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EU ENLARGEMENT, ERM II AND LESSONS FROM THE SOUTHERN EUROPEAN COUNTRIES

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Abstract
The purpose of this paper is to examine the experience of convergence with an exchange rate target in the southern European economies (SEEs). We argue that their experience has much to teach new and prospective EU members. We discuss the similarities of the SEEs and the new/prospective EU members in order to establish the relevance of the experience of the former for the latter. We then go on to offer evidence on the experience of SEEs with capital flows and speculative crises in the run-up to EMU membership. We discuss the implications of these results for the institutional structure of ERM II and conclude by discussing policy options available to the new/prospective members in the light of the previous analysis.

JEL Classification: F32, F36, P20

Keywords: capital flows, southern European economies, Accession countries and EU membership

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1. Introduction

One of the crucial questions relating to the recent European Union (EU) enlargement concerns the road that the new/prospective members will follow towards Economic and Monetary Union (EMU) and, in particular, their choice of exchange rate policy. That EU membership entails (eventual) participation in monetary union is not in doubt, with the EU having ruled out the granting of any further derogations. This has two main implications: first, new EU members have to satisfy the Maastricht criteria before admission to the euro area; and, second, capital controls have to be fully liberalised on entry into the EU unless transitory periods are negotiated (Temprano-Arroyo and Feldman, 1999).[1] Thus the 10 new countries that acceded on 1 May 2004 have largely liberalised capital flows (European Commission, 2003).

Among the current members of the Euro area, the Exchange Rate Mechanism (ERM) played a pivotal role in encouraging nominal convergence and preparing countries for their eventual participation in monetary union itself. ERM II, which was agreed at the Dublin Summit in December 1996, has been operating since 1 January 1999. Currently, Denmark, along with Estonia, Lithuania and Slovenia are members (Greece was a member from January 1999 until her entry into the euro area in January 2001). It is to be expected that more of the new EU member countries will want to join the system. Indeed, a strict reading of the Maastricht criteria suggests that they will have to be members of the system for a period of at least two years (without realignments) before they can be admitted to the euro area itself.

In this paper, we examine the experience of convergence with an exchange rate target (either inside or outside the ERM) in the southern European economies (SEEs). We argue that their experience has much to teach the new/prospective EU member countries. In this respect we will touch on a number of the controversies which surrounded the road to EMU debate among the current euro area members. Is the ERM II system flexible enough to deal with the rather different conditions in new/prospective member countries? How best can the ERM II countries deal with fixed exchange rates and free capital mobility? What degree of policy cooperation is envisaged in the ERM II system between the ECB and the ERM II monetary authorities and is it likely to help promote a smooth ride to euro area membership?

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1. EMU is part of the *acquis communautaire* of the EU and hence all new EU entrants must be prepared to accept euro area entry. In addition to liberalising capital flows, new members of the EU must also grant independence to their central banks and prohibit the monetary financing of government deficits. In the absence of a negotiated period of transition, these requirements, unlike the meeting of the Maastricht criteria, must be in place on entry to the EU.

The rest of the paper is organised as follows. In section I, we discuss the similarities between the SEEs and new member countries, focusing on macroeconomic indicators and the experience with capital flows. This allows us to argue that indeed the SEE experience is pertinent for these countries. Having established this, in section II we go on to offer evidence on capital flows and speculative crises in the run-up to EMU membership in the SEEs. One contribution of this paper in this respect is to present more formal econometric analysis of many of the ideas already found in the literature on the SEEs experience. In the light of this, section III of the paper discusses the institutional structure of ERM II and assesses its suitability for helping new/prospective members overcome the impact of large swings in capital flows. We argue that, while the flexibility of ERM II in terms of wide fluctuation bands may help reduce the impact of the capital flows, the system as it stands is highly asymmetric and weak in the area of cooperation between ERM II members and the euro area, with all of the burden of convergence falling squarely on the shoulders of the latter. We conclude by discussing various policy responses which the experience of the SEEs suggests will be useful to the new/prospective EU members.

2. The SEEs and the new/prospective EU members compared

The problems which the new/prospective EU members may face on the road to membership of the euro area are in many ways not new to EU member states. We argue here that the macroeconomic experience of the SEEs has much to teach us about the likely path of new EU members. We focus here on the 10 countries which acceded in May 2004 plus two prospective members, Bulgaria and Romania. Tables 1-5 provide some background information in the form of macroeconomic aggregates. We present data from 1990 where possible. In view of the fact that for new countries the time period between joining the EU and entering the euro area is likely to be compressed compared to the SEEs' experience, it seems appropriate to compare the position of the new/prospective EU member states now with that of Portugal and Spain in the early 1990s and that of Greece in the mid-1990s.

Table 1 shows that the new/prospective members are still rather vulnerable to swings in economic activity. Whilst growth has, by and large, resumed after the large recessions of the early 1990s, it is more volatile than in the SEEs, reflecting the fragility of their real economies.[2] With respect to inflation, Table 2 shows that, with

2. Of course, it could be argued that the real economy is one area where the two groups of countries differ. The new/prospective members, unlike the SEEs, are coping with the transition to a market economy at the same time as they are dealing with macroeconomic convergence. This could make the task of convergence and ERM membership more complex since it could enhance the volatility

the exception of Romania, it is similar to those rates experienced by Greece, Portugal and Spain in the mid-to-late 1990s. Indeed, in some countries such as Cyprus and Malta, inflation has been low for some time. Budgetary positions are worse overall than inflation with budget deficits still higher in many countries than the 3% laid down in the Maastricht Treaty (Table 3). However, overall better budget performances in the past imply that debt is much lower and usually below 60% of GDP (Table 4). Finally, we present some information on the current account (Table 5). This is an important macroeconomic aggregate in the context of an analysis of capital flows since its performance can trigger downward speculative pressure on a currency. Not surprisingly, given their level of development, the new/prospective EU members share the problem of structural current account deficits with the SEEs. This could complicate policies based on fixing the exchange rate or setting some target for it.

Given our specific interest in exchange rate pegging, the experience with capital flows is of particular interest here. The SEEs faced alternating periods of excess credibility and speculative crisis. Both can undermine monetary policy, the first through loosening domestic monetary conditions in the absence of successful sterilisation and the second by forcing exchange rate devaluation or, in extreme cases, an abandonment of the peg altogether. Both may be inflationary and would cause euro area entry to be postponed.

Figure 1 catalogues the experience of Greece, Portugal and Spain with private capital flows (excluding FDI flows) and their effect on the change in foreign exchange reserves and hence, potentially, the monetary base. We plot quarterly figures for the period 1988 to end-1998 for each country.[3] Spain was the first to join the

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of capital flows which will respond not only to progress on the macroeconomic front, but also to progress with real reforms. However, this should not be exaggerated. First, a condition of EU entry is a functioning market economy. Second, Greece, Portugal and Spain also experienced structural changes (and indeed still are) as a consequence of EU membership and the catching-up process.

3. Private capital flows are defined as the financial account minus net foreign direct investment flows minus net flows associated with the monetary authorities and general government. The figures are quarterly and are taken from IMF *International Financial Statistics*, CDRom. The figures for Greece go to end-1998 eventhough entry into EMU occurred in January 2001 because of problems of data comparability in 1999 and 2000. This follows significant changes in the method used to construct balance of payments statistics. We should note that using quarterly data may well underestimate capital flows since a country could well experience large inflows which turn to outflows within the same quarter thus giving the impression that capital flows on average were only small.

Table 1: Southern European Economies and New/Prospective EU Members Compared: Growth Real GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Portugal	4.0	4.4	1.1	-2.0	1.0	4.3	3.5	4.0	4.6	3.8	3.4	1.7	0.4
Spain	3.8	2.5	0.9	-1.0	2.4	2.8	2.4	4.0	4.3	4.2	4.2	2.8	2.0
Greece	0.0	3.1	0.7	-1.6	2.0	2.1	2.4	3.6	3.4	3.4	4.4	4.0	3.8
Bulgaria	-9.2	-8.4	-7.3	-1.4	1.8	2.9	-10.1	-5.6	3.9	2.3	5.4	4.1	4.8
Cyprus	7.4	0.7	9.4	0.7	5.9	6.1	1.9	2.5	5.0	4.8	5.2	4.4	2.2
Czech Republic	n.a.	n.a.	n.a.	n.a.	2.6	5.9	4.3	-0.8	-1.0	0.5	3.3	3.1	2.0
Estonia	n.a.	n.a.	n.a.	n.a.	-1.9	4.3	3.9	10.6	4.6	-0.6	7.3	6.5	6.0
Hungary	-3.5	-11.9	-3.0	-0.6	2.9	1.5	1.3	4.6	4.9	4.2	5.2	3.9	3.3
Latvia	n.a.	n.a.	n.a.	-14.9	0.6	-0.8	3.3	8.6	4.8	2.8	6.8	7.9	6.1
Lithuania	n.a.	n.a.	n.a.	-16.2	-9.7	4.8	4.7	7.3	7.3	-1.8	4.0	6.5	6.7
Malta	6.2	6.3	4.7	4.5	5.7	6.3	4.0	4.8	3.4	4.1	6.4	-1.2	1.2
Poland	-11.5	-6.9	2.6	3.7	5.2	7.0	6.0	6.8	4.8	4.1	4.0	1.0	1.4
Romania	-5.7	-12.8	-8.8	1.1	3.8	7.2	3.9	-6.0	-4.8	-1.2	2.2	5.7	4.9
Slovak Republic	n.a.	n.a.	n.a.	n.a.	4.9	6.7	6.2	6.2	4.0	1.3	2.2	3.3	4.4
Slovenia	n.a.	n.a.	n.a.	2.8	5.4	4.0	3.5	4.6	3.8	5.2	4.6	2.9	3.2

Source: OECD Economic Outlook for Portugal. Spain. Greece. Czech Republic. Hungary. Poland. Slovak Republic. International Financial Statistics for Bulgaria. Cyprus. Estonia. Latvia. Lithuania. Malta. Romania and Slovenia. More recent figures from European Commission (2003).

