.5	-0.2	149.4	6.8	1.2	2.9	-1.7	-5.9
88	0.0	0.2	0.1	1.0	-0.9	0.6	1.5	1.5	0.0	137.2	3.7	1.3	3.2	-1.9	-2.8
89	-0.6	-1.6	0.1	0.6	-2.3	-0.9	-2.3	-0.8	-1.5	126.1	2.9	1.5	2.6	-1.1	-1.4
90	-0.4	-2.0	0.3	-0.2	-2.1	0.6	1.2	2.0	-0.8	131.4	2.8	1.6	3.0	-1.4	-3.9
91	0.3	-2.0	1.2	-1.1	-2.1	0.5	1.0	0.4	0.7	126.3	1.2	1.6	3.3	-1.7	-2.7
92	0.6	-4.0	1.2	-2.3	-2.9	-2.2	-4.4	-5.6	1.0	122.1	4.8	1.6	1.5	0.1	-2.0
93	1.8	-0.9	0.9	2.5	-4.3	2.7	5.6	1.9	3.7	112.9	1.8	1.8	4.3	-2.5	-0.8
94	1.6	-4.0	0.4	-1.4	-3.0	-0.2	-0.4	-3.2	2.7	108.8	-3.5	1.9	4.2	-2.3	0.1
95	1.7	0.0	0.6	-0.3	-0.3	2.3	3.5	0.9	2.6	100.0	1.7	2.1	5.5	-3.4	-1.0
96	2.0	-2.8	1.9	0.8	-5.5	-0.1	-0.1	-2.9	2.8	99.1	2.1	2.3	5.0	-2.7	0.9
97	1.9	-7.5	1.7	-3.2	-6.0	-1.1	-1.4	-3.8	2.4	91.7	2.8	2.6	4.6	-2.0	0.8
98	2.1	4.3	5.7	-12.0	10.6	3.0	3.9	1.2	2.7	85.9	1.9	3.0	6.4	-3.4	1.8
99	0.3	-3.0	13.0	-15.3	-0.2	-3.1	-3.1	-3.4	0.7	81.7	0.0				1.9

Sources: IMF International Financial Statistics; IMF European 1 Department; OECD Economic Outlook

Notes: Data on capital transfers and on errors and omissions not shown, but they affect estimates of capital flows/GDP, which may be constructed either by dividing the financial account total by GDP, or (as in the table) by subtracting the current account from the overall balance of payments and then dividing by GDP. The former method allocates capital transfers and errors and omissions to the current account, the latter to the capital account. Some compromise allocation is also possible.

Table 5: Episodes of capital inflows in existing EMU members

	Capital inflows		Balance of payments surplus	
	Years of peak inflow	annual average % of GDP	Years of peak inflow	annual average % of GDP
Italy	1987-90	2.0	1987-90	1.0
Portugal	1987-91	5.4	1987-91	5.0
	1996-99	5.9	1996-99	0.7
Spain	1987-91	4.5	1987-91	2.2
	1996-97	3.0	1996-97	3.2
Greece	1986-88	4.3	1986-88	1.6
	1998-99	6.0		
Ireland			1993-94	5.0
			1996	3.4
			1998-99	2.4
	1986-88	2.3	1987-88	1.9
	1993	1.9	1993	5.6
	1995	0.9	1994	3.5
	1.2	1998	3.9	

Source: Table 4

4.3.1 When did the big inflows occur?

Table 4 displays data for all five countries during 1986–99, and suggests that the largest inflows generally occurred in the mid to late 1980s, with a second smaller wave in the mid to late 1990s. Table 4 summarizes the peak years of capital inflow. Typically, these years coincided with substantial balance of payments surpluses and reserve inflows, also shown in Table 5.

Tables 4 and 5 allow us to dispel some popular myths. First, the run-up to the Third Stage of EMU was not the only, and in some countries not the principal, phase of capital inflows. Substantial inflows also occurred in the late 1980s, when the combination of greater exchange rate stability (within the narrow ERM) offered the initial 'convergence play' on interest rates, and the certain prospect of the single market made longer-term investment attractive. Moreover, these large inflows took place despite the fact that capital controls remained in place until 1990-2.

Second, the convergence play on Italian interest rates in the run-up to the Third Stage of EMU – made famous by the exploits of LTCM – nevertheless failed to induce a net capital inflow to Italy. The Italian financial (capital) account records a net outflow in every year during 1994-9. Table 4 does indeed record the substantial portfolio inflows in 1995-6 but confirms that these were more than offset by other outflows of short-term capital and net foreign direct investment (FDI). In the late 1990s Italy never had to face the macroeconomic consequences of a capital and monetary inflow. In the late 1980s it did, albeit on a smaller scale than other countries in the Southwestern-5.

Third, the same conclusion essentially applies to Ireland. The Celtic tiger's performance in the 1990s may well have benefited from substantial inflows of FDI (Table 4 shows FDI inflows were positive every year during 1987-99 and accelerated sharply in the late 1990s), but these were offset by outflows of portfolio and other investment. The only year Ireland experienced a net inflow on the financial account (exclusive of capital transfers and errors and omissions) was 1998. When these inflows of FDI are also allocated to the capital account as in Table 5, the estimates of capital inflows (as a percentage of GDP) shown in the first column account for only a small fraction of the balance of payments surpluses shown in the second column. The punchline; to the extent that Ireland experienced reserve inflows in the late 1990s, these arose principally as a result of current account surpluses not capital inflows. Reserve inflows were the consequence of past economic success, not the precursor of future success. In contrast, and as in the other four countries, capital inflows in the late 1980s were more than sufficient to account for the entire balance of payments surplus.

The other three countries conform more closely to the standard picture of reserve inflows driven by the capital account. Greece faced sustained capital inflows for every year during 1986-98 with the sole exception of 1997, and had current account deficits in every year of the period. For much of the period it also experienced substantial payments surpluses.

Spain and Portugal fit closely the most straightforward application of the theory – two periods of dramatic payments surpluses generated by large capital inflows.

4.3.2 Did reserve inflows hurt competitiveness?

We now discuss how the five countries responded to reserve inflows when these occurred in the periods identified above.

Italy 1987-90. Without an ERM realignment during the period, Italian inflation in excess of that in the inner core led to a steady loss of competitiveness, even allowing for strong growth of GDP and productivity. Italian relative unit labour costs grew in total by 9% during 1987-90.

Portugal 1987-91. With much larger reserve inflows during the same period, Portuguese relative unit labour costs grew much more than in Italy, rising by 28%. Note that Portugal was not an EMS member during this period.

Portugal 1996-8. Despite another period of substantial inflows, relative unit labour costs grew in total by a mere 1%, even though the country was by then a full ERM member. We therefore need to explain this difference in the evolution of competitiveness across the different episodes.

Spain 1987-91. Spanish relative unit labour costs grew by a considerable 31% during the period.

Spain 1996–7. Despite substantial inflows, relative unit labour costs actually fell. Even if we examine subsequent data because of the shortness of the period and the possibility of delayed adjustment, by 1999 relative unit labour costs were only 3% higher than in 1996. As with Portugal, Spain behaved differently in the two episodes.

Greece 1986–90. During the initial phase of capital inflows, when Greece recorded modest payments surpluses, relative unit labour costs increased by 17%.

Greece 1990–9. Thereafter, capital inflows continued, the balance of payments was on average positive, but relative unit labour costs were 2% lower in 1999 than 1990. As in Spain and Portugal, something happened, albeit on a smaller scale.

Ireland 1986–99. We have already noted that Ireland experienced less of the sustained reserve inflow than the other countries. Even so, its performance on relative unit labour costs is exceptional – Table 4 shows that they fell in every year during 1986–99, cumulating to a 50% fall over the period.

Our theoretical discussion in Section 4.1.2 suggests two possible explanations of why short-run outcomes differed. First, sterilization may have differed across countries and across time periods. Second, fiscal policy may have implied different monetary-fiscal mixes. Obviously, the trend decline in Irish real unit labour cost (RULC) is more than a short-run effect. We look at the issue of medium-run changes in productivity and competitiveness in Section 4.4.

4.3.3 Can sterilization policy explain differences in short-run outcomes identified above?

We now examine how sterilization policy evolved during 1986–9. As capital controls were gradually dismantled, it would be expected a priori that resort to sterilization would gradually diminish as its effectiveness decreased.

Italy. During the inflow period 1987–90, Table 4 shows that central bank liabilities (currency) increased by 19.2 trillion lira. On the asset side, net foreign assets rose by 32 trillion lira and net domestic assets fell by 12.8 trillion lira. On average, the bank was stockpiling foreign reserves at about 8 trillion lira a year, just under 1% of annual GDP during the period. Since Table 4 shows an average balance of payments surplus of 1% during this period, this amounts to a policy of substantial sterilization of inflows. This did not prevent a loss of competitiveness but it may have mitigated what otherwise would have happened.

Note from Table 4 that 1990 represents the peak year of the ratio of net foreign assets to domestic currency. During 1990–9, currency subsequently increased by 50 trillion lira while central bank net foreign assets actually fell. Although there were particular years (notably 1998) in which sterilization occurred, in general the policy was allowed to lapse.

Portugal. During 1987–91, Table 4 records an average balance of payments surplus of 5% a year. Over the same period, central bank liabilities (currency) increased by 0.2

trillion escudos, whereas net foreign assets rose by 2.6 trillion escudos. Thus roughly 0.5 trillion escudos a year of reserve assets were stockpiled. Nominal GDP rose from 5 trillion to 11 trillion escudos. Taking the central value of 8 trillion escudos, an annual payments surplus of 5% of GDP is thus around 0.4 trillion escudos. In short, the central bank was more than fully sterilizing the entire inflow. We saw that the cumulative increase in relative unit labour costs was nevertheless 28%. If the purpose of massive and sustained sterilization was to prevent this deterioration in competitiveness, it did not succeed.

Did Portugal also abandon sterilization in the 1990s? Yes it did. Table 4 records little significant change in the composition of the central bank balance sheet after 1991. If anything, the share of net foreign assets actually fell a little.

