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DAVID BEGG:

Capital Inflows, Monetary Policy and the Exchange Rate Regime

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Capital inflows, monetary policy and the exchange rate regime

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1. INTRODUCTION

In the last decade, exchange rate crises in Western Europe, Latin America, East Asia, and Russia have confirmed again the need for appropriate policies to handle international capital flows. Such crises were not new. However, increasing integration of financial markets has increased the cost of poor policy design. This general conclusion applies a fortiori to the transition economies of Central and Eastern Europe for whom the benefits of rapid and reliable accession to the EU are large. Any crisis that threatens this process is particularly costly. Transition economies have already experienced substantial capital flows. The likely course of future events will further to increase their importance.

The Nice Summit confirmed the EU commitment to eastward enlargement. In the *pre-accession stage*, accession countries will implement the reforms and adopt the policies necessary to comply with the *Copenhagen criteria*: a functioning market economy, the ability to compete within the EU, and espousal of the aims of political, economic and monetary union. Both accession countries and the EU envisage that full capital mobility will prevail by the time of accession. Many European transition economies have already liberalized capital account transactions substantially. The remaining vestiges of capital controls will also have to go. This can only increase exposure to capital flows.

The second stage lies between accession and membership of monetary union. New EU members will have to view their economic policies, including exchange rate policies, as a matter of common concern to all EU members. At some point during this second stage, the new members will join ERM-2, the exchange rate arrangement between the Euro and EU members outside the Euro. During this second stage, new members will pursue the convergence criteria necessary to adopt the Euro. The process of accession therefore entails increasingly pegged exchange rates without any support from capital account controls.

The third stage is adoption of the Euro and full membership of monetary union. At this point, many of the problems posed by volatile capital flows recede: there is no 'fixed but adjustable' exchange rate to attack. For example, within the United States, interstate mobility of capital is one of the adjustment mechanisms that compensate for the inability to adjust exchange rates between individual states when state-specific shocks occur.

European transition economies have already experienced capital flows to varying degrees. How this was linked to the other macroeconomic policies pursued is one of the principal questions I try to resolve. A better understanding of these issues is important because accession countries face a dangerously exposed period before the relative security of monetary union will be available. During this interim period, they will be committed to full capital mobility yet face considerable constraints on the macroeconomic policies they are allowed to follow. In particular, there is the prospect of substantial capital inflows as international investors make the 'convergence play' in asset markets. Such inflows carry the double danger of initial domestic overheating and a subsequent painful outflow if confidence falters.

My paper is therefore in four parts. First, I examine why capital flows arise, the problems they create, and the policies available to enjoy the benefits of capital mobility while

mitigating the costs. Second, I assess how existing EU members negotiated the critical interim period on the way to monetary union and ask what lessons can be drawn. Third, I consider what lessons can already be drawn from the experience of European transition economies to date. Finally, I evaluate the policy options facing these countries as they continue along the path to full membership not just of the EU and but of EMU itself.

2. CAPITAL FLOWS IN THEORY

2.1. Causes of capital flows

Capital inflows have many causes, some of which may be external. Here, however, I am interested mainly in domestic explanations of capital inflows. I distinguish four reasons why capital inflows occur. First, if middle-income countries have scope to grow more quickly than rich countries, middle-income countries 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 precommit to allow future repatriation of profit and capital abroad, and trade liberalization.

Second, capital inflows may reflect structural distortions in domestic capital markets and easier access to global markets. When global access is increased as an act of policy, domestic residents exploit the comparative advantage that foreign capital markets enjoy.

Third, the demand for domestic money increases as inflation expectations fall. The corresponding extra domestic money supply can be accomplished either through domestic open market operations or by the finance of budget deficits. If neither mechanism operates on sufficient scale, an inflow of foreign exchange reserves accomplishes the same outcome. The central bank 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. This is simply a Krugman (1979) balance of payments 'crisis' in reverse.

Fourth, many countries undertaking successful disinflation with relatively independent central banks find that domestic real interest rates are high precisely at the time that their equilibrium real exchange rate is expected to appreciate. 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. Countries that offer high real interest rates and the prospect of steady real appreciation are likely to attract substantial portfolio and short term capital inflows.

Channels for inflows are potential channels for outflows. The same four channels operate. First, a loss of confidence, either in continuing structural reforms to sustain growth or in the commitment to political stability and smooth repatriation of foreign capital, 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.

Second, successful development of domestic capital markets may eventually mitigate the need to rely to heavily on foreign capital. Permanent reliance on foreign capital remains relatively rare. 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 perfect global capital mobility would imply.

Third, 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 – the classic balance of payments crisis first described in Krugman (1979).

Fourth, 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 are four channels through which an economy's fundamentals alter the incentive to allocate global capital. However, capital flows sometimes respond to bubbles unrelated to fundamentals. Investor sentiment may also exhibit contagion, in which views about one country are then projected onto 'similar' countries, whether or not these share all the characteristics of the country about which investors initially revised their opinion. Endogeneity of policy also creates the potential for multiple equilibrium, and hence successful self-fulfilling 'attacks'. Although Obstfeld (1996) first examined these in relation to devaluation, in principle similar considerations could apply to inflows and sharp upward revaluations of the exchange rate.

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 reflects financial liberalization and increasing financial market integration. In terms of the size and potential reversibility of capital inflows, this suggests that channels three and four - those associated with money demand and short term capital flows – will be the most significant. In turn, these highlight the role of fiscal and monetary policy, including the choice of exchange rate regime.

2.2. Capital Inflows: Benefits, Problems, and Policy Responses

The appropriate response depends on the diagnosis of the reason why the capital inflow occurs. Suppose first 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).

Accession countries are investing in economic transition, with large early costs then benefits extending well into the future. The first-best response is 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 impede this solution. Countries are unable to borrow nearly as much as they would like. Even if they can, 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 loans The 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).

But for this problem, a capital inflow would ease a country's external constraint. It allows 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.

When a capital account surplus induces a current account deficit of comparable size, the domestic money stock is unaltered; and there is little overheating of the domestic economy since extra demand for consumption and investment is matched by extra import supply. Generally, however, additional borrowing is spent both on traded and nontraded goods: the first-round effect is therefore to induce a current account deficit *smaller* than the capital inflow, and hence to provide a net reserve inflow. The market mechanism that ensures the current account deficit matches 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. If inflows are spent on capacity-enhancing investment (including human investment), it may be possible preserve competitiveness at a higher real exchange rate (Balassa-Samuelson again). If so, it is wrong to complain about the size of the current account deficit.

However, this presupposes that inflows are long term, not subject to future reversal. In practice, moral hazard and adverse selection limit such commitments. Moreover, financing illiquid investment by borrowing short is risky business, especially if this entails a currency mismatch. Practical policy design must be more cautious.

A wise approach will entail taking prudential supervision of banks seriously, including early limits to excessive exposure. Such microeconomic responses are dealt with in other papers in this conference, and are not the principal focus of the macroeconomic analysis of my paper. I focus instead on 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 adopting greater exchange rate flexibility.

I 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 is 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 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. Banks may use additional deposits to finance less liquid lending, leaving them vulnerable to rapid contraction.

Hence, many governments try to take out insurance by using sterilized intervention as the first line of defense. The central bank issues domestic liabilities with which to finance the acquisition of the reserve inflows that accompany a balance of payments surplus when the government is reluctant to allow an exchange rate appreciation (in case the inflow is not to augment potential output) but simultaneously reluctant to allow an increase in the money stock (in case the inflow is not the result of an increase in money demand).