Table 2: Southern European and New/Prospective EU Members Compared: Inflation

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Portugal	13.4	11.4	8.9	5.9	5.0	4.9	2.9	1.9	2.2	2.2	2.8	4.4	3.7
Spain	6.7	5.9	5.9	4.9	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.6
Greece	20.4	19.5	15.9	14.4	10.9	8.9	7.9	5.4	4.5	2.1	2.9	3.7	3.9
Bulgaria	23.8	338.4	91.3	72.9	96.1	62.1	123.0	1047.7	18.7	2.6	10.3	7.4	5.8
Cyprus	4.5	5.0	6.5	4.9	4.7	2.6	3.0	3.6	2.3	1.1	4.9	2.0	2.8
Czech Republic	n.a.	n.a.	n.a.	n.a.	10.0	9.1	8.8	8.5	9.7	1.8	3.9	4.5	1.4
Estonia	n.a.	n.a.	n.a.	89.8	47.7	28.8	23.1	10.6	8.8	3.1	3.9	5.6	3.6
Hungary	29.0	34.2	22.9	22.5	18.9	28.3	23.5	18.3	14.2	10.0	10.0	9.1	5.2
Latvia	n.a.	n.a.	243.3	108.8	35.9	25.0	17.6	8.4	4.3	2.1	2.6	2.5	2.0
Lithuania	n.a.	n.a.	n.a.	410.2	72.2	39.7	24.6	8.9	5.0	0.7	0.9	1.3	2.1
Malta	3.0	2.5	1.6	4.1	4.1	4.0	2.5	3.1	3.7	2.3	3.0	2.5	2.2
Poland	555.4	76.7	45.3	36.9	32.2	27.8	19.9	14.9	11.8	7.2	10.1	5.3	1.9
Romania	n.a.	230.6	211.2	255.2	136.8	32.2	38.8	154.8	59.1	45.8	45.7	34.5	22.5
Slovak Republic	n.a.	n.a.	n.a.	n.a.	13.4	9.9	5.8	6.1	6.7	10.4	12.2	7.0	3.3
Slovenia	n.a.	n.a.	156.6	31.9	19.8	12.6	9.7	9.1	7.9	6.1	8.9	8.6	7.5

Source: OECD Economic Outlook for Portugal. Spain. Greece. Czech Republic. Hungary. Poland. Slovak Republic. International Financial Statistics for Bulgaria. Cyprus. Estonia. Latvia. Lithuania. Malta. Romania and Slovenia. More recent figures from European Commission (2003).

Table 3: Southern European Economies and New/Prospective EU Members Compared: General Government Budget (% GDP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*
Portugal	-6.6	-7.6	-4.8	-8.1	-7.7	-5.5	-4.8	-3.6	-3.2	-2.9	-2.9	--4.3	-2.7
Spain	-3.9	-4.6	-3.7	-7.0	-6.5	-6.6	-5.0	-3.2	--3.0	-1.2	-0.8	-0.3	0.1
Greece	-15.7	-11.0	-12.2	-13.4	-9.3	-10.2	-7.4	-4.0	-2.5	-1.8	-2.0	-1.4	-1.5
Bulgaria	-8.2	-12.7	-4.9	-12.1	-4.7	-5.2	-15.3	-0.3	1.7	0.4	-0.5	0.2.	-0.6
Cyprus	-5.3	-6.8	-4.8	-2.4	-1.4	-1.0	-3.4	-5.3	-4.9	-4.5	-3.1	-3.0	-3.5
Czech Republic	n.a.	n.a.	n.a.	-0.4	-1.2	-1.1	-2.0	-2.4	-4.5	-3.7	-4.0	-5.5	-3.9
Estonia	n.a.	0.4	1.2	-2.1	1.4	-0.6	-0.8	2.5	-0.4	-4.0	-0.4	0.2.	1.3
Hungary	0.8	-3.8	-7.3	-6.6	-11.0	-7.6	-5.9	-7.2	-8.0	-5.6	-3.0	-4.7	-9.2
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-1.5	0.7	-0.7	-5.3	-2.7	-1.6	-3.0
Lithuania	n.a.	1.4	n.a.	-6.0	-4.7	-6.3	-3.6	-1.9	-3.1	-5.7	-2.6	-2.2	-2.0
Malta	-4.6	-5.2	-5.0	-3.1	-2.9	-3.6	-2.7	-7.7	-10.8	-8.2	-7.0	-6.8	-6.2
Poland	n.a.	n.a.	n.a.	-4.5	-3.5	-2.5	-2.9	-2.8	-2.3	-1.5	-1.8	-3.0	-4.1
Romania	0.9	1.9	-4.7	-0.5	-2.5	-3.0	-4.0	-3.8	-3.2	-4.5	-4.6	-3.3	-2.2
Slovak Republic	n.a.	n.a.	n.a.	-6.0	-1.5	1.8	-1.5	-4.4	-4.7	-6.4	-10.4	-7.3	-7.2
Slovenia	n.a.	n.a.	n.a.	0.4	-0.3	-0.5	0.1	-1.5	-2.3	-2.2	-3.3	-2.8	-2.6

Source: OECD Economic Outlook for Portugal. Spain. Greece. Czech Republic. Hungary. Poland. Slovak Republic. International Financial Statistics for Bulgaria. Cyprus. Estonia. Latvia. Lithuania. Malta. Romania and Slovenia. More recent figures from European Commission (2003).

*Notes: * estimates*

Table 4: Southern European Economies and New/Prospective EU Members Compared: Dept/GDP ratios

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*
Portugal	58.3	60.7	54.4	59.1	62.1	64.3	62.9	59.1	55.0	54.3	53.3	55.5	58.0
Spain	48.8	49.9	52.4	63.5	68.2	73.8	81.4	80.8	81.4	75.6	72.3	68.2	65.6
Greece	79.6	82.2	87.8	110.1	107.9	108.7	111.3	108.2	105.8	105.2	106.2	106.9	104.7
Bulgaria	34.9	17.0	19.8	37.5	52.2	39.2	60.2	107.4	79.6	79.3	73.6	66.4	53.0
Cyprus	50.7	56.4	56.1	58.7	53.7	51.5	53.8	57.3	61.5	62.1	61.7	64.2	58.6
Czech Republic	n.a.	n.a.	n.a.	15.6	13.7	11.2	9.9	10.0	13.7	14.3	16.6	23.3	27.1
Estonia	n.a.	n.a.	n.a.				6.2	5.2	6.0	6.5	5.1	4.8	5.8
Hungary	n.a.	74.1	78.5	89.7	87.1	85.2	71.9	63.3	61.9	61.2	55.5	53.4	56.3
Latvia	n.a.	n.a.	n.a.	15.1	15.6	18.5	15.0	21.1	10.6+	13.7	13.9	15.7	15.2
Lithuania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15.7	17.1	23.4	24.3	23.4	22.7
Malta	22.2	26.2	28.1	32.4	33.0	35.7	42.8	51.3	64.9	60.8	61.3	66.1	66.4
Poland	95.1	81.8	86.7	88.7	67.6	54.3	47.9	46.9	41.6	42.7	37.2	37.3	41.8
Romania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	16.5	18.0	24.0	23.9	23.1	22.7
Slovak Republic	n.a.	n.a.	n.a.	28.1	25.0	22.8	27.4	29.7	28.9	43.8	46.9	48.1	42.6
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	22.9	23.6	25.1	26.4	27.6	27.5	28.3

Source: OECD Economic Outlook for Portugal. Spain. Greece. Czech Republic. Hungary. Poland. Slovak Republic. International Financial Statistics for Bulgaria. Cyprus. Estonia. Latvia. Lithuania. Malta. Romania and Slovenia. More recent figures from European Commission (2003).