Spain. Despite modest but steady balance of payments surpluses during 1987–91, Spain engaged in less sterilization than Italy or Portugal during the same period. Average annual payments surpluses were 2.3% of GDP, or around 0.9 trillion pesetas. Table 4 shows that currency increased by 2.9 trillion pesetas but net foreign assets by only 3.1 trillion pesetas. The annual increase in reserves was thus nowhere near the annual inflow. Nor has Spain made any significant use of sterilization subsequently.

Greece. Against the general trend described above, the Greek central bank steadily reduced net foreign assets during 1986–94, despite steadily increasing the supply of domestic currency. The counterpart to this was a rapid rise in its holding of net domestic assets, perhaps because it remained responsible for government financing during a period when budget deficits were substantial. However, with increasing fiscal prudence and greater central bank independence, Table 4 shows that during 1995–8, net foreign assets increased at roughly twice the rate of domestic currency creation.

Ireland. Table 4 also shows that sterilization policy has been used vigorously in Ireland, and not merely in the 1980s. During 1986–8 Irish currency increased by 0.2 trillion punts, while net foreign assets of the central bank increased 0.9 trillion punts, more than sufficient to offset the cumulative balance of payments surplus during the period. The subsequent isolated years of large payments surpluses (1993, 1995 and 1998) all coincide with sharp increases in central bank net foreign assets.

This brief discussion shows that it is difficult to discern any general trend. In particular, there is no obvious correlation between variations in sterilization policy and movements in competitiveness. If we are to explain these variations, we shall have to rely on our remaining candidate for an explanation: variations in fiscal policy. Fortunately, this seems to do most of the job we require.

4.4 Tightening fiscal policy offers a way out of the dilemma

When governments are unwilling to view inflows as a response to permanently higher demand for assets denominated in domestic currency, and are unwilling to view inflows as a prelude to greater competitiveness that would allow the economy

to live with exchange rate appreciation, the most secure 'third way' is to tighten fiscal policy. This changes the monetary-fiscal mix, and allows a reduction in interest rates without boosting aggregate demand. Lower interest rates reduce the incentive for capital inflows. Clear in theory, but does it work in practice?

Table 6: Competitiveness, payments surpluses and fiscal policy

Mean annual D RULC	Mean annual D in structural budget deficit as % of GDP	Mean annual surplus in BoP as % of GDP	Episode
-12.8	-2.3	1.9	Ireland, 1987-88
-0.6	-1.7	1.4	Greece, 1993-94
-0.4	-1.2	2.3	Greece, 1998-99
-0.2	-0.5	0.7	Portugal, 1996-98
0.1	0.6	1.1	Ireland, 1990-91
0.7	-0.2	0.7	Italy, 1994-97
0.9	-1.6	3.4	Spain, 1996-97
1.2	0.6	1.6	Greece, 1986-88
1.6	-3.6	5.0	Greece, 1993-94
2.2	0.3	1.0	Italy, 1987-90
5.6	na	5.0	Portugal, 1987-91
6.2	0.2	2.4	Spain, 1987-91

Source: Table 3.1.1

Note: Although OECD *Economic Outlook* reports no estimates of structural budget deficit for Portugal during 1987–91, earlier editions of the Outlook estimate that the unadjusted budget deficit fell from 6.4% to 6% of GDP over the period. Since the OECD also estimates that the output gap in Portugal changed from –3.7% to +2.8% over the period, this substantial cyclical upturn must be sufficient to imply that the structural budget deficit increased. This reinforces the message of Table 3.1.3 that there is a positive correlation between fiscal tightening and improving competitiveness.

Analysing isolated years is of limited value, but Table 6 records all periods in Table 4 in which payments surpluses lasted at least two consecutive years during 1986–99. There is a strong negative correlation between fiscal tightening and real appreciation during periods of capital inflows. Remaining discrepancies are largely explained when there are controls for the scale of the initial inflows. Table 6 therefore provides quite powerful confirmation that a readiness to tighten fiscal policy if required may be a good defence against 'excessive' capital inflows.

4.5 Taking stock

We began this section by expressing concern for the pressures ACs will face in the period between EU entry and adoption of the euro. The experience of countries in Southern and Western Europe is that these pressures arise as soon as exchange rate policy looks reasonably stable and the prospect of access to the single market is assured. The third column of Table 6 suggests that it is not generally true that the largest capital flows occurred in the immediate run-up to the Third Stage of EMU. Table 4 pointed out that Ireland and Italy rarely faced overall inflows; even though particular items of their capital accounts displayed massive fluctuations, these were largely offset elsewhere within that account. For ACs, the ERM-II phase may be special but it will not be unique. They should already have faced and be facing capital inflows. And in practice they are, as Box 4.1 reminds us and as is happening again in late 2002 in Hungary. In preparation for accession, this country has decided

in late 2001 to act as a *de facto* member of the EMS, with a fixed central parity and a +/- 15% band. Since then, the forint has moved towards the strong end of the band. Interestingly, Hungary also aims at lowering its inflation rate to prepare entry into EMU, which means a high interest rate. Should it lower the interest rate to repeal inflows and move away from the band's edge, the risk is that the inflation target will not be met. Two targets are just too much. Missing one or both may then hurt credibility and trigger ominous outflows.

This is not to say that capital and reserve flows do not continue to pose difficult dilemmas for policy, especially since the most appropriate policy response requires an accurate diagnosis of the reason for the inflows. However, our general prescription offered in Section 4.2 squares well with the empirical evidence discussed in Section 4.3

Generally, the greatest macroeconomic dangers arise when countries peg the exchange rate, fail to tighten fiscal policy and endeavour to stave off the consequences of inflows by sterilization. By failing to address the causes of inflows, this magnifies the size of the eventual inflow, risks a significant loss of competitiveness and increases exposure to a subsequent outflow.

A measure of exchange rate flexibility and/or a commitment not to sterilize have the virtue of preserving a mechanism of adjustment. This safety valve is thus available through diverse regimes. A currency board, although deriving no advantages of exchange rate flexibility, is a firm commitment not to sterilize. Conversely, a version of ERM-II that allows other countries to have relatively wide bands may also mitigate the risks. However, narrow bands without any commitment not to sterilize may be a recipe for trouble.

To the extent that accession countries are also striving to meet the fiscal criteria required for accession to the euro area, this period of monetary vulnerability may coincide with a period of helpful fiscal adjustment that eases the consequences for competitiveness. The robustness of this link is evident in the data we examined, and should therefore be an important element in any policy advice or conditionality.

These conclusions about macroeconomic design are complementary to two other issues, both also of first-order importance. One is consolidation of a sound banking system and financial markets, operating smoothly within a regime of prudential regulation. The other is an assessment of medium-term supply side evolution and hence a reliable yardstick for the path of equilibrium real exchange rates as a compass bearing for steering the economy and interpreting its progress. It is to these topics that we now turn.

4.6 The supply side

The judgement that real exchange rate appreciation is an unwanted consequence of rapid capital inflows should not be automatic. Capital inflows partly correspond to short-term oriented convergence play but also to longer-term investment. Accession

to the single market represents a positive supply shock and the promise of a rising standard of living when comparative advantage is better exploited and various inefficiencies are removed. Even if the exchange rate may anticipate these effects and rise before the productivity gains have been reaped, it is important to separate this equilibrium change from the disequilibrium appreciation provoked by short-term capital flows motivated by financial considerations. This section presents estimates of the possible size of the real appreciation to be expected, which should be kept in mind when observing the actual appreciation. It also examines the impact of capital flows – more precisely FDI – on productivity growth.

4.6.1 Theory

The proper theoretical background to analyse the real exchange rate appreciation inherent to the catch-up process is the Balassa-Samuelson effect. Trade integration implies that most of the productivity gains will appear in the traded good sector. This is not entirely correct, of course, as non-traded goods and services enter as intermediate inputs in the production of traded goods and are therefore facing indirect competition⁹. In addition, to the extent that services – the bulk of non-traded goods – are a superior good, rising standards of living will be accompanied by increasing demand. Some economies of scale and of scope will inevitably set in, even if their magnitude should not be overestimated. Yet there is little doubt that productivity should rise faster in the traded than in the non-traded good sector.

Rising productivity usually translates into rising wages. Faster productivity advances in the traded good sector means that wages in this sector will tend to outpace those in the non-traded good sector. The central assumption of the Balassa-Samuelson theory is that wage increases tend to be equalized across sectors. Two main reasons are advanced to justify this assumption. First, in the labour market, supply would be expected to shift towards the better-paid jobs and thus to exert pressure towards wage equalization, even though inter-sectoral labour mobility is limited (skills, geographical location). Second, fairness considerations, backed by trade union pressure, act to limit important differences.

The non-traded good sector, facing lower productivity advances than the traded good sector, however, cannot accommodate similar wage increases. The solution is to raise prices faster in the non-traded good sector. Thus the supply side's reaction to faster productivity increases in the traded good sector is to generate higher price inflation in the non-traded good sector. What about the demand side? Rising productivity induces rising income and wealth, and hence rising consumption. If the demand for both traded and non-traded goods grows at the same rate, demand is neutral and the supply side effect dominates. Only if demand growth were to be biased towards the traded goods could the supply side effect be offset, partly or even completely undone. If, as is usually considered, demand is biased towards services

⁹ The Balassa-Samuelson has been initially developed to take into account technological progress that is biased towards the traded good sector. Here we focus on a different interpretation more relevant to the transition countries, that growth is largely driven by the catch-up process.

(the bulk of non-traded goods), the demand side effect reinforces the supply side effect.

The last step in the reasoning concerns the exchange rate. The ratio of non-traded to traded goods prices is often taken as a measure of the real exchange rate. In that case, we immediately reach the conclusion that faster productivity advances in the traded good sector lead to real appreciation.

If we consider a wider definition of the real exchange rate, using for instance the consumer price index, one more step is needed. This step starts with the observation that, for a small economy, traded good price inflation is driven by world prices and the nominal exchange rate. Reasoning, to start with, under the assumption that the nominal exchange rate is constant, we conclude that traded good price inflation is the same at home and abroad.

Non-traded good price inflation is the same as traded good price inflation plus a measure of asymmetric productivity advances, hence it is higher in the countries where productivity rises faster. Catching-up countries (here the transition countries) are therefore expected to undergo faster non-traded good price inflation. This conclusion applies to the consumer price index, the average of traded and non-traded goods prices. The result is a real appreciation.