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

In accession countries, capital mobility has risen but from a low base. Its current level varies from country to country and is often subject to dispute. 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 accession countries 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 trying to sterilize capital inflows is to frustrate the adjustment in interest rates that would eventually have choked off the inflow. Even if the government 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.

This prescription also reduces the significance of the distinction between fixed and floating exchange rate regimes. Under floating, 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 higher money demand but equally 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.

3. EVIDENCE FROM EXISTING EMU MEMBERS

To find out how useful the theory is in practice I examine how some existing EMU countries fared in recent years. This raises the questions of which countries to examine, and over what period. I look not at the inner core but at the periphery, countries that were later entrants to the EU, slower to disinflate, or both. I examine Italy, Portugal, Spain, Greece, and Ireland.

Over what period should they be studied? Is it the credibility of monetary policy that matters, the prospect of fiscal discipline, or access to the EU itself. To avoid prejudging the case, I examine evidence from 1986 onwards.

For EC founder 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 tighter. For these countries 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 joined the EU in 1981, but its slow progress in macroeconomic convergence meant that it did not join the ERM until 1998. All 5 countries are now members of EMU, Greece having joined in 2001, the others at the outset in 1999.

Box 1

Transition economies already faced 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 1995-97, the current account deficit spiraled, despite a government budget close to balance. The table below shows the escalating current account deficit, falling competitiveness, and scale of capital inflows.

It also shows huge sterilization. The central bank issued domestic debt and bought foreign reserves to try to prevent large inflows spilling into the domestic money supply. Begg (1997) argues that the policy failed: by preventing inflows from reducing domestic interest rates it merely stimulated further inflows. Nor did it avert the final crisis.

Credit had been liberalized and private demand was increasing rapidly. Even budget balance was insufficiently tight: 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 during the crisis helped soften the subsequent landing.

Czech Economic indicators (end year)	1993	1994	1995	1996
Inflation (%)	**18**	**10**	**8**	**9**
Real effective exchange rate (1992=100)	**118**	**122**	**125**	**133**
Balance of payments (% of GDP)	**10**	**10**	**15**	**1**
of which current account	2	0	3	8
capital account	8	12	17	7
Central bankAssets (bn Crowns)				
Net foreign assets	17	83	180	364
Net domestic assets	99	29	33	170
Liabilities (bn Crowns)				
Narrow monetary base	116	112	147	194

Source: *Begg (1997)*

3.1. When did the Big Inflows Occur in the EU?

Begg et al (2001) argue that, during 1986-99, the largest inflows generally occurred in the mid-to-late 1980s, with a smaller wave in the mid-to-late 1990s. Table 1 provides data. Peak years of capital inflow typically coincided with substantial balance of payments surpluses and reserve inflows.

The data of Table 1 contradict the conventional wisdom. First, the run up to EMU was not the only, and in some countries not the main, phase of capital inflows. Substantial inflows also occurred in the late 1980s when the combination 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 1990-92.

Second, the convergence play on Italian interest rates in the run up to EMU – made famous by the exploits of LTCM – *failed* to induce a net capital inflow to Italy. The Italian financial (capital) account records a net outflow in every year during 1994-99. The substantial *portfolio* inflows in 1995-96 were more than offset by other outflows of short-term capital and net FDI. In the late 1990s Italy never faced the consequences of a capital and monetary inflow. In the late 1980s it did, albeit on a smaller scale than other countries in this group.

Third, the same conclusion applies to Ireland, whose performance in the 1990s benefited from substantial inflows of FDI (Table 1 shows FDI inflows were positive every year during 1987-99 and accelerated sharply in the late 1990s) but offset by outflows of portfolio and other investment. 1998 is the *only* year Ireland experienced a net inflow on the financial account (exclusive of capital transfers and errors and omissions). When capital transfers and errors and omissions are allocated to the capital account as in Table 1, estimates of capital inflows (as a percent of GDP) are only a small fraction of the balance of payments surpluses. To the extent 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 single 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.

Table 1

Existing EMU members: episodes of capital inflow 1986-1999

	In US bn $						%	%	%		Trillions of local currency			%	%
	Current Account	Financial Account				Balance Of Payments	BoP / GDP	(BoP-CA)/ GDP	CA/ GDP	Relative ULC (1995=100)	Central bank Balance sheet (-) currency	(+) net assets foreign	(+) net assets domestic	Structural budget/ GDP	Interest differential With Germany
		Total	FDI	Portfolio	Other										
Italy															
86	2.5	2.0	-2.3	-1.1	5.4	2.3	0.3	0.0	0.3	131.2	51.6	61.4	8.8	-10.8	8.8
87	-2.6	8.9	2.1	0.0	6.8	5.5	0.7	1.0	-0.3	131.0	55.6	71.4	7.3	-10.6	7.3
88	-7.2	16.7	2.1	0.3	14.3	8.4	1.0	1.8	-0.8	130.4	60.2	82.8	6.5	-11.1	6.5
89	-12.8	24.7	0.0	3.2	21.5	11.3	1.3	2.7	-1.3	135.1	71.4	93.2	5.5	-10.6	5.5
90	-16.5	42.6	-1.0	-0.1	43.7	11.6	1.0	2.5	-1.5	142.6	74.8	103.4	3.7	-11.8	3.7
91	-24.6	24.2	-5.1	-4.7	34.0	-6.7	-0.6	1.6	-2.1	145.6	82.0	94.3	3.0	-10.4	3.0
92	-29.2	11.6	-1.0	8.4	4.2	-24.0	-2.0	0.4	-2.4	138.3	90.8	67.3	4.5	-9.3	4.5
93	7.8	5.3	-3.6	50.0	-41.1	-3.1	-0.3	-1.0	0.7	115.1	95.2	83.9	2.9	-7.9	2.9
94	13.2	-14.2	-3.1	-7.8	-3.3	1.6	0.2	-1.1	1.2	109.9	101.9	91.4	-0.9	-8.0	-0.9
95	25.1	-2.9	-2.2	40.6	-41.3	2.8	0.3	-2.1	2.3	100.0	105.2	91.2	6.0	-7.2	6.0
96	40.0	-8.0	-5.1	49.1	-52.0	11.9	1.0	-2.3	3.2	113.9	108.2	106.8	5.5	-6.5	5.5
97	32.4	-6.9	-6.7	11.5	-11.7	13.2	1.1	-1.7	2.8	118.8	116.2	133.6	3.6	-2.0	3.6
98	20.0	-18.1	-9.8	2.9	-11.2	-21.5	-1.8	-3.4	1.8	119.4	124.9	88.8	1.5	-2.0	1.5
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	0
Portugal															
86	1.2	-1.4	0.2	1.1	-2.7	-0.1	-0.3	-3.6	3.3	69.8	0.4	0.7	-0.3	na	11.0
87	0.4	0.7	0.3	3.7	-3.3	1.8	4.5	3.5	1.0	69.8	0.5	0.9	-0.4	na	9.9
88	-1.0	0.3	0.9	2.3	-2.9	0.9	1.8	3.8	-2.0	72.1	0.5	1.5	-1.0	na	8.7
89	0.2	4.0	1.6	8.0	-5.6	4.7	7.1	6.8	0.3	73.5	0.6	2.3	-1.7	na	7.8
90	-0.2	2.6	2.5	9.0	-8.9	3.5	5.3	5.6	-0.3	79.4	0.6	2.6	-2.0	na	8.4
91	-0.7	4.5	2.0	20.1	-17.6	5.7	6.5	7.3	-0.8	89.1	0.7	3.5	-2.8	na	8.5
92	-0.2	-1.0	1.2	9.1	-11.3	-0.2	-0.1	0.0	-0.2	99.7	0.7	3.6	-2.9	na	6.6
93	0.2	-3.0	1.4	48.7	-53.1	-2.9	-3.9	-4.1	0.4	97.5	0.8	3.7	-2.9	na	5.2
94	-2.2	1.0	1.0	-22.3	22.3	-1.4	-1.5	0.8	-2.4	99.1	0.8	3.3	-2.5	na	1.7
95	-0.1	3.0	0.0	21.2	-18.2	-0.3	-0.2	-0.1	-0.1	100.0	0.8	3.1	-2.3	-3.9	5.3
96	-4.5	4.4	0.6	2.4	1.4	0.7	0.6	4.6	-4.0	97.9	0.9	3.2	-2.3	-3.6	4.1
97	-5.5	6.3	0.6	-4.7	10.4	1.2	1.1	6.3	-5.2	97.1	0.8	3.5	-2.7	-2.5	2.4
98	-7.2	6.5	-1.2	-27.5	35.2	0.5	0.5	7.0	-6.5	99.2	0.9	3.3	-2.4	-2.3	0.8
99	-9.0	10.4	-2.1	-1.0	13.5	-2.9	-2.6	5.5	-8.9	100.5				-2.0	0