*Notes: * estimates + break in series*

Table 5: Southern European Economies and New/Prospective EU Members Compared: Current Account (%GDP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*
Portugal	-0.3	-0.8	-0.2	0.4	-2.4	-0.1	-3.8	-5.7	-6.9	-856	-10.9	-9.4	-7.1
Spain	-3.5	-3.6	-3.6	-1.1	-1.3	0.1	0.1	0.5	-0.5	-2.3	-3.4	-2.8	-2.4
Greece	-5.6	-2.8	-3.5	-2.1	-1.4	-3.8	-5.1	-4.4	-3.1	-4.1	-6.9	-6.2	-6.4
Bulgaria	-8.3	-1.0	-4.2	-10.1	-0.3	-0.2	2.7	10.0	-0.5	-5.3	-5.5	-6.0	-4.7
Cyprus	-2.8	-7.3	-9.2	1.7	1.0	-1.8	-5.2	-3.8	-6.7	-2.3	-5.1	-4.3	-5.3
Czech Republic	n.a.	n.a.	n.a.	1.3	-1.9	-2.6	-7.4	-6.1	-2.3	-2.8	-5.3	-4.6	-6.3
Estonia	n.a.	n.a.	n.a.	1.3	-7.3	-4.4	-9.1	-12.1	-9.1	-5.7	-5.8	-6.0	-12.3
Hungary	1.1	1.2	0.9	-9.0	-9.5	-5.5	-3.8	-2.1	-4.9	-4.4	-3.3	-2.1	-4.0
Latvia	n.a.	n.a.	14.0	19.2	5.5	-0.4	-5.4	-6.1	-10.7	-9.7	-6.9	-9.6	-7.7
Lithuania	n.a.	n.a.	n.a.	-3.2	-2.2	-10.2	-9.2	-10.2	-11.9	-11.2	-6.0	-4.8	-5.3
Malta	-2.4	-0.3	1.1	-3.4	-4.8	-10.9	-10.6	-6.0	-6.3	-3.4	-14.8	-4.6	-3.9
Poland	5.2	-2.8	-3.7	-5.2	1.0	0.7	-2.3	-4.0	-4.4	-8.1	-6.1	-2.9	-3.6
Romania	-8.5	-3.5	-7.7	-4.7	-1.5	-5.0	-7.3	-6.1	-6.4	-4.0	-3.7	-5.5	-3.4
Slovak Republic	n.a.	n.a.	n.a.	-4.9	4.5	2.1	-10.6	-9.5	-9.7	-5.8	-3.6	-8.6	-8.2
Slovenia	n.a.	n.a.	n.a.	1.5	4.2	-0.1	0.2	0.2	-0.6	-3.5	-2.8	0.1	1.7

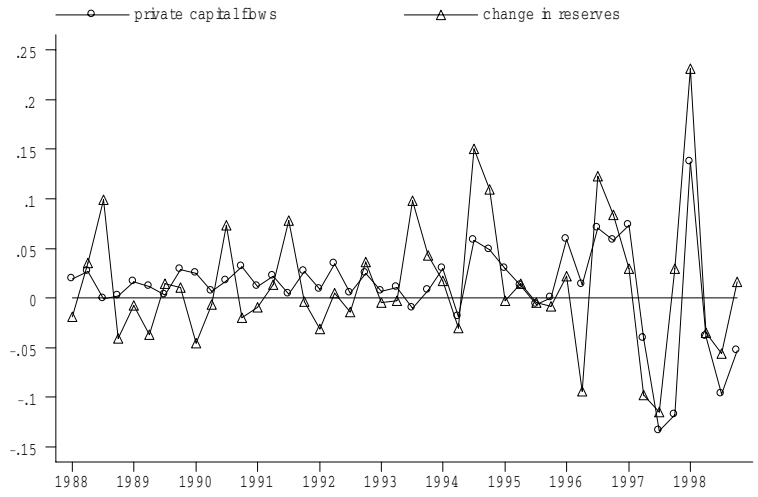
Source: OECD Economic Outlook for Portugal. Spain. Greece. Czech Republic. Hungary. Poland. Slovak Republic. International Financial Statistics for Bulgaria. Cyprus. Estonia. Latvia. Lithuania. Malta. Romania and Slovenia. More recent figures from European Commission (2003).

*Notes: * estimates*

ERM in June 1989 and capital controls were not finally removed until the end of 1992.[4] In Portugal, membership of the ERM dated from April 1992 and capital controls were removed at the same time as in Spain. Finally, Greece did not join the ERM until March 1998, although, from 1994 and the removal of capital controls in May of that year, the monetary authorities had been giving increasing importance to a nominal exchange rate target to promote disinflation (Garganas and Tavlas, 2001). Portugal and Spain also followed a policy of restricting the depreciation of their currencies to rates below the differential between domestic and EU inflation even before they joined the ERM.

The figures show that periods of excess credibility are evident in all three countries: in particular, in 1989 and again in 1991 in Spain; in 1991 and into 1992 in Portugal; and in 1995, 1996 and the first quarter of 1997 in Greece. At the same time, periods of speculative crisis in 1992 and into 1993 in Portugal and Spain and in

Figure 1a: Greece - 1988-98



4. Capital controls were abolished in February 1992, but were reimposed temporarily from September 1992 following the crises in the ERM. They were finally abolished completely in December 1992.

Figure 1b: Portugal - 1988-98

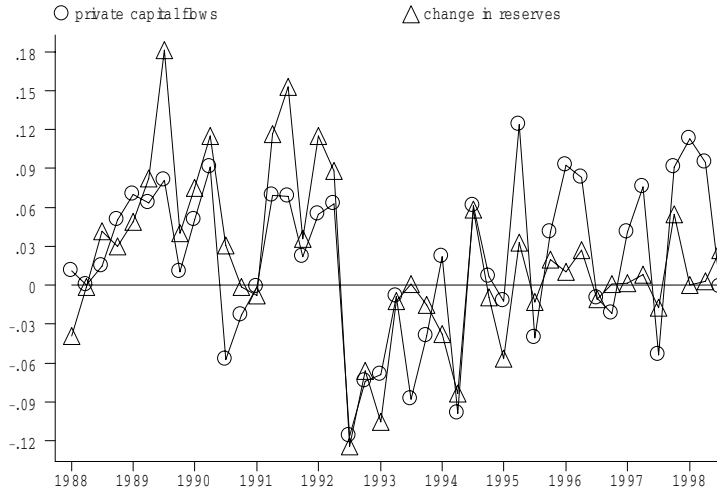
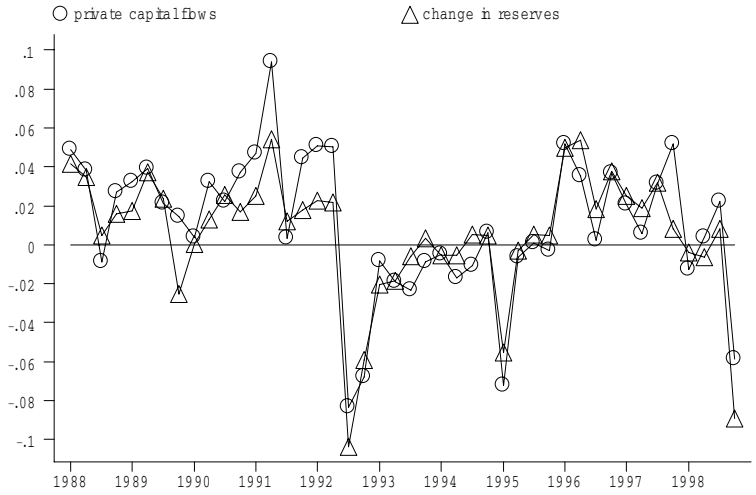


Figure 1c: Spain - 1988-98



1997-98 in Greece are also clear. The order of magnitude of these capital flows was usually between 5 to 10% of GDP and often exceeded 10% in periods of downward speculative pressure. Indeed, Portugal devalued its central rate in November 1992 and again in May 1993 (by 6 and 6.5%, respectively); Spain devalued in September 1992, November 1992 and May 1993 (by 5, 6 and 8%, respectively). As is also clear from Table 6, the removal of capital controls was associated with larger absolute capital flows.

This picture of alternating inflows and outflows of a sizeable magnitude is likewise in evidence in the experience of the new/prospective EU members with capital flows. Figures 2a-c and Table 7 provide descriptive statistics similar to those of Figure 1 and Table 6. Like the SEEs before them, the new/prospective members have been experimenting with different forms of exchange rate pegging and the vertical lines in the figures represent changes in the exchange rate regime (either a move from a floating regime to some kind of peg or vice versa).[5] A number of interesting conclusions emerge. First, capital flows in these countries are at least as great as those in the SEEs.[6] Second, the situation for changes in reserves is similar – they tend to be higher than those of the SEEs. This may indicate problems for monetary policy. Finally, the correlation between changes in capital flows and reserves is, on average, lower than that of the SEEs. This lower overall level of correlation perhaps reflects the fact that in some cases the pegged arrangement was rather loose or simply that the flows were offset by countervailing movements in the current account. During periods of pegged exchange rate systems the correlation coefficients are, as we might expect, higher than during periods of greater exchange rate flexibility.

These similarities between the new/prospective members and the SEEs suggest that a more detailed examination of the latter's experience with exchange rate targeting and capital flows could shed light on the continuing experience of the former.

5. We provide information on the specific exchange rate arrangements in the Appendix.
6. This picture is confirmed by other analyses, see Dickinson and Mullineux (1999), Lankes and Stern (1999), Durjasz and Kokoszczynski (1998) and Oblath (1998).