If the exchange rate is not constant, the result still holds as domestic traded goods prices rise at the same speed as the foreign traded good prices plus the rate of depreciation. When computing the real exchange rate, this effect is automatically taken into account¹⁰.

4.6.2 A first look at the evidence

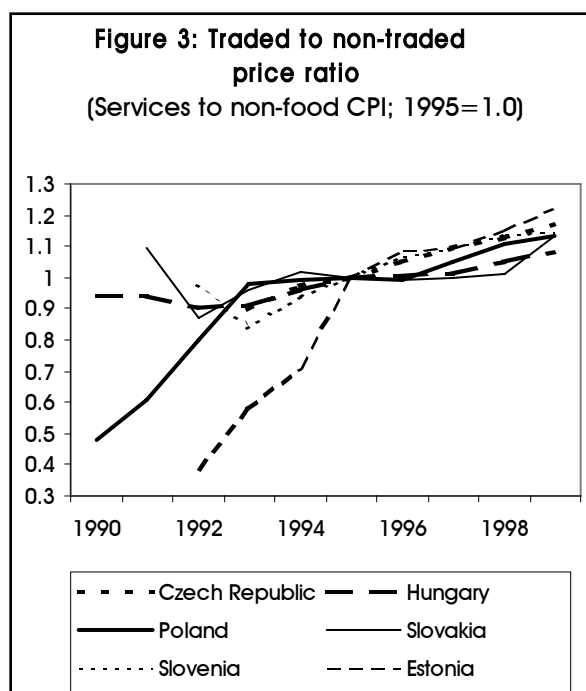
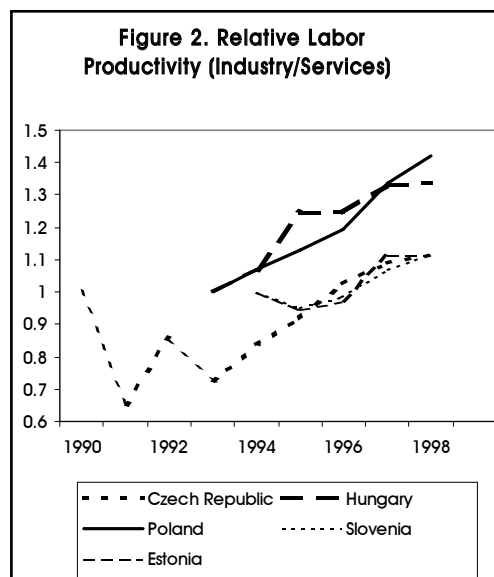
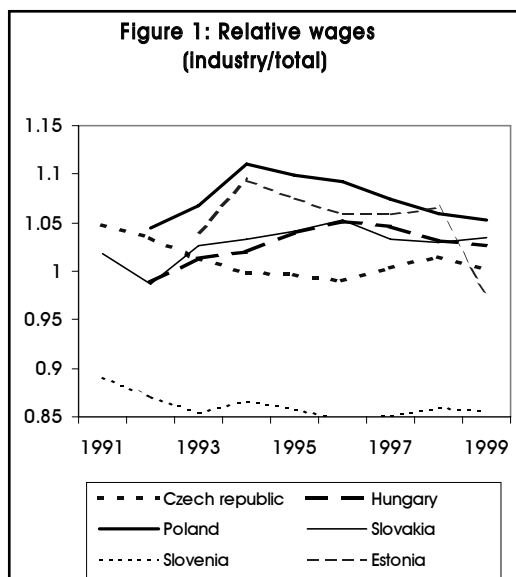
We first track down the various steps of the previous reasoning.

First, we look at the assumption that wages tend to be equalized across sectors or, at least, that their proportion remains constant. Figure 1 shows, for the six candidate countries, that relative wages (gross wages, industry relative to aggregate) have tended to move away from equality during the initial transition years, but have since converged. Slovenia is the exception, but the ratio is about constant, which is all that is required. Thus the key assumption of the Balassa-Samuelson mechanism is not seriously disproved by the experience in the transition countries.

¹⁰ Let π^T and π^N be traded good price inflation at home, π^{T^*} and π^{N^*} abroad, and ε the rate of nominal exchange rate depreciation. We have $\pi^T = \varepsilon + \pi^{T^*}$. Then the evolution of the real exchange rate is:

$\varepsilon + (\alpha \pi^T + (1 - \alpha) \pi^N) - (\alpha \pi^{T^*} + (1 - \alpha) \pi^{N^*})$, where α is the share of traded goods in consumption, assumed to be same at home and abroad for simplicity. We find that the real exchange rate changes as:

$-(1 - \alpha) [(\pi^N - \pi^T) - (\pi^{N^*} - \pi^{T^*})]$. It appreciates when $\pi^N - \pi^T > \pi^{N^*} - \pi^{T^*}$.



Second, we check whether indeed productivity has been rising faster in the traded than in the non-traded good sector. There is no direct measure of these sectors, but it is customary to consider that much of the industrial sector produces traded goods whereas most services are non-traded. Figure 2 shows the ratio of labour productivities in the industry and services sector in five of the six candidate countries¹¹. After a fairly haphazard behaviour in the early transition years, productivity is definitely growing faster in industry than in the services sector. The average annual difference from the trough to the last observation ranges from 6% in Estonia and Slovenia to 11% in the Czech Republic. These are large numbers.

¹¹ The available dataset reports only annual changes. We compute an index of productivity set to be equal to 1 in the year before the first reported observation and then cumulate from year to year. The starting year differs from country to country. These series are not comparable across countries.

Lastly, we look at the evolution of the price of services relative to the producer price index, as an approximation of the ratio of non-traded to traded goods prices. Figure 3 unambiguously supports the prediction of the Balassa-Samuelson effect.

4.6.3 Formal evidence

The data confirm each step that makes up the Balassa-Samuelson effect. Although the accumulated evidence is impressive, it is only circumstantial evidence in favour of the effect, not a proof. Each of the observed patterns can be due to other factors. In particular, demand factors may interfere with the Balassa-Samuelson effect. This could come as a structural effect associated either with the luxury good nature of services, or with a drop in demand for domestic production relative to previously unavailable traded goods. It could also be an adjustment effect if large manufacturing firms can better deal with the drop in incomes and spending that comes with the transition shock through price moderation, possibly because of public subsidies.

In order to estimate the Balassa-Samuelson effect, we use the methodology developed by De Gregorio *et al.* (1994), which allows for demand factors as suggested by Bergstrand (1991). The estimation results are shown in Table A1 in the Appendix. The key result is that we find that the relative price of non-traded to traded goods increases with productivity in the traded good sector and decreases with productivity in the non-traded good sector.

These results support the presence of a Balassa-Samuelson effect in the sample transition countries. The effect is sizeable: a 10% increase in the traded (non-traded) sector raises the relative price by 3% (3.8%) in the short run and by twice as much in the long run.

4.6.4 Implications

The likely continuing presence of a Balassa-Samuelson effect is a seriously complicating factor in the path of integration of the transition countries into the ERM-II (or possibly other acceptable forms of pegging) and then the euro area. In this respect, the forthcoming round of accessions raises a more serious challenge than previous ones.

Table 7: Per capita GDP (PPS, % of average EU-15)

	BG	CZ	EE	HU	LV	LT	PL	RO	SK	SLO
1993	32.7	60.0	33.0	45.8	25.1	35.5	23.3	26.1	43.2	59.8
2001	28.0	57.2	42.2	51.0	33.3	37.6	39.7	25.2	47.6	68.8
			GR	P	E					
Accession year			62.4	60.8	73.7					

Source: Eurostat

First, the prospect for catch-up is much larger than at any time before. Table 7 displays a measure of the economic distance between the new entrants and the EU, their GDP *per capita*, adjusted for PPP, as a proportion of the EU average. The table shows a marked difference between this wave and the accession of Greece, Portugal and Spain. The scope for catch-up of the largest transition country, Poland, is about 1.5 times that of Greece or Portugal. The data refer to the previous entrants' date of entry and to the latest (2001) figures for the transition countries. By 2004, they will have moved further, of course. Yet another message from the table is that the 30% average real appreciation (as measured by the ratio of non-traded to traded goods prices) observed between 1995 and 1999 corresponds to a minute closing of the gap. Even if growth is fast until 2004, by then the scope for catch-up and real appreciation will remain considerably larger than that experienced in previous accessions.

Second, previous accessions allowed for a larger menu of options. ERM membership was not required, and EMU was not in existence. Even if the transition countries elect to move slowly (an option discussed below), the fact that eventually they must first join the ERM – or at least peg their exchange rates – and then the euro area is an important constraint that affects the behaviour of both forward-looking financial markets and authorities.

Lastly, at the time of previous accessions, capital controls were not actively disallowed. Greece, Portugal and Spain all made extensive use of this possibility. Whether it helped stabilize exchange markets remains a controversial issue, however. Pulling together these points, a number of policy implications emerge.

Sizeable real appreciation will characterize the transition countries for a long time, possibly extending until after they have joined the euro area. This means either a trend appreciation of their nominal exchange rates, or inflation in excess of the euro-area average. This may seem like the situation within the euro area, where some member countries have experienced higher, sometimes considerably higher, inflation than the average. The difference is that it is generally expected that these 'outliers' will eventually see their position converge to the average, except maybe for some more moderate Balassa-Samuelson effect.

During the two-year ERM-II membership period required prior to entry into the euro area, there will be a trade-off between exchange rate stability and the inflation target. For the transition countries, the effect should be long-lasting. The simulations presented in the Appendix suggest a real appreciation of some 2% a year¹². Unless some nominal appreciation is allowed, they could well miss the inflation convergence criterion.

During the pre-ERM period, this real appreciation tendency could be reinforced by capital inflows. In fact, the inflows will affect the real exchange rate both via the

¹²Corker *et al.* (2000) suggest that Balassa-Samuelson effects in ACs could exceed the estimated effects in earlier EU ACs, which they put at 1-2%. Simon and Kovacs (1998) estimate a Balassa-Samuelson effect above 2% for Hungary.

nominal rate and via the Balassa-Samuelson effect, as foreign investment has been found to significantly raise productivity growth. Estimates of the relationship between productivity and FDI, shown in the Appendix, indicate that it significantly raises productivity in both sectors, but less in the services than in the industrial sector, although this bias is reversed in the long run. Thus, in contrast to steady FDI flows that quickly swell are biased towards traded good sector productivity and exacerbate the Balassa-Samuelson effect.