	In US bn $						%	%	%		Trillions of local currency			%	%
	Current Account	Financial Account				Balance of payments	BoP/ GDP	(BoP-CA)/ GDP	CA/ GDP	Relative ULC (1995=100)	Central bank Balance sheet (-) currency	(+) net assets foreign	domestic	Structural budget/ GDP	Interest differential With Germany
		Total	FDI	Portfolio	Other										
Spain															
86	3.9	-1.6	3.1	2.2		2.3	0.9	-0.7	1.6	89.1	2.4	1.9	0.5	-4.1	7.1
87	-0.3	14.2	3.8	3.8		12.7	4.4	4.5	0.0	90.0	2.7	3.6	-0.9	-2.9	11.8
88	-3.8	14.6	5.8	2.3	6.5	8.4	2.2	3.2	-1.0	96.3	3.2	4.5	-1.3	-3.4	7.4
89	-10.9	18.3	7.0	8.0	3.3	4.7	1.2	3.9	-2.7	103.7	3.8	4.9	-1.1	-4.2	7.9
90	-18.0	23.0	10.4	9.0	3.6	7.2	1.4	4.9	-3.5	114.6	4.5	5.3	-0.8	-5.1	6.7
91	-19.8	32.0	8.0	20.0	4.0	14.3	2.6	6.2	-3.6	117.5	5.6	6.7	-1.1	-5.0	4.0
92	-21.5	6.0	11.1	9.3	-14.4	-17.9	-3.0	0.6	-3.6	120.3	6.0	5.5	0.5	-3.7	3.8
93	-5.8	-0.4	6.5	47.7	-54.6	-5.2	-1.0	0.2	-1.2	107.6	6.5	6.4	0.1	-4.7	4.4
94	-6.3	4.5	5.2	19.4	-20.1	0.0	0.0	1.3	-1.3	101.2	7.2	7.1	0.1	-3.9	-1.4
95	0.8	-8.0	4.1	21.1	-33.2	-6.4	-1.1	-1.2	0.0	100.0	7.5	4.5	3.0	-4.3	4.9
96	0.4	20.1	1.2	-0.5	19.4	24.3	4.2	4.2	0.0	103.1	7.9	7.8	0.1	-2.3	4.2
97	2.5	8.6	-6.0	-4.7	19.3	11.8	2.1	1.7	0.4	101.8	8.4	10.6	-2.2	-1.1	2.1
98	-3.1	-14.2	-7.1	-27.5	20.4	-14.4	-1.9	-1.7	-0.2	105.5	8.4	8.7	-0.3	-1.2	0.7
99	-12.6	-11.2	-26.0	-1.0	15.8	-22.8	-3.8	-1.7	-2.1	106.5					0
Greece															
86	-1.7	2.4	0.4	0.0	2.0	0.7	1.5	5.1	-3.6	90.1	1.0	0.3	0.7	-10.1	13.9
87	-1.3	2.0	0.4	0.0	1.6	1.0	1.8	4.1	-2.3	86.0	1.3	-0.5	1.8	-8.6	15.0
88	-1.0	1.9	0.7	0.0	1.2	1.0	1.5	3.1	-1.7	94.7	1.4	-0.5	1.9	-11.9	14.9
89	-2.6	2.8	0.9	0.0	1.9	-0.3	-0.4	3.4	-4.0	99.9	1.5	-0.8	2.3	-15.7	11.9
90	-3.5	4.0	0.8	0.0	3.2	0.3	0.4	4.5	-4.6	105.5	1.9	-0.9	2.8	-16.6	14.5
91	-1.6	4.0	1.0	0.0	3.0	2.2	2.4	4.2	-2.1	98.7	2.1	-0.6	2.7	-12.3	14.1
92	-2.1	2.6	1.1	0.0	1.5	-0.4	-0.4	1.7	-2.8	96.0	2.3	-1.0	3.3	-13.0	12.2
93	-0.8	4.8	1.1	0.0	3.7	3.4	3.7	4.5	-1.4	90.0	2.5	-1.0	3.5	-12.6	14.0
94	-0.2	6.9	1.0	0.0	5.9	6.3	6.3	6.5	-0.7	93.2	3.5	-1.0	4.5	-8.8	9.9
95	-2.9	3.2	1.1	0.0	2.1	0.0	0.0	2.5	-3.0	100.0	3.6	1.4	2.2	-8.9	11.0
96	-4.6	8.7	1.1	0.0	7.6	4.2	3.4	7.1	-4.2	102.0	4.1	2.1	2.0	-6.4	9.5
97	-4.8	-7.5	1.7	-1.8	-7.4	-5.8	-4.8	-0.8	-4.1	104.6	4.7	3.5	1.2	-3.5	7.1
98	-3.7	4.3	5.7	-12.0	10.6	4.9	4.1	7.2	-3.2	101.6	6.1	4.1	2.0	-1.5	8.1
99	-5.1	-3.0	13.0	-15.3	-0.7	0.8	0.6	4.8	-4.2	103.6				-1.0	5.9