Table 6: Private capital flows and changes in reserves (as a proportion of GDP)

	Greece (1988-98)	Portugal (1988-98)	Spain (1988-98)
Average absolute private capital flows	0.028	0.052	0.029
- pre capital control removal	0.019	0.053	0.025
- post capital control removal	0.058	0.068	0.030
Average absolute change in reserves	0.031	0.046	0.024
Correlation between capital flows and changes in reserves	0.594	0.730	0.880

Source: own calculations from data from IMF International Financial Statistics

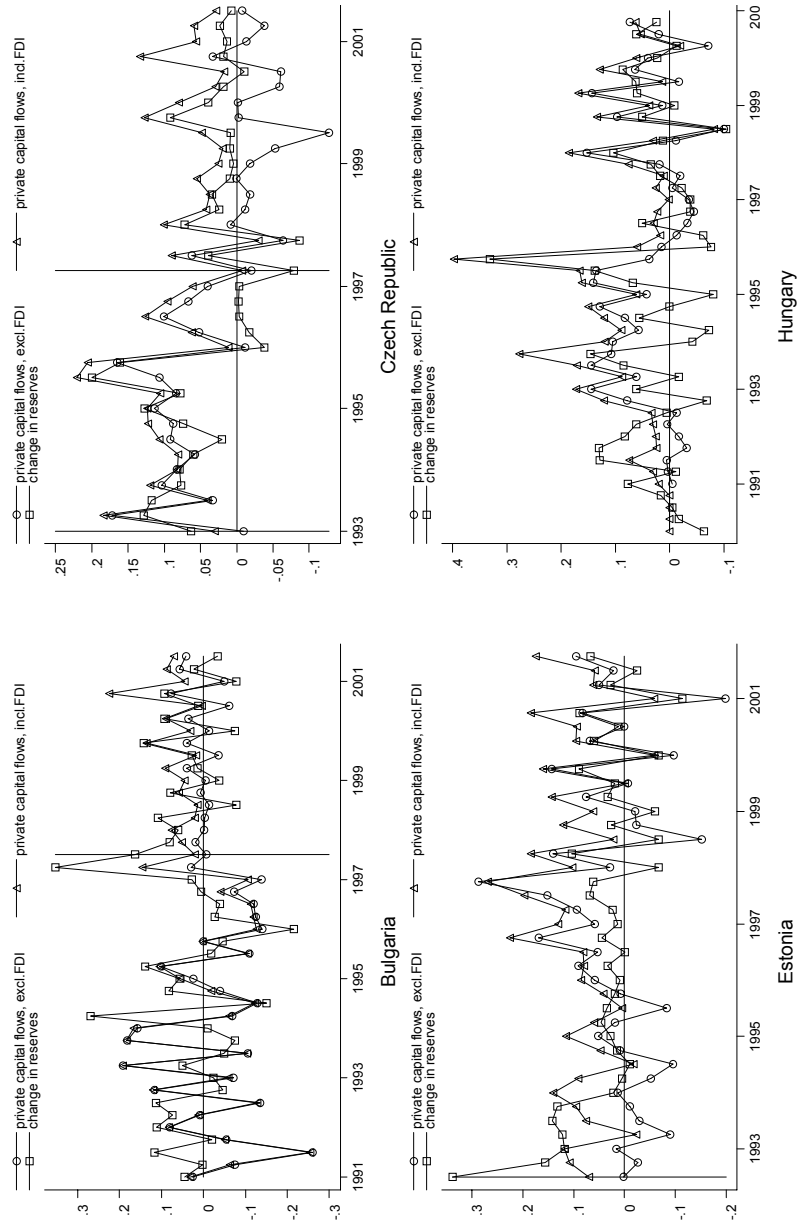


Figure 2a: New/Prospective EU Members: capital flows and reserves

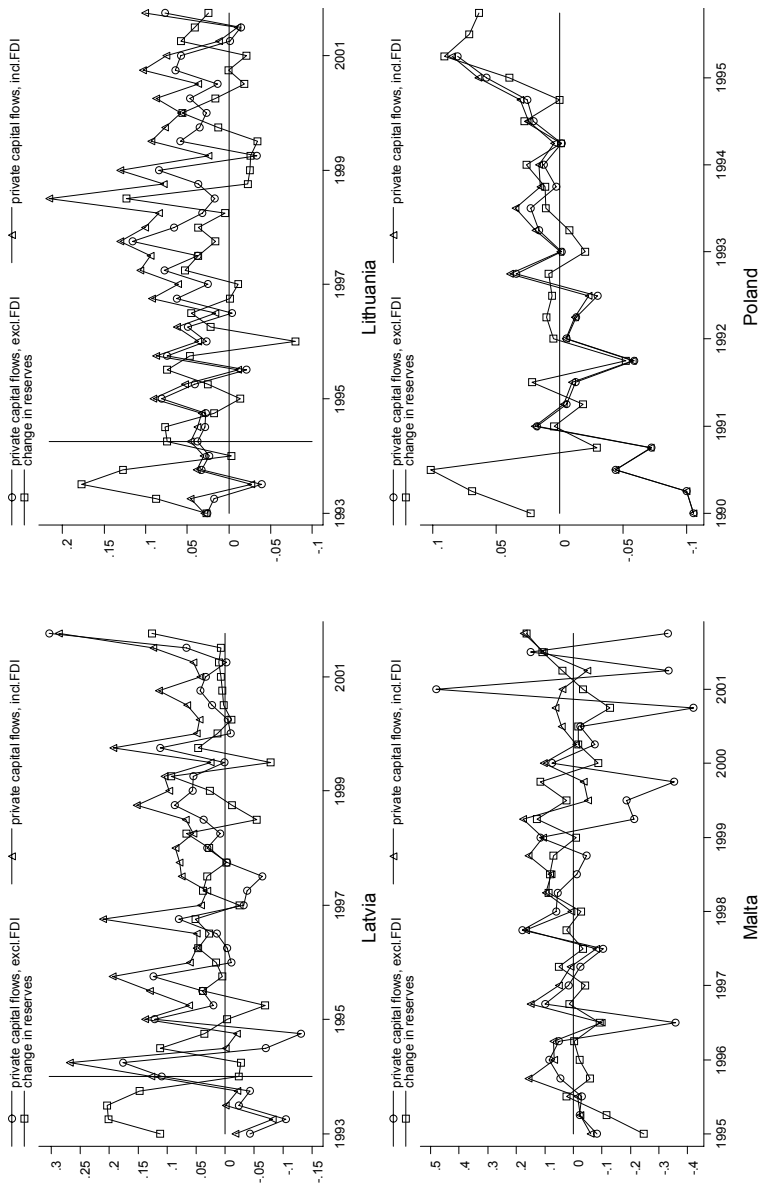


Figure 2b: New/Prospective EU Members: capital flows and reserves

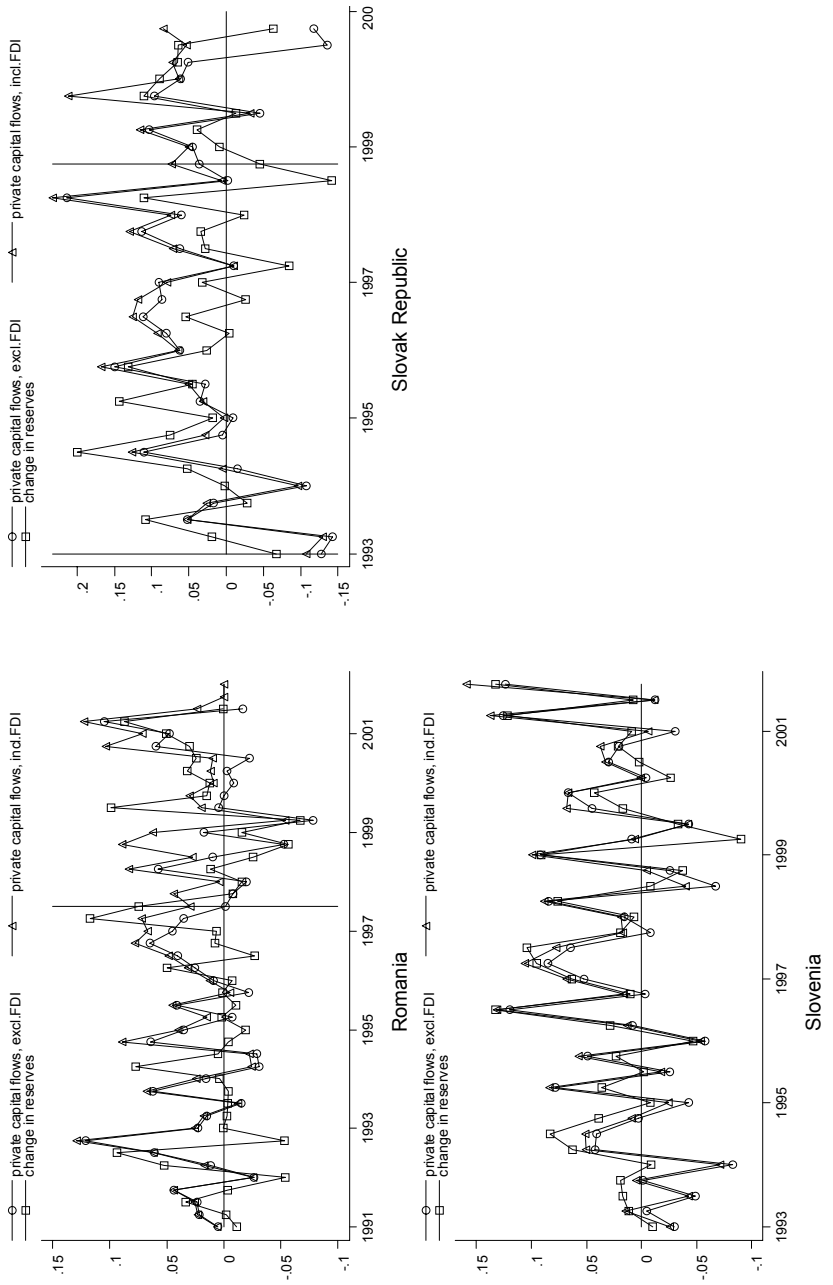


Figure 2c: New/Prospective EU Members: capital flows and reserves

Table 7: New/Prospective EU Members: private capital flows and changes in reserves (as a proportion of GDP)