Should the accession countries be encouraged to take it as nominal trend appreciation or as higher inflation? As discussed earlier, sterilized intervention is an effort to avoid that choice. The powerful trend likely to set in, as described above, should be taken as a warning that such an approach is doomed.

Furthermore, the experience with capital flows is that they come and go, the outflows being triggered by shocks. It would be extremely dangerous to plan policy on the premise that proper macroeconomic policies coupled with state-of-the-art financial market supervision will avoid shocks, or make them lenient. Such premises lie at the root of every serious crisis¹³.

The implication is that the choice should not be ducked, but that an adequate strategy needs to be spelt out. The strategy must incorporate the possibility that large inflows could be followed by outflows. Absorbing such movements with the exchange rate means little or no foreign exchange market intervention, a trend nominal appreciation occasionally marked by rapid, temporary depreciation. Nominal exchange rate stability, however, implies continuous unsterilized interventions, typically accumulating reserves and allowing the money supply, and therefore prices, to grow faster than in the EU, with occasional sharp movements in the opposite direction.

Price stickiness implies that, in the latter case, inflation will take time to adjust, and will not do so without serious real effects such as recessions and rising unemployment, a phenomenon observed in the Czech Republic in the late 1990s. This is a painful process, with no guarantee of success unless the peg is hard enough, a question we discuss further below. In the earlier case, exchange rate flexibility may lead to serious disturbances associated with currency mismatch, either in the financial sector or in the non-financial sector. While adequate financial market regulation and supervision may go a long way towards containing currency mismatch, the non-financial sector is harder to regulate and supervise.

The conclusion follows directly. The fixed exchange rate route is likely to be the most painful and will be dangerous in the absence of peg hard enough, which is likely to mean outright one-sided euroization. The flexible exchange rate solution runs the risk of distress in the financial and corporate sectors, but is otherwise safer

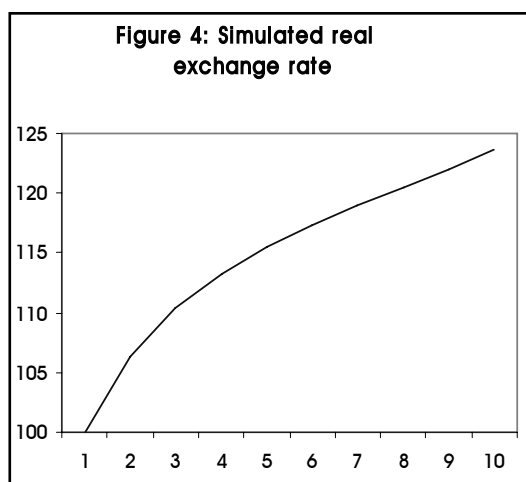
¹³ The ERM crisis of 1992–3 was doomed impossible as the road to EMU was clearly marked by the Maastricht Treaty. The German unification shock, met by the wrong policy response, showed otherwise, see Eichengreen and Wyplosz (1993) and Eichengreen (2001).

and potentially less traumatic in case of sudden capital flow reversals.

The problem with the flexible exchange rate solution is the end-game aspect. Since the future of all transition country currencies is to melt in to the euro, and since there is an ERM-II membership obligation along the way, this solution is only temporary. Turnpike-type reasoning, if it applies, may be enough to reverse the conclusion.

The last question to be considered is whether the ERM-II, with its wide margin of fluctuation, can be seen as a satisfactory approximation to the flexible exchange rate regime. This question can be divided into two parts: Is the ERM-II sufficiently wide to allow for the Balassa-Samuelson trend? Is the ERM-II sufficiently wide to deal with sudden reversals?

The first question can be answered by using our estimates of the Balassa-Samuelson effect. Since 1995, in the six ACs, labour productivity in the industrial sector has risen by an annual average of 7.6%, and by 2.0% in the services sector. Figure 4 shows the simulated effect of the real exchange rate assuming a continuation of this pattern over ten years¹⁴. By the end of the period, the real appreciation is 24%, close to the maximum allowed by the ERM-II band. Such an evolution would be compatible with the ERM only if the currency started near the bottom of the band. Otherwise an exchange rate appreciation would be needed, always a dangerous exercise in the presence of full capital mobility¹⁵.



¹⁴ We simulate the ratio of non-traded to traded good prices, set the price of traded goods equal to unity (with no loss of generality) and assume that non-traded goods represent 40% of the consumer basket.

¹⁵ For a shorter period within the ERM-II, the same conclusions hold with the appropriate qualification: For a four-year membership in the ERM-II, the simulated real appreciation is close to 15%, which would cause trouble for a country whose initial exchange rate is in the middle of the band.

The second question cannot be answered in theory. Past experience in Latin America, South-east Asia and, ominously, Turkey very recently shows that huge movements of the nominal exchange rate cannot be ruled out.

Thus we conclude that the ERM-II is not doomed *ex ante*, but it is a dangerous strategy if it extends over a significant period.

5. Gradual Transition to EMU: How Desirable?

After they have entered the EU, the ACs must at some point join the ERM-II. The choice of the exact entry date depends on how fast they want to join the euro area. A strategy of rapid EMU membership requires joining the ERM-II early on, to start the required two-year period of ERM-II membership in which no devaluation of the central rate is allowed on the candidate country's initiative. In contrast, should an AC decide to join the euro area at a later date, it could also decide not to participate in the ERM-II at the outset. This section considers the pros and the cons of a gradual approach, i.e. a delayed participation in the ERM-II and a late euro-area membership.

One point must be clarified at the outset. The timing issue must take into account the fact that not all accession countries will enter the EU at the same time. This section, therefore, takes as the base year the accession year, independently of when it will be for each country. Implicitly, it is assumed that the entry criteria and requirements will level the playing field in the sense that ACs will have reached similar stages in their reform process at the time of accession, irrespective of when that will be.

5.1. Why delay ERM membership?

Like any fixed exchange rate system, the ERM-II is potentially unstable in the presence of full capital mobility. This section reviews a number of features that characterize the transition process and have been recognized as sources of vulnerability of fixed exchange rate regimes.

5.1.1. Macroeconomic policy

Combinations of large budget deficits, fast money growth and persistent current account deficits are known causes of exchange rate crises. Table 8 displays the situation at end-2001 in the ACs. Nowhere is the situation signalling acute danger, but it is fair to observe that nearly a decade into the transition process, macroeconomic stability remains an ambitious goal. In several countries, government budget deficits have come down considerably in recent years. Estonia has reached a budget surplus, and the deficits in Bulgaria, Latvia, Lithuania and Slovenia are below 2% of GDP. However, in many countries, current accounts were in sizeable deficit at end-2001. There is nothing wrong with such current account deficits if they finance public and private productive investment in undercapitalized economies, which is generally the case. However, as noted by Krkoska (2000), some of these countries exhibited a growing gap between the current account deficit and FDI inflows in the late 1990s, which points to risks of economic turbulence.

Furthermore, in panic reaction, markets typically fail to appreciate the importance of inter-temporal trade and may not pause to establish the fine distinction between productive and consumption spending. The 1992–3 ERM crisis, for example, has shown that crisis can hit even when economic indicators do not flag serious macroeconomic imbalances. That the markets focus on one or two of them may be enough to create a serious source of vulnerability. Even more worrying, if one country undergoes idiosyncratic shocks, contagion easily spreads to other countries that share similar characteristics. The macroeconomic indicators shown in Table 8 are on the watch list.

Table 8: Macroeconomic vulnerabilities (end-2001)

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia
Budget balance (% GDP)	-0.9	-5.7	-0.4	-3.3	-1.8
Public debts (% GDP)	71.5	19.5	5.7	53.2	13.8
Money growth	24.8	6.0	21.2	15.8	29.0
Inflation (annual average)	7.4	4.7	5.8	8.8	2.4
Current account balance (% GDP)	-6.7	-4.7	-6.5	-2.3	-10.0
	Lithuania	Poland	Slovakia	Slovenia	Romania
Budget balance (% GDP)	-1.7	-6.0	-3.9	-1.2	-3.5
Public debts (% GDP)	29.1	44.5	34.2	23.3	29.8
Money growth (%)	21.4	8.7	7.8	30.4	46.2
Inflation (annual average)	1.3	5.5	7.3	8.4	34.5
Current account balance (% GDP)	-5.8	-3.9	-8.9	-0.4	-6.1

Source: EBRD, *Transition Report*, 2002

The question is how much time would it take to move most of these indicators into the safe zone. The answer depends critically on the authorities' willingness to commit fully to the convergence process. It could be done fairly quickly, or it could be spread over several years, as has mostly been the case so far. Thus the choice of delaying ERM membership can be partly motivated by the non-trivial economic and political costs of an acceleration of macroeconomic policy 'normalization'.

A tempting strategy is to use the nominal exchange rate as an anchor, harnessing both fiscal and monetary policy to the exchange rate target. This has been the policy consistently followed by Estonia, with mixed results. Inflation was low by end-1999, but as predicted by the money growth figure, it has sharply accelerated since, reminding us that money and inflation become endogenous in a currency board. The budget and the current accounts were in sizeable deficit in most recent years. Softer pegs have often been accompanied by serious difficulties, if not all-out crises. Speeding up convergence with an exchange rate anchor is a very risky strategy, as any serious slippage would backfire and ultimately delay euro-area membership.

5.1.2. Financial market structure

Poor financial institutions are clearly recognized as a threat to fixed exchange rate regimes in emerging market economies. As noted above in Section 3.3, the ACs have made significant progress, especially in the banking sector. Yet with the possible exception of Hungary and, less so Estonia, they have not entered the safe zone¹⁶.

5.1.3. External competitiveness

ERM-II membership goes a long way towards removing a country's ability to use its exchange rate to re-establish external competitiveness. The currently sizeable current account deficits might be seen as suggesting that this is a real danger. The situation is probably not that serious.