	In US bn $						%	%	%		Trillions of local currency			%	%
	Current Account	Total	Financial FDI	Account Portfolio	Other	Balance Of Payments	BoP/ GDP	(BoP-CA)/ GDP	CA/ GDP	Relative ULC (1995=100)	Central bank Balance sheet (-) currency	(+) net assets foreign	(+) net assets domestic	Structural budget/ GDP	Interest differential With Germany
Ireland															
86	-0.9	1.8	0.0	1.8	0.0	-0.1	-0.3	2.8	-3.1	162.8	1.1	2.3	-1.2	-7.3	7.9
87	-0.1	0.6	0.1	-0.2	0.7	0.9	2.3	2.5	-0.2	149.4	1.2	2.9	-1.7	-5.9	6.8
88	0.0	0.2	0.1	1.0	-0.9	0.6	1.5	1.5	0.0	137.2	1.3	3.2	-1.9	-2.8	3.7
89	-0.6	-1.6	0.1	0.6	-2.3	-0.9	-2.3	-0.8	-1.5	126.1	1.5	2.6	-1.1	-1.4	2.9
90	-0.4	-2.0	0.3	-0.2	-2.1	0.6	1.2	2.0	-0.8	131.4	1.6	3.0	-1.4	-3.9	2.8
91	0.3	-2.0	1.2	-1.1	-2.1	0.5	1.0	0.4	0.7	126.3	1.6	3.3	-1.7	-2.7	1.2
92	0.6	-4.0	1.2	-2.3	-2.9	-2.2	-4.4	-5.6	1.0	122.1	1.6	1.5	0.1	-2.0	4.8
93	1.8	-0.9	0.9	2.5	-4.3	2.7	5.6	1.9	3.7	112.9	1.8	4.3	-2.5	-0.8	1.8
94	1.6	-4.0	0.4	-1.4	-3.0	-0.2	-0.4	-3.2	2.7	108.8	1.9	4.2	-2.3	0.1	-3.5
95	1.7	0.0	0.6	-0.3	-0.3	2.3	3.5	0.9	2.6	100.0	2.1	5.5	-3.4	-1.0	1.7
96	2.0	-2.8	1.9	0.8	-5.5	-0.1	-0.1	-2.9	2.8	99.1	2.3	5.0	-2.7	0.9	2.1
97	1.9	-7.5	1.7	-3.2	-6.0	-1.1	-1.4	-3.8	2.4	91.7	2.6	4.6	-2.0	0.8	2.8
98	2.1	4.3	5.7	-12.0	10.6	3.0	3.9	1.2	2.7	85.9	3.0	6.4	-3.4	1.8	1.9
99	0.3	-3.0	13.0	-15.3	-0.2	-3.1	-3.1	-3.4	0.7	81.7				1.9	0

Source: Begg et al (2001)

Notes: *Data on capital transfers and on errors and omissions not shown, but 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 B of P 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.*

3.2. Did Competitiveness Decline in Periods of Reserve Inflows?

Italy 1987-90 With no ERM realignment during 1987-90, Italian inflation above that in the inner core led to a steady loss of competitiveness, even allowing for productivity growth during the period. Italian relative unit labor costs grew in total by 9% during 1987-90.

Portugal 1987-91 With much larger reserve inflows during the same period, Portuguese relative unit labor costs grew much more than in Italy, by 28% during the period.

Portugal 1996-98 Despite another period of substantial inflows, relative unit labor costs grew in total by a mere 1%, despite now being 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 labor costs grew by 31% during the period.

Spain 1996-97 Despite substantial inflows, relative unit labor 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 labor costs were only 3% higher than 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 labor costs increased.

3.3. Did Sterilization Policy Explain Differences in Short-Run Outcomes Identified Above?

How did sterilization policy evolved during 1986-1999? As capital controls were gradually dismantled, one would expect a priori that resort to sterilization would gradually diminish as its effectiveness fell.

Italy During the inflow period 1987-90, Table 1 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 2 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.

1990 was the peak year of the ratio of net foreign assets to domestic currency. During 1990-99 currency subsequently increased but central bank net foreign assets fell. Although there were particular years (1998) in which sterilization occurred, in general the policy was abandoned.

Portugal During 1987-91 the average balance of payments surplus was 5% of GDP. Over the same period, central bank liabilities (currency) increased by 0.2 trillion escudos, whereas net foreign assets rose by 2.6 trillion. Thus, 0.5 trillion escudos a year of reserve assets were

stockpiled. Nominal GDP rose from 5 to 11 trillion escudos. Taking the central value of 8 trillion, an annual payments surplus of 5% of GDP is 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 labor costs was nevertheless 28%. Massive and sustained sterilization did not prevent this deterioration in competitiveness.

Like Italy, Portugal abandoned sterilization in the 1990s? Table 1 shows little change in the composition of the central bank balance sheet after 1991. The share of net foreign assets actually falls a little.

Spain Despite balance of payments surpluses during 1987-91, Spain engaged in less sterilization that Italy or Portugal. Nor has Spain made any significant use of sterilization subsequently.

Greece The Greek central bank steadily reduced net foreign assets during 1986-94, despite steadily increasing the supply of domestic currency. The counterpart 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 1 shows that during 1995-98 net foreign assets increased at roughly twice the rate of domestic currency creation.

Ireland Table 1 also shows that sterilization policy was used vigorously in Ireland, and not merely in the 1980s. During 1986-88 Irish currency increases by 0.2 trillion punts, while net foreign assets of the central bank increase 0.9 trillion, more than sufficient to offset the cumulative balance of payments surplus during the period. The subsequent isolated years of large payments surpluses (1993, 1995, 1998) coincide with sharp increases in central bank net foreign assets.

Thus it is difficult to discern any general trend. In particular, there is no obvious correlation between variations in sterilization policy and movements in competitiveness. To explain these variations, we need our remaining candidate for an explanation, variations in fiscal policy.

3.4. Tightening Fiscal Policy Offers a Way out of the Dilemma

If governments don't think inflows reflect permanently higher demand for assets denominated in domestic currency, nor believe inflows are a prelude to greater competitiveness that would allow the economy to live with exchange rate appreciation, the '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.

Analyzing episodes of capital inflows in Table 1, Begg et al (2001) show that there is a strong negative correlation between fiscal tightening and real appreciation during periods of capital inflows. Remaining discrepancies are largely explained once one controls for the scale of the initial inflows. Table 2 illustrates and provides powerful confirmation that a readiness to tighten fiscal policy if required is a good defense against 'excessive' capital inflows.

Table 2
Competitiveness, payments surpluses and fiscal policy

Mean annual Δ RULC	Mean annual Δ 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 1

In this section I have examined earlier outcomes of those EMU members whose convergence experience is most relevant to countries of Central and Eastern Europe currently seeking accession to the EU and then to EMU. This earlier experience has been instructive. Some of the surge of capital inflows may occur when credibility is first established, rather than in the immediate run up to the adoption of the Euro; and may occur even before the full liberalization of capital movements takes place.

There is little evidence that sterilization is effective. It may even be counterproductive. Concerns about an appreciating real exchange rate are better met by tightening fiscal policy.

Table 1 sheds less light on the narrow choice of exchange rate regime. During the period under study, by and large these countries of Western Europe were either EMS members or prospective EMS members with heavily managed floats. There is a theoretical presumption that floating exchange rate regimes experience smaller capital flows. The data of Table 1, although consistent with this contention, provide little direct evidence to back this up.

Having examined the experience of Western Europe I turn now to the experience to date in the countries of Central and Eastern Europe. Not only is this of interest in its own right, the greater diversity of monetary and exchange rate regimes provides interesting evidence about the relationship between regime choice and the extent of capital flows.

4. CENTRAL AND EASTERN EUROPE: CAPITAL FLOWS AND THE CHOICE OF EXCHANGE RATE REGIME

4.1. A Brief History of Exchange Rate Regimes in Accession Countries

For the CEE(10), the ten countries of central and eastern Europe for which data is readily available, Table 3 documents the diversity of exchange rate regime, both across countries and over time within countries. Generally, the latter has been in the direction of greater exchange rate flexibility. As domestic fundamentals got stronger, enhanced macroeconomic credibility and more robust microeconomic institutions, there was less need to use the exchange rate as a nominal anchor. Moreover, as capital mobility increased, additional exchange rate flexibility offered some protection against large but volatile capital flows. Higher capital mobility made it harder and harder to defend the middle ground of partially fixed exchange rates. Only where domestic credibility broke down completely, as in Bulgaria, did the advantages of *additional* exchange rate fixity outweigh the costs of dispensing with the exchange rate as a shock absorber.