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovak Republic	Slovenia
Average absolute private capital flows	0.074	0.061	0.069	0.059	0.054	0.042	0.110	0.034	0.032	0.071	0.043
- during periods of pegged exchange rates	0.021	0.078	0.069	0.059	0.054	0.044	0.110	0.034	0.025	0.074	-
Average absolute change in reserves	0.083	0.058	0.062	0.066	0.053	0.045	0.062	0.027	0.029	0.061	0.039
- during periods of pegged exchange rates	0.081	0.074	0.062	0.066	0.036	0.037	0.062	0.027	0.039	0.063	-
Correlation between capital flows and changes in reserves	0.151	0.653	0.159	0.280	-0.439	-0.326	-0.153	0.123	0.134	0.487	0.863
- during periods of pegged exchange rates	0.411	0.668	0.159	0.280	-0.233	-0.122	-0.153	0.122	0.521	0.472	-

Source: own calculations from data from IMF International Financial Statistics

3. Excess credibility and speculative crisis

Problems of excess credibility and large capital inflows as well as speculative attacks in SEEs have been discussed in the literature.[7] However, a more formal econometric analysis of these problems is absent - at least for the case of the SEEs. The purpose of this paper is to provide such an analysis in order to facilitate our discussion of the likely problems that the new/prospective EU members may face. To this end, we present two types of empirical analysis. The first models the short-term determinants of capital flows (both inflows and outflows); the second focuses exclusively on periods of downward speculative pressure.

The absence of data on the stock of assets held abroad by residents or domestic assets held by non-residents prevents us from estimating a long-run relationship between assets stocks and their determinants. Instead, we have to be content with focusing on the short-term determinants of capital flows. We do this by estimating the following equation:

$$KF_{it} = \alpha_i + \beta\Delta_4 P_{it} + \gamma\Delta_4 lny_{it} + \delta\Delta_1 rdiff_{it} + \varepsilon ERM_t + \eta Russia_t + \zeta Asia_t \quad (1)$$

where KF is net private capital inflows[8] into country i at time t; $\Delta_4 P_{it}$ is inflation (the four-quarter change in the CPI); $\Delta_4 lny_{it}$ is the four-quarter rate of growth of real GDP (or industrial production); $\Delta_1 rdiff_{it}$ is the one-quarter change in the interest rate differential between the domestic and "foreign" countries; ERM_t is a dummy representing the ERM crises in 1992 and 1993 and takes a value of 1 in the third quarter of 1992;[9] $Russia_t$ is a dummy capturing the potential effects of the Russian crisis of August 1998 (it takes a value of 1 during the third and/or fourth quarters of 1998); finally, $Asia_t$ is a dummy capturing the possible effects of the Asian financial crisis (it takes a value of 1 during the third and/or fourth quarters of 1997). As an alternative to inflation, we also experimented with money supply growth (both narrow and broad measures).

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7. On the experience of the SEEs with excess credibility see Bacchetta (1992) on Spain, Cassola e Barata (1992) on Portugal and Brissimis and Gibson (1997) on Greece.

8. It is not possible to distinguish short-term and long-term capital flows, although it should be recalled that we do not include FDI. The IMF's balance of payments data no longer distinguishes flows according to their maturity.

9. We also tried other variations during the period 1992, quarter 2 to 1993, quarter 3, but the best performance was given by the above.

First, we might expect that domestic inflation (or, alternatively, domestic monetary growth) has a negative effect on capital inflows either through its effect on the real rate of return in the domestic country or, more generally, because it suggests macroeconomic instability. Second, the nominal interest rate differential between the domestic and "foreign" countries is expected to have a positive impact on the net stock of assets held abroad. That is, a rise in the domestic interest rate relative to the foreign rate will raise the amount of domestic assets wealth holders would like to hold in their portfolios. This implies that capital flows will be positively related to the change in the interest rate differential. The third measure of economic fundamentals is the cyclical position of the economy on the grounds that in the expansionary phase capital inflows are more likely to increase because it is easier to maintain an exchange rate target; in recessions, by contrast, policy conflicts might arise between maintaining the peg and raising economic activity leading to a reduction in inflows (or increased outflows). Finally, there are the effects of contagion. In particular, we examine the impact of the crises in the ERM in 1992 and 1993 along with whether the financial crises in SE Asia and/or the failure of a number of financial institutions and the Russian crisis of August 1998 affected capital flows in SEEs.

Table 8 provides the results of equation (1). The results provide support for the view that inflation affects capital inflows negatively and the cyclical position of the economy affects them positively.[10] The elasticity of capital flows with respect to inflation is such that a 1% increase in inflation reduces capital flows by 4% (at the mean). Thus macroeconomic fundamentals have a role to play. In addition, there is evidence of contagion. The ERM dummy negatively affected capital flows in 1992. Moreover, both the Asian and Russian crises had an impact on capital flows suggesting that contagion was present even close to Euro area membership. The impact, however, was much stronger in Greece than in either Portugal or Spain, as model 2 in Table 8 shows. This reflects Greece's classification at that time as an emerging market with the consequence that it experienced considerable outflows as financial institutions withdrew *en masse* from emerging markets in the aftermath of the Asian crisis.

Capital flows in and of themselves, of course, may not necessarily be problematic. They become problematic however when a country is trying to maintain some kind of pegged exchange rate and, in particular, when it is using the exchange rate in order to help restore macroeconomic stability in the form of lower inflation. Under such circumstances, a speculative attack on a currency can cause the peg to be abandoned, with the potential that the beneficial effects of the exchange rate targeting policy are undone and the depreciation-inflation spiral begins once more.

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10. It is the second lag of inflation and the first lag of the cyclical position which are significant.

Table 8: The determinants of capital flows in the SEEs

dependent variable: private capital flows (excluding FDI, government and monetary authority flows) as a proportion of GDP				
	Model 1		Model 2	
	coefficient	standard error	coefficient	standard error
constant	0.042**	0.015	0.037*	0.015
cyclical position	0.458**	0.159	0.429**	0.156
inflation	-0.476+	0.257	-0.375	0.256
Asia	-0.073*	0.030		
Asian effect on:				
- Greece			-0.139**	0.050
- Portugal			-0.077	0.051
- Spain			0.002	0.051
Russia	-0.071*	0.032	-0.037	0.038
Russian effect on:				
- Greece			-0.090	0.062
ERM	-0.101*	0.051	-0.101*	0.051
number of observations	80		80	
Overall significance of model	$Chi^2(5)=21.11$ (prob=0.00)		$Chi^2(8)=28.02$ (prob=0.00)	
Hausman specification test	$chi^2(4)=0.95$ (prob=0.79)		$Chi^2(8)=2.92$ (prob=0.94)	

*Notes: + significant at 10% level; * significant at 5% level; ** significant at 10% level.*

The Hausman specification test suggests that a random effects model is preferred to a fixed effects model and hence we report these results here since they are more efficient.

Our second piece of econometric evidence thus focuses explicitly on the determinants of the probability of a country experiencing a speculative attack.[11] We adopt the approach in Gibson (2003) and estimate the probability of speculative attack using a hazard function; that is, we estimate the instantaneous probability of a speculative attack occurring at time t, conditional on there having been no speculative attack up to t.[12] The hazard approach has the advantage that it allows us to utilise the time dimension of our dataset. A problem with purely cross-sectional logic and probit models is that they require information on many countries, some of which have experienced speculative attack and others not. Only with many countries will there be enough degrees of freedom to allow estimation of the model.[13] Estimation of the hazard function implies that we can work with the 3 SEEs and include a time series for each country.

We consider whether the probability of a speculative attack within an exchange rate regime depends, along with various macroeconomic factors and possible contagion effects, on the length of time that the country has been pursuing the policy of an exchange rate target. That is, we can investigate whether there are duration effects: controlling for all the other factors which might influence the probability of a

11. There are three main methodological approaches in the literature to modelling speculative attacks (see Gibson (2003) for a survey). The stylised facts approach simply examines the behaviour of certain macroeconomic variables around the speculative attack (Eichengreen, Rose and Wyplosz, 1995; Eichengreen and Wyplosz, 1993; Frankel and Rose, 1996; Buiter, Corsetti and Pesenti, 1998; Jeanne, 1997). Such an approach provides useful descriptive evidence on the nature of speculative attacks, but cannot examine the interaction between factors which may contribute to increasing the probability of a speculative attack. The second approach adopts multivariate analysis and uses either logit or probit (Edin and Vredin, 1993; Eichengreen, Rose and Wyplosz, 1995; 1996a; Frankel and Rose, 1996). Finally, a time series approach uses interest rate differentials to estimate the probability of realignment for a country at each point in time and this estimated probability is then related to various macroeconomic variables which are hypothesised to affect the probability (Chen and Giovannini, 1997; Jeanne, 1997 and Ayuso and Perez-Jurado, 1997).

12. We estimate here both the standard proportional continuous time hazard function (Cox, 1972) where the probability of realignment increases or decreases log linearly with duration (the Weibull specification) as well as the discrete time analogue of Cox's hazard (Prentice and Gloeckler, 1978). The baseline hazard in this latter case is estimated non-parametrically following Meyer (1990).