To start with, these deficits are the mirror image of the favourable capital inflows that strongly support productive investment and growth in the ACs. They would become unsustainable in case of a last reversal but, as we argue below, price competitiveness is unlikely to be a serious issue.

Indeed, the estimates of the Balassa-Samuelson effect presented in section 4.6 suggest that, provided investment continues to feed fast productivity gains in the traded good sector, the equilibrium real exchange rate should be appreciating quickly. The combination of this trend and of the wide margins permitted under the ERM-II is likely to provide sufficient room for manoeuvre.

5.1.4. Conclusion

The case for delayed ERM membership rests mostly on the completion of macroeconomic stabilization. An important aspect is the presence of capital inflows, which are likely to grow with accession. These inflows complicate matters by leading to fast money growth and, through easy credit, to budget deficits. As argued in Section 4, the best response is exchange rate flexibility, hence there is a case for delaying ERM membership. However, joining the euro area would then be delayed, which may be undesirable (see next section). In that case, the time of membership in the ERM-II should be seen as a delicate period. Strengthening the system (currency boards, euroization) could be an appealing option to break the logjam.

5.2. Why delay EMU membership?

From the point of view of the ACs, the case for delaying euro-area membership rests on two main issues. The first is the loss of a lender of last resort. As long as the financial institutions are not fully ready, a banking or financial crisis would immediately translate into fiscal costs; past experience shows that these costs can be staggering. The second reason for delaying euro-area membership rests on the rigour

¹⁶In both countries, financial institutions are largely foreign-owned. This is an important feature as it suggests that lending in last resort is likely to be carried out, largely if not fully, by the foreign owners.

of the Stability and Growth Pact. ACs may wish to borrow for several more years to finance public infrastructures, their health and education systems, etc. The transition shock itself may result in serious social costs. Financing such costs is properly seen as an investment required to achieve political approval of the reforms and structural changes called for by EU membership.

From the point of view of the current members of the euro area, asking the ACs to delay euro-area membership seems to flow from the same logic that was behind the long transition period from the signing of the Maastricht Treaty in 1991 to the launch of the euro in 1999. That transition was designed to achieve a high degree of convergence, with the main aim of avoiding the free-riding behaviour of fiscally irresponsible governments inside the monetary union. Furthermore, the long transition was deemed necessary to avoid real disturbances that might result if countries with different inflation trends adopted irrevocably fixed exchange rates.

Several concerns that were articulated at the time still apply to some degree. Countries with a high inflation rate may not deflate very fast upon entry and may exercise upward pressure on the HICP index. Large budget deficits, especially in the presence of large public debts, create a lobby for monetary relaxation. Weak banking institutions, once they are linked to the euro-area e-payment system, become a source of systemic risk. Seen from inside, delaying euro-area membership of the ACs until these problems are solved is a free insurance, since there is little economic cost in keeping them out.

However, the situation today is fundamentally different in at least one important respect. The original launch of EMU brought together several countries of comparable size into one currency union. In that situation, countries enjoying a relatively stable macroeconomic equilibrium reasonably feared they would incur significant costs in joining a monetary union with countries exhibiting higher inflation rates. Given the size of the ACs relative to the euro economy, such fears seem much less warranted. That is, price stability and macroeconomic stability more generally would hardly be in serious risk if an AC joined the euro area with a significantly higher rate of inflation. From the point of view of the incumbent members, the main risk is the participation of potentially unstable financial institutions in the euro area's payment system and financial markets.

For the ACs there are costs, however, and they far outweigh the benefits. As already mentioned, the transition period is dangerous. Once inside the monetary union many of the crucial questions – chiefly the choice of an exchange rate regime – vanish. For these countries, rapid euro-area membership is a reasonable cheap insurance.

Working backwards, therefore, the ACs are likely to aim at early euro-area membership. This, in turn, means early ERM-II membership, and the bite-the-bullet strategy dominates. For the current euro-area members, neither the asymmetric ERM-II nor even a high degree of exchange rate flexibility pose any serious difficulty. How to make minds meet? This is the question to which we now turn.

5.3 Options during the transition period

Upon entering the EU, the ACs will, in principle, have five options:

1. Old style: enter the ERM-II at the time of accession and work towards satisfying the convergence criteria to join the euro area as soon as possible.
2. Prudent: wait until the time is ripe to enter the ERM-II, meanwhile adopt a British-style float¹⁷. At some point a precedent could be created that would allow euro-area membership without previous formal ERM membership.
3. Hard line: keep the existing peg (currency board or narrow margin like Hungary, or even no margins like Latvia) and aim at joining the euro area within two years, possibly faster in case a precedent is set.
4. Single-sided, fast: adopt the euro upon entry by unilateral euroization. Then apply for membership in the euro area and go through the required two-year period.
5. Single-sided, slow: adopt a British-style float until ready for unilateral euroization, apply for euro-area membership after that.

Options 1 and 3 suffer from the risk of financial market turmoil, as they are based on the combination of full capital mobility and more-or-less rigid versions of fixed exchange rates. In Section 6 we discuss what can be done to make these options safer. Nevertheless, crises will be hard to rule out under these options. When they hit, the process of joining the euro area will be derailed and the chance of adopting the common currency may be lost for a considerable time for the countries concerned. Financial market crises would come with large macroeconomic costs and losses of reputation that would be hard to repair.

Option 2 avoids these dangers by maintaining exchange rate flexibility. But under current readings of the Treaty, it may never lead a country to membership of the euro area.

Options 4 and 5 also avoid the risks of financial market turmoil, but they do so by adopting the euro immediately as legal tender. These options recognize that unilateral euroization does not entail any commitment on the part of the euro area's member countries or of the euro system. Countries that euroize unilaterally cannot expect to participate in the euro area's payment system or to have access to direct credit from the ECB. They would have to submit an application for euro-area membership and go through an assessment procedure judging their nominal convergence on the basis of the same criteria as other countries (an issue discussed later in this section).

¹⁷Free float is precluded by Article 109m of the TEU, which stipulates that 'each Member State shall treat its exchange rate policy as a matter of common interest'. Presumably Sweden and the UK have been found to meet this obligation. This is what is referred to for conciseness as 'British-style float'.

As a summary of much of the previous discussion, Table 9 displays, for each option, the balance of risks to the accessing and the current euro-area member countries. The ACs mainly face the risk of exchange rate turmoil, possibly culminating in a full-blown crisis that would result, among other things, in a long postponement of euro-area membership. The member countries mostly face a financial stability risk if they allow into the euro area countries that have not yet fully converged. The assessment of options 4 and 5 assumes that the AC had previously adopted a hard peg, otherwise the costs are larger.

Table 9: Risks of the five options

	Accessing countries	Member countries
1	High	Moderate
2	Moderate	Nil
3	High	Moderate
4	Moderate	Nil
5	Low	Nil

Table 9 reveals first that the stakes are always much higher for the ACs than for the member countries. It also appears that options 2, 4 and 5 Pareto-dominate options 1 and 3, and that 5 dominates 2 and 4.

Official statements from the authorities suggest that any option of unilateral euroization would be considered as working against the logic and spirit of the European Treaty (Commission, 2000a; Noyer, 2001; ECOFIN, 2001; European Council, 2000). This would leave option 2 as the next best, which is as good from the current members' viewpoint as the other two. If this is the option that they prefer, the current members need to make it more attractive to the ACs. From their perspective, option 2 carries two serious risks. First, the ACs still have to go through the ERM-II for two years (or another acceptable peg arrangement), which creates a period of danger. Second, their fate may be linked to that of other countries which may decide to challenge the ERM requirement, a source of additional uncertainty for countries still going through the transition process. We turn to these questions in Section 6.

Before doing that, however, we wish to discuss options 4 and 5 in more detail. Although these options have, as pointed out above, been discarded by the EU authorities, and although the ACs have, by closing the EMU chapter in the accession negotiations, implicitly acknowledged the official position, we think that the options including unilateral euroization have sufficiently strong merits on economic grounds to be reconsidered. Despite the fact that the Council and ECOFIN decisions carry substantial political weight, they are not part of the legal basis of the accession process, and they can, in principle, be changed in the light of strong arguments in favour of unilateral euroization.

The objections of the EU authorities to unilateral euroization seem to be based mainly on non-economic reasons, i.e. the idea that such a move would go against the principle of equal treatment, which seems to require that new EU members must enter the Third Stage of EMU in the same way as the incumbent ones. It is unclear to us how compelling this principle is. Given the particular experience of the transition countries, it could be claimed that rules designed for other circumstances need not apply. After all, this is likely to be case, for example, for the structural funds. As pointed out above, the design of the convergence criteria was motivated by the particular constellation of candidate countries for monetary union in the 1990s; the same considerations do not apply in the case of the ACs. The European Commission (2000c, p. 52–53) agrees with this view at least as far as the inflation criterion is concerned.

The reasoning for ruling out unilateral euroization presented by the ECB seems equally unconvincing. Padoa-Schioppa (2000) argues that the ECB favours the ERM-II as an intermediate peg precisely because it is difficult to handle, supposedly because the difficulties can be overcome with sufficient discipline. This view disregards the experiences of the 1990s with expectations-driven speculative attacks and contagion of foreign exchange crises, and it does not mention the fact that all the difficulties and risks are imposed on the ACs – a tacit confirmation of our assessment in Table 9.

More serious is the objection, looming behind some of the official statements, that unilateral euroization makes a subsequent assessment of nominal convergence and, hence, qualification for membership in the monetary union impossible. But this objection is not well founded. First, the fiscal convergence criteria pose no particular problem as the budget balance and the public debt can be observed in the usual way. Obviously, the exchange rate criterion becomes moot once a country has euroized. As the country has given up its national currency, an exchange rate with the euro no longer exists. By implication, the country automatically fulfils the requirement of no self-initiated devaluation against the euro. Automatic fulfilment of these conditions is certainly not the same as an impossibility to check compliance with them.