Table 3
Evolving exchange rate regimes in the CEE(10)

	Fixed		Limited flexibility	Flexible
	Currency Board	Fixed peg	Narrow band or Relatively tightly managed free float	Broad band
Bulgaria	←	←	←	
Czech Republic		→	→	
Estonia				X
Hungary		→		
Latvia				X
Lithuania				X
Poland		→	→	
Romania			→	
Slovakia			→	
Slovenia			→	X

Source: *IMF(2000): 'Exchange rate regimes in selected advanced transition economies: coping with transition, capital inflows and EU accession', reprinted in European Commission (2000): Exchange rate strategies for EU candidate countries,'* ECFIN/521/2000 - EN

Note: Arrows indicate evolution during the 1990s, X indicates a regime that was maintained essentially unchanged

4.2. The CEE Experience of Capital Flows to Date

The EU experience discussed in section 3 suggests CEE countries should already have faced capital inflows as their credibility grew and their institutions developed. The trend towards greater exchange rate flexibility evident in Table 3 also offers a clue that CEE countries may have found greater exposure to capital mobility hard to reconcile with the fixed (but adjustable) exchange rate policies with which many of them began. I therefore examine directly the data on capital flows and associated macroeconomic performance and policy responses.

Table 4 shows IMF data for the 11 countries of CEE for which macroeconomic and balance of payments data is available on a sufficiently comprehensive basis to allow interesting comparisons; only Croatian is missing. CA denotes the current account, and FA the financial account. The latter comprises FDI, portfolio investment, and other (short term) capital flows. Although there is some ambiguity about the allocation of capital transfer payments and errors and omissions, I implicitly add these to the capital account. Thus, subtracting the current account from the overall balance of payments yields an estimate of the size of capital flows,

Table 4
Central and Eastern European experience in the 1990s

Date	CA US bn $	FA US bn $	of which FDI	Portfolio	Other	BoP US Bn $	BoP/ GDP %	(BoP - CA) / GDP %	Short r %	ER : Local / US $	GDP US $ Bn	CA / GDP %	real eer	Budget / GDP %	CPI Δ P /P %	Monetary authorities Balance sheet Currency , NFA , NDA		
Bulgaria																mn leva		
1991	-0.1	-0.4	0.1	0.0	-0.5	-0.3	-3.0	-2.0	49	0.018	5.6	-1.0		-6.1	339	30	1	29
92	-0.4	0.6	0.0	0.0	0.6	0.3	3.2	7.4	52	0.023	8.7	-4.2	63.6	-5.0	91	45	9	36
93	-1.1	0.8	0.0	0.0	0.8	-0.3	-2.8	7.3	48	0.028	10.7	-10.1	97.8	-12.0	73	55	2	53
94	0.0	-1.0	0.1	-0.2	-0.9	-0.2	-2.5	-2.2	66	0.054	9.3	-0.3	89.1	-4.9	96	89	21	68
95	0.0	0.3	0.1	-0.1	0.3	0.4	4.5	4.7	53	0.067	13.4	-0.2	100.0	-5.1	62	154	57	97
96	0.0	-0.7	0.1	-0.1	-0.7	-0.7	-7.0	-7.2	120	0.178	9.6	0.2	86.0	-19.6	122	351	90	261
97	0.4	0.5	0.5	0.1	-0.1	1.1	11.6	7.4	66	1.68	10.2	4.2	102.6	2.1	1062	2174	3211	-1037
98	-0.1	0.3	0.5	-0.2	0.0	-0.1	-0.5	0.0	2	1.76	12.3	-0.5	116.3	2.8	19	2387	3577	-1190
99	-0.7	0.7	0.8	-0.2	0.1	0.1	0.8	6.1	3	1.84	12.4	-5.3	118.0	1.5	3	2721	3998	-1277
Czech																Bn kr		
93	0.5	3.0	0.6	1.6	0.8	3.0	8.4	7.0	12	29.9	33.5	1.4	92.1	0.1	21	166	148	18
94	-0.8	4.5	0.7	0.8	3.0	3.5	9.2	11.3	11	29.1	39.5	-2.1	96.7	0.9	10	223	204	19
94	-1.3	8.2	2.5	1.4	4.3	7.5	15.0	17.6	13	26.6	51.9	-2.6	100.0	0.5	9	343	400	-57
96	-4.3	4.2	1.3	0.7	2.2	-0.8	-1.4	6.0	14	27.3	57.6	-7.4	106.7	-0.1	9	344	366	-22
97	-3.3	1.1	1.2	1.0	-1.1	-1.8	-3.4	2.8	23	34.6	48.2	-6.2	107.5	-1.0	8	345	366	-21
98	-1.4	2.9	2.7	1.1	-0.9	1.9	3.4	5.9	13	30	59.9	-2.5	116.3	-1.6	11	422	402	20
99	-1.1	2.5	4.9	-1.3	-1.1	1.6	2.9	4.9	8	35.9	51.2	-2.0	114.8	-1.6	2	460	490	-30
Estonia																Bn kr		
93	0.0	0.2	0.2	0.0	0.0	0.2	12.8	11.5		13.8	1.6	1.3		-2.3	90	3.8	4.4	-0.6
94	-0.2	0.2	0.2	0.0	0.0	0.0	0.0	7.3	6	12.4	2.4	-7.3		1.4	48	4.3	4.6	-0.3
95	-0.2	0.2	0.2	0.0	0.0	0.1	2.8	7.2	5	11.5	3.5	-4.4		-0.5	29	5.1	5.5	-0.4
96	-0.4	0.5	0.1	0.1	0.3	0.1	2.4	11.5	4	12.4	4.2	-9.1		-0.8	23	6.2	7.0	-0.8
97	-0.6	0.8	0.1	0.3	0.4	0.2	4.4	16.5	6	14.3	4.5	-12.1		2.5	11	8.5	10.1	-1.6
98	-0.5	0.5	0.6	0.0	-0.1	0.0	0.0	9.2	12	13.4	5.5	-9.2		0.0	8	9.1	10.4	-1.3
99	-0.3	0.4	0.2	0.0	0.2	0.1	2.1	8.3	5	15.5	4.8	-6.2		-0.1	3	11.5	11.6	-0.1