13. Of course, one could estimate a panel logit or probit which includes both cross-section and time-series dimensions. However, such an estimate, while recognising that certain observations come from the same countries, does not take into account the fact that the observations for each country have a particular chronological order. We discuss these issues further in Dickerson, Gibson and Tsakalotos (2002).

speculative attack, the duration between speculative attacks might also play a role.[14] Thus, if a country can gain a reputation within an exchange-rate targeting regime, then this may well work, *ceteris paribus*, to lower the probability of a speculative attack. In this case we anticipate a negative duration effect: the longer the country goes without experiencing a speculative attack, the lower the probability that it will experience one now.[15]

The dependent variable takes a value of 0 or 1 dependent on whether a speculative attack has occurred or not. We identify a speculative attack as being characterised by a large fall in foreign exchange reserves (more specifically, a fall greater than the mean change minus the standard error of the change in reserves). This approach is similar to that adopted by Moreno (1995), Gibson (2003) and Gibson and Tsakalotos (2004).

The explanatory variables include those which have been identified in the literature to influence the probability of realignment or a speculative attack.[16] Relative CPI inflation rates (that is, inflation in the country relative to that in Germany) are included to capture the idea that inflation will cause the exchange-rate targeting country to lose competitiveness and hence increase the probability of a speculative attack.[17] The current account (as a percentage of GDP) might also capture this idea. That is, if exchange-rate targeting implies a continuous real appreciation of the domestic currency as it usually does when the exchange rate target is being used as a means of disinflation, then this will be reflected in a growing current account deficit, bringing into question the sustainability of the targeting policy. The cyclical position of the economy (as represented by the rate of growth of GDP or industrial production)

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14. This is similar to duration effects in the unemployment literature. There the question is whether unemployment is characterised by hysteresis. If it is, then the probability of getting a job and moving out of the state of unemployment will depend not only on the individual's characteristics, the macro economy, etc, but also on the duration of the spell of unemployment. The longer the person has been unemployed, the lower his/her probability of getting a job. See, for example, Meyer (1990).

15. Note that this reputation effect exists over and above improving fundamentals which are included in the equation. One can view it as the gains from establishing a reputation as a 'hard-nosed' government in resisting previous attacks.

16. The literature is extensive. Reasons for speculative attacks include diverging fundamentals (Dornbusch, 1982; Flood and Garber, 1984), perceived policy differences (Eichengreen, 1993; De Grauwe, 1994; Ozkan and Sutherland, 1995) and self-fulfilling attacks and contagion effects (Obstfeld, 1996). Contagion effects may arise from the effect of a crisis in one country on the economic fundamentals of another or via psychological factors which link markets.

17. We also experimented with relative money growth rates.

captures the political costs which might be associated with the exchange-rate targeting policy. Thus if the policy is recessionary and growth falls or becomes negative, then the cost of continuing the peg increases (as unemployment rises), thus raising the probability of a speculative attack. Finally we include the two dummy variables capturing the effects of the Asian and Russian crises.[18]

Table 9: Determinants of the probability of a speculative attack in the SEEs

	Model 1 – Weibull hazard model		Model 2 – Semi-parametric hazard model	
	coefficient	standard error	coefficient	standard error
inflation differential	35.055	25.678	40.066	31.743
cyclical position	-31.983**	11.596	-32.872*	14.008
Current account (%GDP)	-0.955**	0.335	-1.449*	0.720
Asian crisis	1.213	1.358	2.012	1.868
Russian crisis	4.082*	1.742	3.833+	2.150
Constant	-4.669**	2.026	-2.687**	0.893
Baseline hazard	Log(t)		Non-parametric	
	-0.983*	0.441	$Chi^2(4)=2.46$ (prob=0.65)	
Country-specific effects	$Chi^2(2)=3.64$ (prob=0.16)		$Chi^2(2)=3.53$ (prob=0.17)	
LogL	-22.17		-16.47	
Specification test	-0.01 (prob=0.944)		0.49 (prob=0.627)	
Model Chi^2	$Chi^2(8)=22.63$ (prob=0.00)		$Chi^2(11)=18.93$ (prob=0.06)	
number of countries	3		3	
number of observations	78		43	

*Notes: + significant at 10% level; * significant at 5% level; ** significant at 1% level.*

The specification test is due to Pregibon (1980). Similar to a standard RESET test, it is distributed as standard normal N(0,1) under the null hypothesis of no misspecification.

18. We could not include the ERM dummy: it perfectly predicts the dependent variable since both Spain and Portugal experience speculative crises in 1992 and 1993. It should be remembered that Greece is only in the sample from 1994 when it began to target the exchange rate.

The results for the SEEs are presented in Table 9. There is clear evidence that both fundamentals and contagion have played a role in the experience of the SEEs. In addition to the current account, the cyclical position of the economy matters - as does, to some extent, the inflation differential. Reputation effects which are present in the Weibull specification disappear in the semi-parametric model. Contagion is also present, although this time from the Russian rather than the Asian crisis and reflects the impact of the Russian crisis on Greece.

Thus both pieces of econometric evidence suggest that, along with macroeconomic fundamentals, contagion also plays a role in explaining both capital flows and speculative attacks. The ERM crisis of 1992 strongly affected Spain and Portugal, reflecting the fact that they were still among the weaker ERM countries at that time (along with Ireland). That the impact of the Asian and Russian crises was felt largely in Greece and not in Portugal and Spain is not a surprise. At the time of these two events, Greece was clearly not destined for EMU entry among the first wave of countries and was still classified as an emerging market. By contrast, Spain and Portugal were to enter EMU with the first wave and the fact that Portugal was technically classified as an emerging market until January 1999 was not relevant.

A number of points can be drawn from this formal analysis of the SEEs. First, it does matter what policies a country follows. Thus policies which are not targeted at keeping inflation under control or containing the current account deficit will increase the likelihood of a country experiencing capital outflows or even a speculative attack. Second, periods of poor economic growth can lead to policy conflicts which bring into question the priority given to the exchange rate target. Third, there is clear evidence of contagion. This suggests that even if domestic policy is strongly directed towards the exchange rate target, crises elsewhere can be transmitted (either through fundamentals or via psychological links between markets) complicating severely the exchange rate policy. This latter result indicates that an orthodox stability-oriented macroeconomic policy, as it is known in European policy circles, is not enough.

The lessons of the SEEs for the new/prospective EU members should now be clear. Achieving and/or maintaining levels of inflation close to those of the euro area can help to prevent outflows and speculative attacks. The importance of growth in both equations is of particular relevance to the new/prospective EU members. As we noted in section I, they appear to have experienced wider swings in economic activity; in addition, *per capita* income levels are still low by EU standards. As a result, good growth performance is a top priority for these countries and it is easy to envisage the potential for policy conflicts to arise between the exchange rate target and growth. The evidence suggests that such conflicts can lead markets to question the central rate. However, it is not only poor growth performance that could trigger

problems. If growth is high, then this can attract capital inflows which might lead to a loosening of the monetary policy stance by fuelling domestic liquidity creation. Additionally, the results suggest that the avoidance of current account deficits reduces the probability of a speculative attack. However, again this points to a potentially difficult area. The process of catch-up is one which is usually associated with current account deficits; yet the results suggest that such deficits can encourage speculative attacks.

Aside from the problems of charting an appropriate macroeconomic course, the SEEs' experience suggests that the new/prospective EU members could still experience downward speculative pressure associated with contagion from other countries, either within the ERM II system or elsewhere. That is, controlling for the macroeconomic situation as we do in both equations, contagion effects both from other ERM countries and from as far away as Asia and Russia were found to be a factor in the SEEs' experience. Many of the new/prospective members of the EU, aside from having strong trade links with the EU, also conduct a significant proportion of their trade with other central, eastern and south-eastern European countries along with the former Soviet republics (Table 10). Thus contagion through fundamentals (trade links) is possible. Moreover, the fact that new EU members are largely from the same geographical region could increase the possibility of contagion through psychological links.

4. The Institutional Structure of ERM II and Prospects for the New/Prospective Members

Exactly how problematic the road to EMU will be for the new/prospective EU members depends not only on the macroeconomic environment and the prospect of contagion, but also on the nature of the exchange rate system in which they will participate before euro area entry. The features of ERM II have been described extensively elsewhere and this is not the place to discuss them at length.[19] It is a 'hub and spokes' system with the euro area as the 'hub' to which the 'outs' will tie their exchange rate. The ±15% fluctuation bands are designed to accommodate countries at very different stages of convergence and to increase the flexibility of the system.

19. See, for example, the original Council Resolution (Resolution of the European Council on the Establishment of an Exchange Rate Mechanism in the Third Stage of Economic and Monetary Union, Amsterdam, 16 June 1997), De Grauwe (1997) and Lamfalussy (1996).