A proper understanding of the macroeconomic issues implies that the same is true for the inflation criterion. Once a country has adopted the euro as legal tender, its inflation rate – properly understood as the rate at which its money loses value, not as the measured growth rate of its price level – is by definition the same as that of the euro area. It may still exhibit higher rates of change in the price level owing to the Balassa-Samuelson effect, but this is the result of relative price changes unrelated to monetary policy. Thus, after unilateral euroization, a country will comply with the inflation criterion unless the euro area's inflation rate is more 1.5% higher than the three best inflation rates in the EU. Recognizing this possibility, the European Commission (2000) points out that a careful assessment would have to be made under such circumstances, and that no good economic reason would keep a country with the same inflation rate as the euro area from joining the monetary union only because non-member states happen to have very low inflation rates.

The final criterion remains valid and very important. This is the requirement of converging long-term interest rates. To understand this criterion, remember that even after unilateral euroization, a country retains the option of reintroducing a national currency with a new exchange rate. This risk will be understood and priced by markets. If euroization turns out not to be sustainable for a country – because of inconsistent macroeconomic policies or an unwillingness to accept the consequences of euroization – risk premia in long-term interest rates will rise and indicate the lack of readiness for monetary union. In sum, the convergence criteria can still be applied, and there is no need to worry that euroization would be a cheap way of sneaking into the euro area.

An objection might be that this is too formal a view of the issue, because a country would become a de-facto member of the euro area after unilateral euroization. But clearly this is not the case. Euroization would not give the country membership in the euro system or in the Euro Group of national finance ministers. The ECB would have the right to deny the country participation in its payment system, TARGET, and in monetary policy operations. Euro-area membership would certainly remain an important goal for countries even after unilateral euroization. Our point here is that the logic of capital flows and currency crises speaks strongly in favour of allowing countries to opt for this strategy to get there.

For our subsequent discussion, it is important to point out that unilateral euroization cannot be done fast and easily. Adopting another country's currency as legal tender requires changing a host of legislation as well as physical adjustments, such as changes in vending machines and automatic bank tellers. There are, thus, significant conversion costs involved and going through the process will take time. Furthermore, adopting a foreign currency as legal tender may be politically easy in times of runaway inflation, but it is sure to meet political opposition bemoaning the loss of a national symbol in times of low or moderate inflation. So unilateral euroization will be a time-consuming political process in which governments will need to convince their electorates that eliminating the risk of foreign exchange market turmoil is worth it. The implication is that unilateral euroization is hardly a response to foreign exchange market crisis. If it is considered a serious option, it should be considered in normal times.

6. Key Elements of Sustainable Regimes of Capital Movements

The preceding sections have identified the main assumptions and constraints for the development of sustainable regimes of capital movements for the accession countries and discussed the main risks arising from the accession process. Briefly, ACs will enter the EU with fully liberalized international capital flows. There will be a group entering with very rigid exchange rate regimes – currency board arrangements or extremely tight pegs – and another group entering with fairly flexible managed floats. Even if further improvements in financial sector development are significant, most ACs will enter with weak banking sectors and underdeveloped non-bank financial markets. As the convergence play sets in, ACs will enjoy large capital inflows. By implication, they will become increasingly exposed to the risk of large and disruptive capital outflows.

What can the ACs and the EU and its institutions do to limit the risk of currency banking crises for the ACs in these circumstances? In this section, we develop answers to this question. Some of these are microeconomic, some are macroeconomic, and some relate to the design of the accession and the convergence procedure leading the ACs into the monetary union.

6.1 Microeconomic elements

Recent empirical research on financial crises suggests that there is a significant link between currency crises and banking crises. For example, Kaminsky (1999) shows that many of the currency crises in the past 30 years were preceded by banking crises or came together with banking crises. Thus the occurrence of a banking crisis is a good predictor of a subsequent currency crisis. There are also many cases in which currency crises were followed by banking crises within a few years, which then triggered new currency crises. Kaminsky points out that currency and banking crises share a number of leading indicators, in particular sharp losses in international competitiveness and hikes in world interest rates. Hardy and Pazarbasioglu (1999) find that banking crises tend to be preceded by significant real appreciations followed by sharp depreciations and often by large expansion of domestic lending fuelled by capital inflows from abroad.

Conceptually, the links between banking crises and currency crises arise from a variety of sources. One scenario assumes that the central bank pegs the exchange rate and that domestic banks hold a sizeable part of their liabilities in foreign currency. Following a rise in foreign interest rates, the central bank loses reserves, which leads to a credit crunch and a wave of bankruptcies domestically, thus weakening the banking sector. If a devaluation occurs in this scenario, the banks are

weakened further, as the domestic-currency value of their liabilities increases. Defending the peg by raising interest rates equally weakens the banking system, as domestic refinancing becomes more difficult. As international investors see the central bank's dilemma, they may anticipate that a devaluation is imminent and withdraw their funds, resulting in further pressure on the central bank.

These considerations imply that the soundness of the banking sector is an important element of a sustainable regime for capital movements. Since full capital mobility is a given in our context, strengthening the banking sector is an all-important part of preparing a sustainable regime.

One point here is banking regulation. ACs should develop effective systems of supervision and the necessary administrative capacity to enforce the rules. Banking regulation in ACs must pay particular attention to two critical issues. The first is to prevent overlending and credit booms during periods of large capital inflows. Strict rules limiting the exposure to individual borrowers is one important element here. Furthermore, international experience suggests that lending booms are often connected to bubbles in real estate prices. Buildings and properties are easily accepted as credit collateral in times of rising real estate prices, but these credits turn out to be weak when the bubble eventually bursts. Imposing limits on the use of real estate as collateral would provide additional insurance for the banking sector against adverse developments. The other issue is to ensure that banks operate at arms length from public authorities and are not pressured into financing ailing industries or public enterprises which are kept afloat for political reasons. Completing the privatization of the banking sector prior to accession and cleaning up bad-loan problems would be an important part of this point.

Improved banking regulation and supervision must not stop at monitoring individual financial institutions. An important part of the link between banking problems and currency crises is the aggregate exposure of the banking system to currency risk, i.e. large currency mismatch in the aggregate balance sheet of the banking sector. Following the argument of Hellwig (1998), systemic risk such as overexposure to international interest-rate shock or sudden capital outflows may not be visible in individual bank balance sheets, even when they are quite obvious in the aggregate balance sheet. Thus generating the information required to have a full picture of the banking sector's financial situation would be an important task of the supervisory institutions in the ACs.

Furthermore, individual banks have no reason to take into account the consequences of their portfolio management for the banking system's balance sheet. If the central bank can monitor the aggregate balance sheet, it could, in principle, set incentives for the banks to limit foreign borrowing, e.g. by special reserve requirements on short-term foreign liabilities. The rule of full capital mobility excludes such discrimination. However, regulators can still impose rules on banks to hedge foreign currency liabilities and thus reduce the system's exposure to currency mismatch.

Our discussion of the state of financial market development in the ACs has shown

the low level of development of banking and non-banking markets in these countries. This implies a scarcity of management capacity and expertise in banking and risk management which contributes to the fragility of the banking sectors. One way to overcome this scarcity would be to promote the internationalization of the banking industries in the ACs. Handing over fragile domestic banks to foreign financial institutions is a quick way to import the required management expertise. Foreign banks are also likely to be less exposed to political pressures to finance weak (public) industries, as the bank managers are subject to credit limits and rules set by their parent institutions.

The idea that internationalization can help protect banks against crises and thus contribute to the sustainability of a regime of capital flows is supported by empirical evidence. Levine (1999), building on work by Demirgüç-Kunt and Detragiache (1998), finds that the probability of banking crises depends negatively and significantly on the number of international banks present in a country. As pointed out by Mathieson, Schinasi *et al.* (2000), however, internationalization *per se* does not guarantee an improvement in banking-sector stability. What matters is that the international banks coming in and taking over domestic institutions are themselves sound and stable institutions.

The data reported by Mathieson, Schinasi *et al.* (2000) indicate that foreign banks have already acquired large market shares in the Czech Republic, Hungary and Poland. Other ACs are hard to evaluate in this regard because of a lack of data, but foreign banks also seem to play a role in the Baltic states. Adopting the *Acquis* should help the ACs to promote internationalization, as EU law requires the freedom for financial institutions from other EU member states to provide financial services in the domestic market. Nevertheless, the ACs would do well to promote the internationalization of their banking sectors even before accession.

6.2 Macroeconomic elements

Macroeconomic policies can contribute to the sustainability of the regimes for capital flows by focusing on nominal convergence and avoiding inconsistencies between the exchange rate regime and domestic monetary and fiscal policy that would undermine the credibility of the former. Here, we distinguish between the group of countries entering the EU with a very hard exchange rate peg and those entering with a flexible, managed float.

6.2.1 Hard peggers

As argued above, these countries will come into the EU with a currency board arrangement (Estonia, Lithuania and Bulgaria) or a peg with a zero fluctuation band (Latvia). We assume that Latvia and Lithuania will have switched to a euro-based currency board or peg, respectively. The exchange rate thus provides a firm nominal anchor for these countries.

Since the hard peg will be a unilateral commitment under the ERM-II, safeguarding

its credibility will be of outmost importance for the macroeconomic policy of these countries. As monetary policy is tied by exchange rate policy, this means mainly that a high degree of fiscal discipline must be maintained. Ghosh *et al.* (1998) and Rose and Fatas (2001) note that currency boards have demonstrated better fiscal discipline than countries with other exchange rate arrangements, suggesting that currency board arrangements themselves improve fiscal discipline. A likely explanation is that currency boards teach governments to live without recourse to central bank financing, forcing them not to take excessive fiscal risks. So far, the Baltic countries have indeed conducted rather conservative fiscal policies, keeping deficits and debts at low levels. Entering the EU with a hard peg implies that this conservative stance must be maintained, an obligation that may become politically difficult in view of the fact that transition economies have a need for building a public capital stock¹⁸.

The need for conservative fiscal policies will become even greater for these countries in the presence of large capital inflows. Our analysis in Section 4 pointed out that fiscal policy is the instrument of choice under such circumstances to prevent capital inflows from fuelling domestic price pressures and the build-up of external debt positions that would add to the fragility of the financial system and the exchange rate arrangement.