Date	CA US bn $	FA US bn $	of which FDI	Portfolio	Other	BoP US Bn $	BoP/ GDP %	(BoP -CA) / GDP %	Short %	ER : Local /US $	GDP US $ Bn	CA / GDP %	real eer	Budget / GDP %	CPI Δ P /P %	Monetary authorities Balance sheet Currency, NFA . NDA		
FYRM												bn D				Mn D		
96	-0.3	0.2	0.0	0.0	0.2	-0.1	-2.3	4.7	22	40	4.4	-7			3	8.0	8.3	-0.3
97	-0.3	0.2	0.0	0.0	0.2	-0.1	-2.7	5.7	21	50	3.7	-8			1	9.9	11.0	-1.1
98	-0.3	0.4	0.1	0.0	0.3	0.0	0.0	8.8	21	54	3.5	-8			1	10.4	13.6	-3.2
99	-0.1	0.2	0.0	0.0	0.2	0.1	2.9	6.0	20	57	3.4	-3			-1	13.5	24.0	-10.5
Hungary																Bn F		
91	0.4	1.5	1.5	0.0	0.0	1.8	5.4	4.2	30	75	33.3	1.2	89.0	-3.8	34	500	237	263
92	0.4	0.4	1.5	0.0	-1.1	0.8	2.1	1.2	35	79	37.2	0.9	96.8	-7.3	23	607	274	333
93	-4.3	6.1	2.4	3.9	-0.2	2.5	6.5	17.5	23	92	38.6	-11.0	105.3	-5.7	23	624	549	75
94	-4.1	3.4	1.1	2.5	-0.2	-0.5	-1.2	8.6	17	105	41.6	-9.8	104.2	-7.1	19	614	635	-21
95	-2.5	7.1	4.5	2.2	0.4	5.4	12.1	17.8	27	125	44.5	-5.7	100.0	-6.4	28	723	1550	-827
96	-1.7	-0.7	2.3	-0.4	-2.6	-1.2	-2.7	1.1	32	153	44.6	-3.8	102.8	-3.1	24	660	1560	-900
97	-1.0	0.7	1.7	-1.0	0.0	-0.2	-0.4	1.8	24	187	45.2	-2.2	108.1	-4.5	18	858	1590	-732
98	-2.3	3.0	1.6	1.8	-0.4	1.0	2.1	7.0	20	214	47.5	-4.9	107.5	-6.2	14	1033	2008	-975
99	-2.1	4.7	1.7	1.9	1.1	2.3	4.7	9.1	18	237	48.5	-4.3	109.5	-3.7	10	1297	2836	-1539
Latvia																Mn L		
93	0.4	0.1	0.1	0.0	0.0	0.3	13.8	-5.4	35	0.67	2.2	19.2			109	226	240	-14
94	0.2	0.4	0.3	0.0	0.1	0.1	2.7	-2.8	32	0.56	3.6	5.5			36	269	253	16
95	0.0	0.6	0.2	0.0	0.4	0.0	0.0	0.4	22	0.53	4.5	-0.4		-3.9	25	273	227	46
96	-0.3	0.5	0.4	-0.1	0.2	0.2	3.9	9.3	13	0.55	5.1	-5.4		-1.6	18	337	334	3
97	-0.3	0.3	0.5	-0.6	0.4	0.1	1.8	7.9	4	0.58	5.7	-6.1		0.7	8	441	410	31
98	-0.7	0.6	0.3	0.0	0.3	0.1	1.6	12.3	4	0.59	6.1	-10.7		0.1	5	471	424	47
99	-0.6	0.8	0.4	0.1	0.3	0.2	3.2	13.4	5	0.59	6.2	-10.2		-3.8	2	526	503	23
Lithuania																Mn L		
93	-0.1	0.3	0.0	0.0	0.3	0.2	7.4	10.6	88	4.3	2.7	-3.2		-6.0	410	1257	1324	-67
94	-0.1	0.2	0.0	0.0	0.2	0.1	2.4	4.6	48	4.0	4.2	-2.2		-4.7	72	1813	1720	93
95	-0.6	0.5	0.1	0.0	0.4	0.2	3.3	13.5	27	4.0	6.0	-10.2		-4.6	40	2446	2337	209
96	-0.7	0.6	0.1	0.1	0.4	0.0	0.0	9.2	21	4.0	7.9	-9.2		-3.5	24	2500	2347	153
97	-1.0	1.0	0.3	0.2	0.5	0.2	2.1	12.3	9	4.0	9.6	-10.2		-1.8	9	3308	3175	133
98	-1.3	1.4	0.9	0.0	0.5	0.4	3.7	15.8	11	4.0	10.8	-12.1		-0.5	5	4260	4836	-576
99	-1.2	1.0	0.5	0.5	0.0	-0.2	-1.9	9.3	11	4.0	10.7	-11.2			1	4088	4072	16
Poland																Bn Zl		
91	-2.1	-4.2	0.3	0.0	-4.5	-7.0	-9.2	-6.4	50	1.06	76.4	-2.8	80.3		77	10.9	3.3	7.6
92	-3.1	-1.0	0.7	0.0	-1.7	-4.3	-5.1	-1.4	30	1.36	84.6	-3.7	85.4		45	14.9	5.9	9.0
93	-5.8	2.3	1.7	0.0	0.6	-3.2	-3.7	3.0	25	1.81	86.2	-6.7	91.6		37	16.0	7.6	8.4
94	1.0	-9.0	1.9	-0.6	-10.3	1.0	1.0	0.0	23	2.27	99.1	1.0	92.4	-2.1	33	19.6	11.3	8.3
95	0.9	9.3	3.6	1.1	4.6	9.8	7.7	7.0	26	2.42	127.3	0.7	100.0	-1.9	27	28.4	36.5	-8.1
96	-3.2	6.5	4.5	0.3	1.7	3.6	2.5	4.8	21	2.70	143.7	-2.3	108.8	-2.0	20	34.3	51.8	-17.5
97	-5.7	8.0	4.9	2.1	1.0	3.6	2.5	6.5	22	3.28	143.9	-4.0	111.4	-1.3	16	45.9	72.3	-26.4
98	-6.9	13.1	6.0	1.7	5.4	5.7	3.6	7.9	21	3.48	159.2	-4.3	117.7	-1.0	12	53.6	95.6	-42.0
99	-12.5	10.5	7.2	0.2	3.1	2.1	1.4	9.4	14	3.97	155.4	-8.0	112.3	-0.9	7	53.0	106.0	-53.0