Table 10: Trade between New/Prospective EU Members and EU15

	Exports to EU15 /total exports	Imports from EU15 /total imports	Exports to each other /total exports	Imports from each other /total imports
Bulgaria	53.2	56.4	7.8	7.4
Cyprus	57.0	33.5	8.6	1.8
Czech Republic	70.0	59.3	16.5	12.2
Estonia	62.0	55.9	14.7	8.5
Hungary	69.1	63.3	8.0	7.0
Latvia	62.0	51.9	13.3	19.0
Lithuania	49.4	49.9	20.1	11.1
Malta	34.5	53.2	2.2	0.9
Poland	67.2	67.6	12.3	7.8
Romania	67.1	62.7	7.2	8.8
Slovak Republic	62.0	53.8	23.9	25.0
Slovenia	59.3	74.7	8.9	7.6

Notes: IMF Direction of Trade Statistics, figures for 2003

Realignments are allowed and decisions on realignments will be taken quickly in order to avoid severe misalignments. Of course, under the conditions of the Maastricht Treaty, a country wishing to join EMU should not realign in the two previous years. Realignments are joint decisions to be taken by the ECB, other central banks in the system and finance ministers. Credit in the form of a very short-term financing facility is available as in the old ERM in order to help finance interventions, the latter being compulsory and automatic at the margins. Finally, policy co-ordination plays a role in the sense that information is gathered on each ERM II member country and the consistency of its policies is assessed in relation to the policy pursued by the ECB. The question we want to address in this section is whether this institutional structure can help to mitigate the potential problems we identified above which new/prospective EU members are likely to experience on their road to EMU.

It is certainly true that ERM II is a more flexible system than the old ERM and this makes it particularly suited to the disparate nature of the new/prospective EU members. In particular, the wider fluctuation margins can accommodate movements in the exchange rate associated with the process of real convergence. If the exchange rate appreciates and remains appreciated relative to its central rate for some time, then this may be an indication that the central rate needs to be changed. If the fluctuation margins were much smaller, it would not be possible to test the need for a central rate change in this way. The wider margins can also help with short-term macroeconomic problems, such as excessive capital inflows caused by a credible central rate in combination with a tight monetary policy. By allowing the exchange rate to appreciate the impact of the inflows on domestic liquidity can be mitigated. Finally, flexibility allows each country to be treated on an individual basis, permitting those that are close to euro area convergence to operate a tighter exchange rate target while those that are further away can have the time and space to get used to operating under the rules of the game.

However, in spite of these advantages, it is our argument here that there are two reasons why the institutional structure is unlikely to make the road to EMU for the new/prospective EU members anything other than bumpy. First, ERM II is asymmetric by design[20] with the onus of adjustment completely on those countries not in the euro area. The rationale for this was the need to build and preserve ECB credibility by allowing it complete independence to pursue whatever monetary policy might

20. The old ERM, it was argued, was asymmetric *de facto* but not by design since it was a bilateral grid system and there was the divergence indicator which was supposed to indicate which currency was out of line. On the question of asymmetry in the old ERM, see Giavazzi and Giovannini (1987), Fratianni and von Hagen (1990), De Grauwe (1988) and Brissimis *et al.* (2002).

be required to ensure price stability. It was unwilling therefore to commit itself to a system which might have compromised that ability (Dornbusch, Favero and Giavazzi, 1998). This desire that the design of ERM II should not interfere with the monetary policy of the ECB is also reflected in the intervention rules and the conditions surrounding realignment decisions. The fact that the ECB has the right to initiate realignment discussions if it feels that exchange rates are getting out of line is designed to protect the ECB and maintain its independence.

Additionally, although the ECB is required to intervene automatically at the margin, it has the right to limit intervention (or ultimately to suspend it) if it judges the currency under pressure to be misaligned. Such conditions attached to intervention imply only a limited responsibility for the ECB in promoting exchange rate stability within the EU as a whole and it should be remembered that non-euro area countries have no say in ECB monetary policy decisions. That the ECB will indeed act strictly and will not show benevolence towards new EU members is indicated by two pieces of evidence associated with its first years of operation. First, it takes its mandate for price stability very seriously - so much so that, in the past, it has been criticised for taking a too conservative stance in its reactions to downturns in economic activity (Fitoussi and Creel, 2002). Second, it has not shown itself to be an active intervener in foreign exchange markets, preferring instead to allow currencies to find their own level in the market. Evidence from intervention by the Group of Seven in the 1980s suggests that coordinated intervention is more likely to be successful than uncoordinated intervention since agreement between the central banks involved can help to alter expectations in financial markets (Dominguez and Frankel, 1993).

A commitment to coordinated intervention may be particularly important for countries which are close to convergence but whose progress is undermined by foreign exchange markets responding to political rumours or taking advantage of arbitrage opportunities in the run-up to decisions about whether certain ERM II members will be admitted to the euro area. The experience of the SEEs certainly provides evidence that capital flows can be very volatile for these reasons in the latter stages of convergence. Furthermore, the empirical evidence of the previous section suggests that even if macroeconomic conditions in ERM II countries are satisfactory, capital flows associated with contagion effects may need to be countered. If the ECB has the ability to withdraw support whenever it wants or intervenes half-heartedly because it is worried about conflicts with its main goals, then this may actually help to magnify disturbances rather than dampen them.

The second point that can be made in support of the view that ERM II countries face a bumpy ride is the lack of genuine policy cooperation. As we noted above, policy coordination is part of ERM II. However, the form which this coordination

process takes appears to rule out what might be termed macroeconomic policy cooperation, by which we mean agreements of the type "I'll change my policy a bit if you do too". The absence of such cooperation is potentially harmful for the operation of ERM II. At the time of the Basle-Nyborg agreement of 1986, it was recognised that reinforcing interest rate changes by both countries (and not just by the country experiencing downward speculative pressure) can help when a currency is under attack. The experience of the old ERM in the early 1990s seems to support this: changes in interest rates by only the country whose currency was under downward speculative pressure were not enough to reassure the markets and the reluctance of the country whose currency was under upward speculative pressure to alter its interest rates was taken as a sign of a lack of commitment to the system (Cobham, 1994; Buiter, Corsetti and Pesenti, 1998). More generally, the old ERM showed itself to be highly vulnerable to a lack of cooperation over the objectives of policy. Thus increased unemployment and the desire to adopt macroeconomic policies which were more 'friendly' towards its reduction were in part responsible for the ERM crises of the early 1990s. The ultimate success of EMU will depend crucially on whether EU countries can develop mechanisms which enable them to mediate their policy differences. There seems to be no reason why such mechanisms should not be developed before the new EU members join the euro area, yet the framework of ERM II does not allow these countries any say in policy making in the euro area for fear that the commitment to price stability may be compromised.

Thus, if ECB support for intervention operations is likely to be weak and if mechanisms for policy cooperation (as we define it) are almost non-existent, what policies might be left to the new EU members to make the road to EMU less problematic? We can distinguish policies according to whether they seek to deal with excessive inflows or outflows.

The SEEs' experience with inflows suggests that the following policies might be useful, most probably in combination with each other. First, the most common response to inflows is sterilisation, which helps to break the link between reserve changes and changes in the monetary base (and hence would cause the correlation coefficients of Table 6 to be lower). Figures 2a-2c suggest that there have been periods when capital inflows into the new/prospective EU members have been of such a magnitude as to undermine the monetary stance. This has been compounded by strong FDI inflows into a number of these countries. As a consequence, sterilisation has been used actively in the past.[21] However, sterilisation is not without its

21. On sterilisation in the Czech Republic and Poland, see Girardin and Klacek (1999) and in Hungary, Oblath (1998).

problems. In particular, it is costly since, although the foreign exchange reserves of the monetary authorities earn interest, this rate is lower than that paid out on the deposits attracted from the domestic interbank market.

A second policy response is to increase reserve requirements, which prevents the rise in the monetary base consequent on the capital inflows from affecting the broader monetary aggregates. The Bank of Greece also used this policy, raising reserve requirements between August and October 1995 and again in May 1996; it also broadened their coverage in May 1996 to include liabilities to non-residents. This reduced the amount of intervention that was needed in the domestic money market. The cost of this policy is partly borne by the banking system since reserve requirements act as a tax on the system and reduce its competitiveness. With the single market in banking and financial services operating in the EU, this can put domestic banks at a disadvantage. It also prevents convergence of reserves requirements on euro area levels and thus could cause credit conditions to loosen substantially close to or just after euro area entry when reserve requirements have to fall to the euro area level.

Thirdly, some modification of the exchange rate target can be employed, for example, by making use of the fluctuation bands. Allowing nominal appreciation of the exchange rate reduces the pressure for capital inflows by generating expectations of future depreciation. The disadvantage of such a policy is that it could worsen the current account, which may already be showing signs of deterioration because of the real appreciation associated with disinflation via an exchange rate target. This is a real problem for the new/prospective EU members. As countries engaged in real convergence they already have significant current account deficits. Nonetheless, the flexibility provided by the wider fluctuation bands of ±15% which applied in the old ERM following the speculative crises of 1992 and 1993 and which continue to apply in ERM II is something which could be actively used in the years up to euro area entry. The Greek monetary authorities, for example, allowed the drachma to appreciate relative to its central rate by up to 8-9%, thus creating expectations of depreciation back to the central rate at some time before euro area entry.[22] The Spanish and Portuguese monetary authorities, working within the ±6% bands had less opportunity to follow this path. For ERM II members the flexibility afforded by the wider bands may prove useful in helping to absorb shocks which might give rise to excessive capital inflows.

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22. In fact, the extent of depreciation required for the drachma to move to its central rate by the eve of euro area entry was significantly reduced by the revaluation of the central rate by 3.5% in January 2000. This helped to prevent the loosening of monetary policy which would otherwise have been associated with exchange rate depreciation.