In view of this, institutional arrangements that support fiscal discipline and promote transparency of public finances are an important element of sustainable regimes for capital movements for these countries. A mounting body of research shows that the institutional design of the budget process is critical in this regard¹⁹. Where governments typically consist of coalitions of several parties, the key elements of a good budget process are a commitment to multi-annual fiscal programmes setting targets for the main budgetary aggregates and anchored in the coalition agreements, and a strong position for the finance minister in the implementation of the budget. Another important element is to abstain from using off-budget funds, including operations below the line such as capital injections or public-sector arrears, to hide government expenditures.

Even with conservative fiscal policies, the hard peggers are likely to experience rates of price increase in excess of the average rate of inflation of the euro area, a consequence of the Balassa-Samuelson effect. The importance of this effect is already demonstrated in the fact that these countries have experienced significant real appreciations over the past few years. Empirical estimates of the size of the Balassa-Samuelson effect are hard to come by, but the existing estimates suggest that they can reach 1.5–2.5% annually under plausible assumptions. This has two consequences.

¹⁸It is interesting to note in this context that Ghosh *et al.* (1998) and Gulde *et al.* (2000) find no evidence for systematically lower real growth rates in countries operating currency board arrangements relative to countries with more flexible exchange rate regimes. To the extent that currency board arrangements do in fact limit the public sector's ability to invest in public capital, this suggests that the credibility gains of the currency board have growth effects that compensate for this possible lack of investment.

¹⁹See von Hagen (1992), von Hagen and Harden (1994, 1995), Eichengreen, Hausmann, and von Hagen (1998), and Gleich and von Hagen (2000) for the ACs.

The first is that policymakers and markets must understand – and constantly be reminded – that the higher rates of price increase are properly interpreted not as inflation but rather as relative price movements, which have nothing to do with a lack of monetary discipline. Current price developments in the peripheral countries of the euro area demonstrate the point. It was after giving up national monetary policy sovereignty that countries such as Ireland, Portugal or the Netherlands started to experience price-level movements diverging from the average of the euro area. In the same vein, it should be understood that the hard peggers experience the same rate of inflation as the euro area and a relative price adjustment, provided that monetary policy remains firmly committed to the hard peg. Both the ECB and the European Commission could play important roles here by frequently reviewing price developments in these countries and confirming that price developments are not caused by monetary or fiscal indiscipline. In this regard, participation in the EU's procedures for multilateral surveillance will be helpful for the hard peggers. They might, in fact, have a strong interest in increasing the visibility of these procedures for their own countries and ask the Commission to monitor them even more closely and more frequently than others.

The second point relates to the eventual assessment of their readiness for monetary union. One of the criteria for monetary union demands that countries cannot have inflation rates of more than 1.5% above the three lowest inflation rates in the EU. In the future, this requirement ought to be held relative to the average inflation rate of the euro area. After all, why should new entrants be judged against the standard of countries that experience negative relative price trends caused by negative Balassa-Samuelson effects (low productivity growth)? Furthermore, the argument above suggests that this requirement holds automatically for the hard peggers, provided that they otherwise enjoy macroeconomic stability. A timely clarification of this issue that reduces unnecessary uncertainty about the readiness of the incumbent members of the euro area to accept the hard peggers into monetary union would be helpful to strengthen the sustainability of their regimes for capital movements.

For the hard peggers, the final move to monetary union will be relatively simple. The existing central parity becomes the conversion rate for the domestic currency into the euro. Current worries among policymakers in the EU, that the currency boards or Latvia's very rigid peg will impede a proper evaluation of these countries' readiness to enter the euro area, seem overstated. Whether or not the central parity under these arrangements is an equilibrium one, and hence sufficient nominal convergence has been achieved, can still be judged on the basis of wage developments, labour-market developments, interest-rate differentials and reserve flows at the central bank. Thus asking these countries to move to a less rigid exchange rate regime just for the sake of demonstrating that the central parity is appropriate seems unnecessary. It would, of course, also add instability and damage the sustainability of these countries' regimes for capital movements.

6.2.2. Soft peggers

The other group of ACs will enter the EU and, thereafter, the ERM-II with a managed float. ERM-II participation will require the declaration of a central parity, but the standard band of +/- 15% will leave much room for exchange rate fluctuations. A first implication, important in our context, is that the exchange rate will not provide the nominal anchor for these countries' monetary policies.

Two countries deserve first attention in this group: Hungary and Slovenia. As pointed out in Section 3, these countries currently still operate exchange rate regimes of intermediate flexibility. So far, they also still shelter their national capital markets against volatile international capital movements, which has probably helped them maintain these regimes. If our assumption is right that all ACs will dismantle their remaining capital controls by the time of accession, these countries would be left with exchange rate regimes that were found to be highly unstable in the 1990s (see Section 2). The implication is that these countries should improve the sustainability of their exchange rate regimes by following the examples of Poland and the Czech Republic and adopting a more flexible stance.

The sustainability of the resulting regimes for capital movements then depends largely on how the ERM-II is operated for these countries. As the central rate in the ERM-II is adjustable through joint agreement among the participants, these countries are left with one more degree of freedom to deal with the price-level effects of large capital inflows and the Balassa-Samuelson effect than the hard peggers. Specifically, they can use realignments to achieve the required real appreciations and thus enjoy lower inflation rates than that group. The fact that realignments are the result of common decisions among the ERM-II participants will ensure that any devaluations – should they occur in crisis times – will not be misunderstood as competitive gimmicks.

The experience of the first ERM in the early 1990s teaches that this option should be used wisely and frequently enough. Once exchange rates appear to be completely fixed, changing them becomes politically costly and governments tend to postpone adjustment against economic rationality until crisis hits. Although the width of the exchange rate band, +/- 15%, seems a comfortable hedge against the need for parity adjustments from today's perspective, whether or not such devaluations can be avoided to fend off speculative attacks depends critically on the pre-crisis position of the exchange rate in the band. Timely and frequent cooperative realignments aimed at keeping exchange rates away from the edges of the band would contribute to reducing the need for unilateral devaluations when crises hit. For the same reason, early attempts to narrow the fluctuation bands could easily result in more rather than less volatility. The ECB in particular should monitor exchange rate and price developments in the soft-pegging ACs carefully and continuously, and use its political weight to ensure timely adjustments of the central rates.

Macroeconomic stability in the soft-pegging ACs requires a nominal anchor different from the exchange rate. There are basically two alternatives: monetary aggregates or

an explicit inflation target. Given the low state of financial-sector development, monetary aggregates might seem attractive, as money will play a much larger role in the transmission of monetary policy than in more advanced economies. However, we also expect rapid financial innovation in these countries as their financial systems become more sophisticated, and this may lead to large swings in money demand functions. In view of this, inflation targeting is the preferable choice. This in turn requires the development of an elaborate apparatus for producing inflation forecasts and conducting monetary policy on this basis. Poland and the Czech Republic are now gaining the first experiences with this process; it is too early to evaluate their success. The soft-pegging countries should start developing the necessary framework as part of a sustainable regime for capital movements before entering the ERM-II.

Prudent fiscal policies are an important element of a sustainable regime of capital movements for the soft-pegging ACs too. Thus improving the quality of their budgetary processes would be an important element of such a regime.

An important question remaining for this group is how to bring them into the monetary union once they have demonstrated a sufficient degree of nominal convergence in the ERM-II. This involves setting the conversion rate of their currencies into the euro and a procedure guaranteeing that this rate will be compatible with market rates at the time of adopting the euro. Here we refer to the discussion in Begg *et al.* (1997), which developed the strategy for adopting the euro eventually taken by the first members of the Third Stage of EMU. This strategy has two key elements. First, to eliminate any uncertainty, the conversion rate should be announced early, i.e. months ahead of the actual date of adopting the euro. Speculation about the outcome of last-minute political bargains could otherwise create speculative pressures that could derail the process of bringing a country into the monetary union. Following the example of the first group of euro-area members, a plausible choice would be a currency's central parity in the ERM-II at the time when its qualification for monetary union has been confirmed.

Second, the ECB and the national central bank of the country concerned should refrain from any commitment to narrow the bands of fluctuation around the central parity to less than the standard band in the final period before adopting the euro. The only announcement necessary to guide market expectation is that the two central banks would use unlimited intervention on the last day to set the market exchange rate equal to the pre-announced conversion rate. Since such interventions would not create any losses for the central banks, the announcement would be credible. Given the terminal condition of the conversion rate, the market will then ensure that the exchange rate will converge on the conversion rate in the final period. In contrast, announcements of narrower bands would only destabilize the process as they invite speculators to test the central banks' determination and ability to enforce narrower bands.

6.3 How to handle crises

Thus far we have developed the main elements of sustainable regimes for capital movements for the ACs assuming full capital mobility as a given constraint on the process. These elements should strengthen the credibility of their macroeconomic policies and exchange rate regimes – hard pegs or soft pegs – and thus help avoid exchange rate and banking crises. Nevertheless, sudden changes in market sentiment about the creditworthiness of these countries cannot be ruled out. The better market participants understand what would happen under such circumstances, the less likely crises are to occur. Therefore, transparent provisions for crisis management are another important element of a sustainable regime for capital movements.

The TEU (Articles 119 and 120) grants permission to reintroduce capital controls as emergency measures when countries with a derogation face serious balance of payments problems. Reimposing such controls thus remains an element of crisis management, albeit with the qualification that the controls can only be temporary and must be authorized ex post by the Council of the European Union. Of course, such measures must remain the exception, as the markets would otherwise anticipate their use and price their risk into interest rates and foreign exchange premia. In view of this, governments and central banks will try to resist speculative attacks by raising interest rates rather than using emergency controls. Not much is achieved with this provision.

More reassuring security against speculative attacks and foreign exchange market crisis instead requires 'deep pockets', an institution able and willing to intervene in support of the currency under attack without limit. In principle, the advantage of the ERM-II is that it provides for this by making interventions at the limits of the exchange rate bands compulsory for the participating central banks. This suggests that the ECB would lend unlimited support to a currency under attack in the ERM-II.

There are, however, two problems with this solution. First, it is not available for the hard peggers, whose decision not to allow any fluctuations in exchange rates would constitute a unilateral commitment in the ERM-II. Unless these countries are able to persuade the ECB to defend their commitments, they will be left alone. Second, even for the soft peggers, the ECB's commitment is uncertain, as the ERM-II allows the central banks to suspend intervention if they consider that price stability is at risk. Obviously, there is no absolutely objective criterion to judge whether or not this is true in any given situation. The implication is that the permission to suspend intervention gives the ECB a fair amount of discretion regarding interventions, and this means that neither the markets nor the ACs can be certain that the ECB would do all that is necessary to fend off a speculative attack. In sum, the intervention requirement does not constitute the desired transparent rule for crisis management.