Date	CA US bn $	FA US bn $	of which FDI	Portfolio	Other	BoP US Bn $	BoP/ GDP %	(BoP -CA) / GDP %	Short r %	ER : Local /US $	GDP US $ Bn	CA / GDP %	real eer	Budget / GDP %	CPI Δ P /P %	Monetary authorities Balance sheet Currency, NFA . NDA		
Romania																Bn L		
92	-1.5	1.4	0.1	0.0	1.3	-0.1	-0.5	7.2		308	19.6	-7.7	57.6	-4.7	211	859	-70	929
93	-1.2	0.6	0.1	-0.1	0.6	-0.4	-1.5	3.2		760	26.4	-4.7	79.8	-0.5	255	2031	-82	2114
94	-0.5	0.5	0.3	0.1	0.1	0.2	0.7	2.2	67	1665	29.9	-1.5	85.8	-2.5	137	3809	350	3459
95	-1.8	0.8	0.4	0.0	0.4	-0.5	-1.4	3.6	41	2033	35.5	-5.0	83.9	-3.0	32	5952	-560	6512
96	-2.6	1.5	0.3	0.2	1.0	-0.6	-1.7	5.6	35	3084	35.1	-7.3	75.8	-4.0	39	9008	-1400	10408
97	-2.1	2.4	1.2	0.5	0.7	1.5	4.3	10.4	45	7168	34.9	-6.1	88.4	-3.9	155	21305	9862	11623
98	-2.9	2.0	2.0	0.1	-0.1	-0.6	-1.4	5.6	38	8876	41.5	-7.0	114.9		59	25738	7530	18208
99	-1.3	0.4	1.0	-0.7	0.1	0.2	0.6	4.4	35	15333	34.0	-3.8	97.8		46	49520	29696	19824
Slovak																Bn Kr		
93	-0.6	-0.2	0.1	-0.3	0.0	0.0	0.0	4.8	11	30.8	12.7	-4.8	96.3		23	40	-33	73
94	0.7	0.1	0.3	0.3	-0.5	1.2	8.2	3.3	12	32.0	14.6	4.9	97.3		13	49	-2	51
95	0.4	1.2	0.2	0.2	0.8	1.8	9.8	7.6	13	29.7	18.4	2.2	100.0		10	77	52	25
96	-2.1	2.3	0.3	0.0	2.0	0.4	2.0	13.1	11	30.7	19.7	-11.1	99.7	-1.4	6	83	62	21
97	-2.0	1.8	0.1	0.0	1.7	0.1	0.5	10.6	15	33.6	20.4	-10.1	104.6	-4.1	6	99	91	8
98	-2.1	1.9	0.4	0.8	0.7	-0.5	-2.3	8.1	18	35.2	21.3	-10.4	102.3	-4.2	7	94	65	29
99	-1.2	1.8	0.7	0.6	0.5	0.8	4.1	10.2	17	41.4	19.7	-6.1	99.3	-3.3	11	124	131	-7
Slovenia																Bn T		
93	0.2	-0.1	0.1	0.0	-0.2	0.1	0.8	-0.8	39	113	12.7	1.6		0.3	32	51	102	-51
94	0.6	0.1	0.1	0.0	0.0	0.7	4.9	0.7	29	129	14.4	4.2		-0.3	20	80	189	-109
95	-0.1	0.5	0.2	0.0	0.3	0.2	1.1	1.6	12	119	18.7	-0.5		-0.3	12	101	250	-149
96	0.0	0.6	0.2	0.6	-0.2	0.6	3.2	3.2	14	135	18.9	0.0		0.1	10	117	329	-212
97	0.0	1.2	0.3	0.2	0.7	1.3	7.2	7.2	10	160	18.2	0.0		-1.5	9	143	559	-416
98	-0.1	0.2	0.2	0.1	-0.1	0.2	1.0	1.5	7	166	19.5	-0.5		-0.6	9	172	594	-422
99	-0.7	0.7	0.2	0.4	0.1	-0.1	-0.5	2.9	7	182	20.7	-3.4		-0.8	7	208	629	-421

which I normalise by dividing by GDP. We are also interested in whether capital flows create problem of reserve inflows by creating a large balance of payments surplus. As in Table 1 I therefore highlight the episodes in which countries faced large inflows of capital or faced a large balance of payments surplus.

Table 4 also records data on short-term interest rates, the real exchange rate, the budget surplus, CPI inflation, and the composition of the central bank balance sheet in which domestic currency is the liability and the corresponding net assets are decomposed into those demoninated in domestic currency NDA and those in foreign currency NFA.

4.3. Can we Relate the Evolution of Capital Flows to the Choice of Exchange Rate Regime?

Table 4 shows that most countries experienced sustained capital inflows during the 1990s. Even the two countries in which serious setbacks to transition occurred – Bulgarian and Romania – had substantially more inflows than outflows.

Some experiences are closely in line with what textbook reasoning would have led us to expect. Estonia and Lithuania adopted currency boards, and, after an initial period of floating, Latvia also opted for a tightly pegged exchange rate. Small countries have fewer illusions about their likely monetary sovereignty in the long run, and may be able to develop the political cohesion necessary to pursue responsible fiscal policies necessary to cope with the tough love that currency boards dispense. Successful transition raises money demand – both because inflation falls and because real growth takes root – requiring corresponding increases in money supply. In a currency board regime these come from running balance of payments surpluses.

Moreover, since successful transition economies optimally should be financing some of their transition investment in foreign capital markets – thereby smoothing consumption over time for domestic residents – we expect currency board countries to display balance of payments surpluses, larger capital inflows, and small current account deficits. Table 4 essentially confirms these predictions for the three Baltic countries. Even Bulgaria – which adopted a currency board as a last resort after transition stalled in 1997 – is now beginning to conform to this pattern.

At the opposite extreme lie the countries that have always pursued flexible exchange rates, albeit with considerable intervention by the central bank. In this group I would place Slovenia, in which capital controls were retained longer than elsewhere, and probably the Former Yugoslav Republic of Macedonia. Table 4 shows that both countries experience capital inflows, though on a smaller scale than in many other countries. By definition, reserve inflows through balance of payments surpluses should have been smaller in countries that were floating substantially. This is confirmed by Table 4, although the external payments position sometimes departed considerably from overall balance. This corroborates the claim that, even in countries ostensibly floating the exchange rate, there was in practice considerable exchange rate management.

Romania too has essentially been floating, not least because most of its stabilization programmes have carried little credibility for long. Even so, Table 4 shows considerable, and sustained, inflows on the capital account. Floating was rarely sufficient to rule out capital inflows. However, when the authorities allow the exchange rate to find its own level, whether as deliberate policy or because they lack the means to do otherwise, we expect floating to limit the size of capital inflows because there is a limit to the size of offsetting current account deficits that markets are prepared to tolerate. Table 4 confirms that Romania's payments were close to overall balance. In practice the current account never rose much beyond 7% of GDP. Capital inflows were almost always lower, making rare the double digit levels (as a % of GDP) experienced in the currency board Baltics, and in the Czech Republic during its period of a hard peg (whose collapse I discussed in Box 1).

Table 4 shows Czech evidence that this abrupt move from a narrow exchange rate band to inflation targeting accompanied by a fairly free float is consistent with the claim that floating should reduce exposure to capital flows. However, before accepting too eagerly this easy conclusion, one should note that the evidence from Poland goes somewhat in the other direction. The great puzzle about Poland is why capital inflows were so low during the early years despite the fact that the establishment of a successful transition path in Poland seemed

evident from an early stage. As time elapsed, Poland moved from its sequence of exchange rate pegs to a more explicit policy of inflation targeting and greater exchange rate flexibility. Nevertheless, the scale of capital flows to Poland has steadily increased not diminished. Nor has a more flexible exchange rate prevented the Polish current account deficit rising to over 8%, above the level experienced in the Czech Republic just prior to the 1997 attack on its exchange rate peg. These conclusions apply a fortiori in Slovakia, where greater recent exchange rate flexibility in the Slovak Republic has been accompanies by very substantial capital inflows and current account deficits in excess of 10% of GDP.

The remaining country to review is Hungary, whose exchange rate regime is not easy to classify. In the first half of the decade, the frequent devaluations of its exchange rate peg gave a great deal of exchange rate flexibility in practice. However, the second half of the decade saw the adoption of preannounced crawling bands for exchange rate, with progressively slower rates of crawl, which significantly reduced exchange rate flexibility. At a time when other countries have followed the new conventional wisdom of rushing for the corners – very fixed or very flexible – Hungary has continued to inhabit successfully the dangerous middle ground. One might have thought that this should increase its vulnerability to capital flows. Apart form 1999, Table 4 contains little evidence of such a trend. Begg and Wyplosz (2001a) argue that remaining capital controls may account for some of the explanation. Even if this is true, it is a shield likely soon to be abandoned if Hungary is to meet its aspirations for early EU entry.

Summing up

It would of course have been remarkable if the experience of all the European transition economies had conformed precisely to textbook predictions. Nevertheless, the preceding discussion found only a few surprises. Generally, more flexible exchange rates were associated with lower levels of capital flows. However, it would take a much more extensive structural investigation to justify the implied direction of causality, from exchange rate regime to magnitude of capital flows. Although my own judgement is that this conclusion is indeed warranted, there is probably also a measure of reverse causation – countries in more robust health, and therefore more attractive candidates for foreign investors, were the only ones capable of sustaining fixed exchange rates for any significant period of time.