Fourthly, if the policy mix has some part to play in the capital inflows (for example, through a tight monetary policy and relatively loose fiscal policy), then improving it can obviously help. This points to the need for macroeconomic stabilisation and, in particular, a reduction in the budget deficit before liberalisation occurs (McKinnon, 1989). Otherwise the relatively tight monetary policy combined with a fiscal deficit will continue to keep interest rates above those in the euro area. Of course, credible fiscal consolidation takes time, especially when it is often the case that the problem is related as much, if not more, to difficulties associated with revenue collection rather than high government spending. Fiscal developments in recent years in the new/prospective members are suggestive of the existence of structural deficits. Moreover, while expenditure/GDP ratios in all the new/prospective EU members are lower than the EU average, revenue/GDP ratios are even lower still (Economic Policy Committee, 2003). This reflects narrower tax bases, many exemptions and higher levels of tax evasion than in the EU15. Such fiscal problems require time to be sorted out.

A final policy response is the imposition of capital controls on inflows. A common type of control, used by Spain in the late 1980s, is the requirement that a certain proportion of foreign inflows resulting from residents borrowing from abroad be deposited with the monetary authorities. This policy has the advantage that it can flexibly respond to changing conditions (by altering the amount re-deposited) and penalises short-term borrowing more than long-term borrowing. The latter is useful if the monetary authorities consider that the foreign borrowing is of a speculative nature. The success of capital controls is a rather controversial issue. Montiel and Reinhart (1999), in a study of capital flows covering many emerging markets in the 1990s, conclude that, while controls may not have significantly reduced the total quantity of inflows, they did help to reduce short-term and portfolio flows, without affecting FDI flows. Valdes-Prieto and Soto (1998), for Chile, find evidence of a threshold effect. The tax on inflows does not work at very low levels of the tax, but only after a certain threshold is reached. Finally, Cardenas and Barrera (1997) examine the effect of non-remunerated reserve requirements on inflows which were introduced in Columbia in 1993. They find no effect, but their results suffer from a basic weakness: there is no attempt to model the quantitative controls which held pre-1993 (even although the sample period begins in 1985) and hence to incorporate the fact that the move to reserve requirements (a price control) represented a liberalisation.

If the evidence on the effect of capital controls on inflows is unsatisfactory, there is more support for the view that capital controls on outflows can help prevent or lessen the impact of speculative crises. Of course, fundamentals are also important, as suggested by the evidence presented here for the SEEs. Thus, clearly convergence towards the euro area and the meeting of the Maastricht criteria should be

a priority for the new/prospective EU members. Indeed, as is clear from Tables 1-5, many of them are already orienting their policy in this direction even before they are admitted to EU membership. But the role of contagion as a determinant of capital outflows and speculative crises suggests that improving fundamentals may not be enough. Hence the delay of capital liberalisation may be a policy which recommends itself.[23]

Evidence from the old ERM suggests that capital controls on outflows kicked in at times of speculative attacks - as confirmed by a widening of onshore-offshore interest rate differentials.[24] Similar results have also been found for Spain and Portugal (Bachetta, 1992; Cassola e Barata, 1992; Bajo-Rubio and Sosvilla-Rivero, 2001) and for a number of emerging markets (Kumhof, 2001). Eichengreen, Rose and Wyplosz (1996b) recommended the use of controls as a means of ensuring a safe passage to EMU in the light of the turbulence of 1992-93. They based their recommendation on a comprehensive analysis of 22 countries over a 25-year period, comparing various macroeconomic aggregates around periods of speculative pressure for realignments in countries with capital controls and those without. They conclude that the evidence provides support for the view that capital controls can offer greater policy autonomy.

Finally, a cautious approach to liberalisation in the new/prospective EU member states is also recommended by Begg et al (1999). They argue that there are good reasons for thinking that self-fulfilling crises and contagion-induced crises have become a more prevalent cause of speculative crises. Furthermore they question the costs associated with controls on capital movements. Liberalisation experiences do not seem to be associated with a change in the direction of net flows, as one might expect if controls were preventing an efficient allocation of resources. Rather capital account liberalisation simply increases the volatility of net flows. Moreover, liberalisation in one set of countries is often associated with an increase in volatility in other countries with a liberalised regime. They conclude that this externality associated with liberalisation implies that it has to be conducted carefully. Overall, they argue, the costs of maintaining controls in the new/prospective EU members may well be outweighed by the benefits.

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23. As noted above, since free capital movements are a condition of EU entry, the new EU member countries have largely removed controls. Bulgaria and Romania still retain controls.

24. See the various country articles in *European Economy*, no. 36, 1988 on the effectiveness of capital controls in the various ERM members of that time.

5. Concluding Remarks

We have argued in this paper that the road of the new/prospective members of the EU towards EMU is likely to be a bumpy one. Our argument draws on the experience of the SEEs with exchange rate targeting in the run-up to EMU entry. We showed that capital inflows frequently complicated the conduct of monetary policy in these countries with the correlation between capital flows and changes in reserves being quite high. This necessitated policies either to sterilise the flows or to dampen their impact on the domestic monetary aggregates. At the same time capital outflows and speculative attacks can lead to devaluations and a delay in the nominal convergence process.

The evidence provided in this paper suggests that the new/prospective EU members are likely to have a similar experience. A formal econometric examination of the causes of capital flows and speculative attacks in SEEs indicates that, whilst economic fundamentals did play a role in determining capital flows, they were also influenced strongly by contagion effects. The lessons for the new/prospective EU members are clear. Their success with exchange rate targeting within ERM II may well depend on the ability of markets to distinguish between those countries with sound fundamentals and those without. The fact, however, that they are all classified as emerging markets and past experience with contagion effects spreading through such markets does not suggest that the process of exchange rate targeting will be easy. A less asymmetric ERM II along with a greater degree of policy cooperation between the euro area and the ERM II members could provide some support, but does not appear to be a likely prospect. In the absence of this, a policy of maintaining controls over capital movements until close to euro area entry is one which may very well recommend itself. Again, however, this has been ruled out by making free capital movements a condition of EU entry. Thus the only other option is that of minimising the length of time within the ERM to the minimum required under the Maastricht Treaty conditions for euro area membership. Indeed, the policy statements from new/prospective EU members suggest that this will be their response to the problems identified in this paper. However, it is not without cost. The importance of exchange rate stability pre-euro area entry will be downgraded and the ERM II institutional framework will not contribute significantly to convergence of the macroeconomic performance of the new EU members with that of the euro area itself.

Data sources

Private capital flows: Financial Account, Foreign direct investment (abroad and in reporting country), other investments by monetary authorities (assets and liabilities) and other investments by general government (assets and liabilities) from IMF *Balance of Payments Statistics*.

Changes in reserve assets: Reserve Assets from IMF *Balance of Payments Statistics*.

Interest rates, money supplies and consumer price inflation from IMF *International Financial Statistics*.

Economic Activity: measured either by quarterly real GDP or industrial production taken from IMF *International Financial Statistics.*

The data periods are:

Greece	1994Q1-1998Q4
Portugal	1992Q2-1998Q4
Spain	1989Q2-1998Q4

Appendix: Exchange Rate Regimes in the New/Prospective EU Members

Bulgaria	Had a floating exchange rate from 1990 until end-June 1997. From 1 July 1997, a currency board has been in operation with the currency pegged to the DM and, since 1999, the Euro.
Cyprus	Until June 1992, the pound was pegged to a trade-weighted basket of currencies. From 19 June 1992, the peg was changed to the ECU with fluctuations bands of ±2.25%. From 1999, the ECU peg was changed to a euro peg. with the bands remaining at ±2.25% until 1 January 2001 when they were increased to ±15%.
Czech Republic	From 1991 to 1993, as Czechoslovakia, the currency was pegged to a trade-weighted composite of currencies (including the Austrian schilling, the French Franc, the DM, the Swiss Franc and the US dollar). From the beginning of 1993 the basked was changed to two currencies, the DM and $. From end May 1997 the exchange rate has been floating with intervention from the central bank to smooth the Koruna/euro rate.
Estonia	Since mid-1992 a currency board has been in operation. Up until end-1998 it was a DM peg; subsequently it became a euro peg. Since June 2004, it has been a member of ERM II.
Hungary	Since the beginning of the 1990s, Hungary has followed a strategy of pegging its currency to a basket which from 1991 has consisted of the ECU (and from 1999, euro) and the US$. Periodic devaluations occurred along with a preannounced crawling depreciation. From 2000, the crawl was switched to the euro only; from October 2001, the rate against the euro was fixed within ±15% bands.
Latvia	Initially the exchange rate was floating. Since February 1994, it has been pegged to the SDR.
Lithuania	Initially the exchange rate was floating. From April 1994 to January 2002, it was pegged to the US$ via a currency board arrangement. Thereafter the peg was against the euro. Since June 2004, it has been a member of ERM II.
Malta	Pegged to a basket of currencies (including £, $ and the ECU/Euro) determined by their importance in Maltese trade. Since August 23, 2002, the weights have been fixed at 10% for the dollar, 20% for sterling and 70% for the euro.
Poland	From 1990 until April 2000, the currency was pegged to a basket of currencies ($, DM, £, French Franc and Swiss Franc until end-1998; euro and $ thereafter). Periodic devaluations occurred and crawling depreciations were announced.

Source: IMF Annual Report on Exchange Arrangements and Exchange Restrictions, various years.

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