The TEU (Article 119) provides for the possibility of Community macroeconomic assistance for member states suffering from or seriously threatened by difficulties regarding their balance of payments. Member states facing a currency crisis in the ERM-II should qualify for such assistance. However, macroeconomic assistance is

currently granted on a case-by-case basis, mainly to support structural reform projects (European Economy, 2000). Asking the Council of the European Union for its permission to disburse funds is time-consuming and makes the instrument unfit for fending off speculative attacks on ACs once they are in the ERM-II, be it with a soft or with a hard peg.

To conclude, the current arrangements of the ERM-II are insufficient to rule out speculative attacks caused by sudden changes in market sentiment or attempts to test the central banks' commitment to the exchange rate regimes.

6.4 Pitfalls in the accession and the convergence procedures

The fact that there is a risk of currency crises in the ERM-II and that such crises impose serious hardship on countries might be viewed as a reasonable deterrent against inconsistent macroeconomic policies on the way to full euro-area membership. From this perspective, the possibility of crises would have a welcome disciplining effect on governments. But the experience with currency crises of the past 20 years teaches that this view is too simple. Crises can and have hit countries pursuing sound policies just because markets abruptly changed their views about their economies. The issue here is contagion, which occurs when market views about one country are strongly correlated with market views about other countries.

Empirical studies have explored the determinants of contagion. Neighbourhood is one important factor. As 'flight to quality' sets in in financial markets, investors seem to withdraw funds from entire regions rather than just the country where financial instabilities originate. Imperfect information on the part of international investors drives this kind of contagion. A second factor is the communality of main trading partners. If one country suffers from severe balance of payments problems because of a large trade deficit with its main trading partner, investors may suspect that other countries trading with the same partner may have similar problems and thus regard them as candidates for exchange rate crises too.

Contagion is important in the context of accession, because it is plausible to assume that market views about the ACs are indeed highly correlated. After all, these countries share the EU as their main trading partner and they share the same goal of entering the EU and, ultimately, the euro area. News that the process of accession is derailed in one country is, therefore, likely to affect market views about other countries in the group.

The risk of contagion for countries that participate in the ERM-II as hard or soft peggers creates a special responsibility for the European Commission and the ECB. This is because releasing information about the appropriateness of the exchange rate policy of one country in this group – even if it occurs for good reasons – can easily create pressures on other countries in the group to the point of making them the object of speculative attacks.

The information policy of the European Commission and the ECB about the progress

of the ACs in meeting the criteria for EU membership first and for euro-area membership later is, therefore, a final and important element of a sustainable regime for capital movements for ACs. Avoiding contagion suggests that the Commission and the ECB should announce and assess all new information as soon as it comes in, so that big news is avoided. This would require a continuous rather than an annual assessment process. In practice, the authorities are likely to react to this problem in the opposite way, by trying to keep information confidential and hidden from the markets. When the information is finally revealed, however, this will only make things worse. But even with a more rational information policy, it is far from clear that contagion effects of news released by the authorities can be avoided.

7. Conclusions and Policy Implications

This report has studied the sustainability of the regimes of capital movements for ACs. It is based on the assumption that the ACs will have abolished all controls on international capital flows by the time of entry into the EU. The critical problem we discuss is the combination of full capital mobility with the exchange rate regime in the interim period between joining the EU and becoming a full member of the euro area.

The review of the experiences with financial market crises in the 1990s, presented in Section 2, suggests that combinations of fixed exchange rates (very or moderately rigid pegs) with full capital mobility is an inherently unstable one. Weak financial systems augment the risks of crisis, as do large real appreciations. In Section 4, we present an empirical analysis of experiences with capital inflows in current EU member states and empirical estimates of the Balassa-Samuelson effect in ACs. We find that the ACs can expect both large capital inflows and real appreciations of approximately 2% per annum against the euro owing to the Balassa-Samuelson effect.

In Section 3, we have reviewed the current conditions of the ACs, showing their considerable progress in liberalizing capital flows and pointing to the weaknesses of their financial systems.

Based on this analysis, Sections 5 and 6 develop the options for exchange rate policies and for strengthening the resulting regimes. The simple option is to enter the EU with a floating exchange rate – in practice, a very flexible managed float – and keep that flexibility until more 'normal' conditions in terms of real exchange rate changes and capital inflows materialize. But this may postpone euro-area membership for a considerable time.

The next two options are to enter the ERM-II immediately upon joining the EU, and to participate in the ERM-II either with a very rigid peg or by observing normal fluctuation bands of +/- 15%. The discussion in Section 6 shows that much can be done to strengthen the resulting regimes and reduce the probability of crisis. Microeconomic reforms strengthening the financial sectors in the ACs are of prime importance here. Improvements to fiscal institutions to ensure fiscal discipline are further important elements. For the soft peggers, the development of inflation-targeting regimes would also be important to provide credible nominal anchors for the economies. The macroeconomic policy framework of the ERM-II and the European Treaty also provides some mechanisms for crisis management.

However, crises, particularly of the contagion type, cannot be ruled out in any scenario that combines full capital mobility with the ERM-II. In concluding, therefore, we point again to the remaining option, i.e. unilateral euroization by the ACs. Euroization has the enormous benefit of solving the problem of the sustainability of the capital movement regime. The worries of the incumbent member states, discussed in Section 5, are largely unwarranted. In contrast, euroization would impose non-negligible economic and political costs on governments. If governments are willing to accept these costs to avoid the risk of currency crises that would derail the process of joining the euro area in the alternative regimes, the incumbent members of the euro area should view this as convincing evidence of the seriousness of the instability problem posed by the combination of capital mobility and the ERM-II.

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Appendix: Estimation Results

Balassa-Samuelson effect

We follow closely the specification in De Gregorio et al. (1994) in estimating the Balassa-Samuelson effect on panel data. The data are annual and have been collected for all transition countries over the period 1990-8 (source: UNECE). Missing observations, however, result in an unbalanced panel which includes only nine countries. The relative price of non-traded to traded goods, proxied by the ratio of the services price index to the consumption index of non-food goods, is regressed on the two productivity terms (De Gregorio et al. (1994) impose a technical coefficient, which we leave free). We also follow them in adding GDP per capita as a measure of the influence of demand -- the sign is expected to be positive if services are a luxury good - and the change in the rate of inflation, to account with relative price rigidities in the two sectors. We tested for, and rejected, the presence of fixed effects. We could not reject country-specific coefficients for the inflation change variable. We imposed the same coefficient on the productivity terms. The results are shown in Table A1. The coefficients on the productivity terms, which capture the Balassa-Samuelson effect, are highly significant with the SUR estimation, and the point estimates obtained with the GLS estimation are reasonably close to the SUR estimates. The only seriously troubling result concerns GDP per capita whose coefficient changes sign between the SUR and GLS procedures.

Net foreign direct investment

Table A2 shows estimates of the effect on labour productivity of net foreign investment, as a share of GDP, controlling for domestic investment.

Table A1: Estimation of the Balassa-Samuelson effect

Dependent variable: service-to-non-food price ratio

Variables	Country effect	GLS estimation		SUR estimation	
Constant		2.060734	***	2.844518	***
Service-to-non-food price ratio lagged		0.444020	***	0.511806	***
Productivity in industry		0.242327	***	0.297758	***
Productivity in services		-0.184074	*	-0.382444	***
GDP/capita (PPP)		0.027596	**	-0.019862	***
Inflation acceleration					
	Czech Rep.	-0.001539	**	-0.004139	***
	Estonia	0.001503	**	0.000541	
	Hungary	0.001177	**	0.002366	***
	Latvia	-0.004271	***	-0.004392	***
	Lithuania	-0.000796	**	-0.000532	***
	Poland	-0.003233	**	-0.002694	***
	Romania	0.000553		0.000373	**
	Russia	-0.006278	**	-0.003608	***
	Slovenia	0.003063	***	0.002066	***
Sample		1991–8			
Included observations		8			
Number of cross-sections used		9			
Total panel (unbalanced) observations		56			
Adjusted R-squared		0.954151		0.929740	
Mean of dependent variable		4.567562			
Standard error of regression		0.065048		0.080523	
Standard deviation of dependent variable		0.303785			

* significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Variables are in logs, inflation acceleration excepted.

White Heteroskedasticity-Consistent Standard Errors.

Sample countries: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovenia.

Table A2: Estimation of sectoral labour productivity

Dependent variable: labour productivity

Variables	Country effect	Industry		Services	
Constant		1.882048	***	1.793337	***
Productivity lagged		0.655533	***	0.608738	***
Total FDI/total GDP		0.065038	***	0.008371	***
Sectoral investment /sectoral GDP					
	Czech Rep.	0.016759		-0.032658	**
	Estonia	-0.002224		0.018541	***
	Hungary	0.044162	*	-0.039653	***
	Kyrgyzstan	-0.010542		-0.017920	**
	Latvia	-0.022059		0.012065	
	Lithuania	0.007273		-0.024179	***
	Poland	-0.042125	***	-0.027879	***
	Romania	-0.006635		-0.027018	**
	Russia	-0.070645	***	-0.011935	***
	Slovakia	-0.085994	*		
	Slovenia	-0.032572	***	-0.032759	***
Sample		1991–8		1992–8	
Included observations		8		7	
Number of cross-sections used		11		10	
Total panel (unbalanced) observations		60		55	
Adjusted R-squared		0.574627		0.510854	
Mean of dependent variable		4.643807		4.608888	
Standard error of regression		0.115031		0.041781	
Standard deviation of dependent variable		0.176373		0.059740	

* significant at 10% level; ** significant at 5% level; *** significant at 1% level.

Variables are in logs.

White Heteroskedasticity-Consistent Standard Errors.

Estimation method is GLS (Cross Section Weights).

Sample countries: Czech Republic, Estonia, Hungary, Kyrgyzstan, Latvia, Lithuania, Poland, Romania, Russia, Slovenia.