4.4. Sterilization of Capital Flows

As in my discussion of Western Europe in section 3, one might expect central banks to have attempted to sterilize reserve inflows to prevent them showing up in the domestic money supply. The evidence of such behavior, or its absence, is available in the last three columns of Table 4. Was an increase in central bank liabilities (domestic currency) accompanied by a balanced increase in both net domestic assets and net foreign assets of the central bank? Or did net foreign asset (NFA) growth vastly outstrip liability growth as domestic debt (negative NDA) was issued to sterilize the monetary consequences of reserve inflows?

Except in Romania, the answer is pretty overwhelming – foreign reserves were stockpiled on a massive scale, financed by heavy issues of domestic debt that took net domestic assets

well into negative territory. This policy was pursued independently of the exchange rate regime. It is not therefore correct to argue that countries with more flexible exchange rates thereby avoided the perceived dilemma of how much to let reserve inflows show up in the domestic money supply.

4.5. Did Exchange Rate Regimes Induce Differences in Fiscal Behaviour?

Possibly, though again it would take much more extensive analysis to demonstrate this reliably. Clearly, there were some spectacular turnarounds, none more so that in Bulgaria in 1997, when the acuteness of the crisis provoked both the adoption of a currency board and a massive fiscal tightening. Both have subsequently been sustained. But did the currency board provide the ammunition to keep fiscal policy tight, or was it the ability to keep fiscal policy tight that allowed the currency board then to survive? It is very hard to tell the difference. To a lesser extent the same is true of Hungary, where a crisis in mid decade prompted both a fiscal tightening and the adoption of a harder exchange rate path.

However, more flexible exchange rate policies were not generally accompanied by looser fiscal policy. Fiscal policy was fairly tight throughout in the Czech Republic, despite a dramatic increase in exchange rate flexibility in 1997. Fiscal policy has been tight in Poland, where exchange rate flexibility also increased. It was tight in Slovenia, despite a much more flexible exchange rate policy, but also in the currency board countries in the Baltics.

5. BACK TO THE FUTURE

We are interested in links between exchange rate regimes and capital flow behavior not merely as a way of understanding the past but because accession countries will have to make a series of adjustments to their exchange rate regimes along the path by which they enter monetary union. There are three ways to form a judgement about how perilous this path will be and what policies can sensibly be adopted to make it more safe.

5.1. Theory

Economic theory continues to justify the claims (a) that fixed but adjustable exchange rates are vulnerable to capital flows and speculative attack when capital mobility is high (b) that sterilized intervention is unlikely to be of much use in such circumstances (c) that the ability to tighten fiscal policy further is a useful safety valve, and (d) that credibility is not the attribute of a unidimensional policy but a characteristic of the policy package as a whole.

From such a standpoint, rapid, even unilateral adoption of the Euro might be the safest option for many of the countries in the early waves of accession. However, this will not be an option. The internal politics of the EU requires that future members have to suffer the same initiation rights that were forced upon the founder members. As with most initiation rights, one can say either that they are the only sure way to find out if prospective members are

serious and willing members of the club, or that they are totally unnecessary. To the extent that the structural and political aspirations of accession countries are endogenous, one might take the latter view: membership itself will suffice to bring about the changes required.

There is of course a subtle difference between the difficulties that confronted in the Treaties of Maastricht and Amsterdam, and those confronted in the treaty of Nice. For founder members of EMU, it was necessary to ensure that EMU got off to as good a start as possible; it was also necessary politically to induce Germany to give up its secure position as leading policy maker within the ERM in exchange for a more uncertain prospect within EMU. However, once the traditions of EMU have already been successfully established, it is much less clear that additional new members need to be subject to quite such vigorous scrutiny. The insistence on doing so is therefore based not on what makes sense in this particular instance taken in isolation.

Rather it reflects the desire to preserve the EU principle that new members are always subject to the same rules as old members. To do otherwise would risk reopening discussion of every set of EU rules. However, EU entry by the current accession countries will inevitably entail discriminatory treatment on the Agricultural Policy and Structural Funds – otherwise the EU budget will not be able to afford them – so the principle is to be abandoned anyway. It is far from clear that it should therefore be defended in relation to the Maastricht criteria in general, and in particular to the requirement to spend two years languishing in the vulnerable half way house of the ERM.

5.2. Lessons from the Founder Members' Experience in Convergence to EMU

Theoretical reasoning has highlighted the potential danger of the period in which capital controls are abandoned, exchange rate flexibility is curtailed, but the Euro is not yet adopted. However, the experience of EMU members themselves yields some surprises that are a cause for optimism.

First, the greatest capital inflows that they experienced were generally when stabilization first occurred, well before the years immediately prior to EMU, and often when some measure of exchange rate flexibility remained. It is therefore possible that the scale of capital flows will not simply rise and rise in Central and Eastern Europe as the dates of EU accession and EMU entry draw closer.

Second, and related, the famous convergence plays on interest rates did not generally lead to massive reserve inflows. They were offset by other items on the capital account or current account. No wave of (potentially temporary) foreign money was allowed in.

Third, in Ireland, the recipient of the largest sustained capital flows, substantial fiscal tightening after the mid 1980s was sufficient to induce a substantial increase in competitiveness despite membership of the New EMS in which realignments to place only during the crisis of 1992.

Since the fiscal elements of the Maastricht criteria will put further downward pressure on fiscal policies that Table 4 shows were generally quite tight in Central and Eastern Europe, there is every prospect that competitiveness can remain intact along the transition to accession.

5.3. Lessons from the 1990s Experience of Transition Countries Themselves

Cosmetic changes in the exchange rate regime alone have generally proved of little benefit. However, where such changes have been part of a comprehensive policy change – as in Bulgaria in 1997, the Czech Republic in 1997 or Hungary in 1995 – the package has usually succeeded in improving subsequent performance. Unless one takes the view that fiscal and other improvements were achieved only because of the change in exchange rate regime, it is incorrect to attribute all the subsequent success to the exchange rate regime alone. Rather, a clear appreciation of the ways different policies interact is essential for the design of sound policy packages and the credibility these packages then develop.

Nothing in the experience of European transition economies in the 1990s overturns the lessons drawn the experience of Western Europe. Sterilization is of little lasting benefit. It may have some effects when capital controls are in place, but should not be expected to have a major impact since all accession countries are committed to the early and full removal of capital account controls. Similarly, when transition economies were able to run a prudent fiscal policy, generally other aspects of their policy design and economic performance were more easily accomplished.

European transition economies have experienced a wide range of exchange rate regimes, and will therefore approach accession negotiations form very different standpoints. The European Commission already accepts two useful principles. First, that individual countries will have discretion about the time that elapses between EU membership and the subsequent entry to the ERM as a 2-year stepping stone to EMU. Second, such ERM membership may be consistent with a range of exchange rate arrangements. What really matters is the 'no devaluation of the central parity for two years'. This is consistent with a currency board (provided existing calibrations to the US dollar are altered to a parity against the Euro), or the maintenance of a central parity with a wide band (plus or minus 15%) which would not differ so very much from most of the managed floats currently in existence.

It would however be incompatible with the current 'preannounced evolving parity' that characterized the Hungarian crawl. As with the prohibition of instant and unilateral adoption of the Euro by accession countries, this prohibition is hard to defend except by the argument that new members must undergo exactly the same path as their predecessors.

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