

**IMF WORKING PAPER**

© 1996 International Monetary Fund

This is a *Working Paper* and the author(s) would welcome any comments on the present text. Citations should refer to a *Working Paper* of the International Monetary Fund, mentioning the author(s), and the date of issuance. The views expressed are those of the author(s) and do not necessarily represent those of the Fund.

WP/96/108

**INTERNATIONAL MONETARY FUND**

European I and European II Departments

**Monetary Policy in Central and Eastern Europe:  
Lessons After Half a Decade of Transition**

Prepared by David K. H. Begg<sup>1</sup>

Authorized for distribution by Massimo Russo and John Odling-Smee

September 1996

**Abstract**

The paper uses data from transition economies in Central and Eastern Europe to assess four questions: (i) Did the standard blueprint for stabilization work, and was it implemented? (ii) To what extent was normal macroeconomics impeded by solvency problems in banks, and how successful have been policies to improve incentives within banks? (iii) Could financial markets and other infrastructure for monetary policy have been developed more quickly? (iv) How should transition economies respond to the monetary inflows that typically accompany success? The paper concludes by evaluating the changing advice offered by external agencies during the 1990s.

**JEL Classification Numbers:** E41, E52

---

<sup>1</sup>This paper was written at the European I and II Departments of the IMF. I thank Massimo Russo and John Odling-Smee for putting at my disposal the resources of their departments--including access to staff, documents, and data--and for their frankness in discussing both intentions and outcomes. Gérard Bélanger, Michael Deppler, and Henri Lorie were unfailingly supportive when I needed advice or information about the project, Kelley Sadovoi provided excellent administrative support, and Xiaoning Gong was indefatigable in locating data and eliminating discrepancies therein. For illuminating conversations and comments about individual countries, I thank Jacques Artus, Biswajit Banerjee, Craig Beaumont, Eric Clifton, Anuradha Dayal-Gulati, Charles Enoch, Luc Everaert, Lorenzo Figliuoli, Mark Griffiths, Leif Hansen, Billy Jack, Juha Kähkönen, Adalbert Knobl, Michael Marrese, Caryl McNeilly, Reza Moghadam, Gonzalo Pastor, Anthony Richards, Harry Snoek, Tuomas Sukselainen, Esther Suss, Ranjit Teja, Tessa van der Willigen, Emmanuel Zervoudakis. I also thank Manuel Guitián, Peter Heller, Mohsin Khan, and Desmond Lachman for insightful comments from their departments. The views expressed should not be imputed to anyone but myself.

Contents	Page
Summary	5
I. Introduction	6
II. Initial Stabilization	6
1. Must stabilization hurt? Evidence from other countries	6
2. Components of stabilization	7
3. Monetary policy as a nominal anchor	8
a. The standard prescription	8
b. Outcomes of stabilization	9
4. Initial stabilization viewed through the spectacles of hindsight	9
a. Money demand and monetary aggregates during stabilization	10
b. The real effects of deep nominal depreciations	14
c. Was stabilization a prerequisite for recovery?	14
d. Did tight money raise the output cost of transition?	15
5. Monetary policy design during initial stabilization: an evaluation	18
a. Building for the future: was the blueprint followed?	19
b. The choice of monetary regime	21
c. The role of the Fund	23
III. Bad Debts, Arrears, and Financial Restructuring: Issues and Implications for Monetary Policy	24
1. Bad debts, bad banks, and bad options for monetary policy	24
2. Dealing with bad debts in banks	26
3. Interenterprise debt	29
4. The experience in transition economies	30
a. The buildup of bad debts in the banks	30
5. Governments' response to bad debts in the banks	36
a. Did tying bank recapitalization to the inheritance from the previous regime make credible the claim of no further bailouts?	37
b. Bank recapitalization contingent on adjustment of bank behavior	38
c. Did small banks fare better?	39
d. Banking supervision	40
e. Interenterprise debt (IED)	41
6. Evaluation: successes and failures of policy design	42

IV. Instruments of Monetary Policy: Sequencing and Transition	44
1. Direct and indirect monetary controls	45
2. Stage 1: Incomplete stabilization and rudimentary structural adjustment	46
3. Stage 2: Reinforcing stabilization and pursuing financial rehabilitation	48
4. Stage 3: Toward financial maturity	48
5. Evidence from other countries	49
6. The experience of transition economies	50
a. Real interest rates, monetary instruments, and financial deepening	50
b. Monetary instruments during initial stabilization	52
c. Establishing markets for securities and for interbank flows	53
7. Policy evaluation	54
V. The Nominal Anchor as Transition Continues	56
1. The issues: an overview	56
2. Monetary policy as a nominal anchor	57
a. <i>Inflation targets</i>	57
b. Crawling exchange rate bands	59
c. Exchange rate passthrough revisited	60
3. Responding to capital inflows	61
a. Policy responses to capital inflows	62
4. The experience of transition economies	64
a. Balance of payments: flow on current and capital accounts	64
b. The diverse causes of inflows during 1994-95	66
5. Policy responses to monetary inflows	68
a. Was sterilization the first line of defense?	68
b. Did sterilization work?	70
c. Was sterilization costly?	71
d. Did countries resort to new capital controls?	72
e. Resolving monetary conflicts in the fundamentals	73
6. Evaluation of policy advice and design	77
VI. Looking Forward as Well as Backward	80

#### Text Tables

1. Inflation 1991-95, at end-year	10
2. Real output 1990-95	11
3. The velocity of broad money, selected countries, 1991-94	13
4. Real output during stabilization 1990-95	17
5. Nonperforming loans, 1993-94	31
6. Nonperforming bank loans, 1992-94	31

7. Bank spreads (loan minus deposit interest rates) and provisioning for bad debts: evidence from the Czech and Slovak Republics	32
8. Bank indicators, end of calendar year	34
9. Spreads in OECD countries, 1993	34
10. Allocation of bank lending by sector	35
11. Financial deepening, interest rates and inflation	51
12. Balance of payments, selected countries	66
13. Central bank balance sheets: sterilization 1994-95	68
14. Broad money, its counterparts and components, 1994	69
15. Exchange rate regimes in the transition, 1990-95, selected countries	74
 Box 1. Estonia, Latvia and Lithuania: Lessons from Baltic Disinflation	 16
 References	 85

### Summary

In designing transition policies in Central and Eastern Europe, the conventional wisdom in 1990 among Western economists was pretty clear: correct the fiscal and external fundamentals; adopt multiple nominal anchors, according primacy if possible to an exchange rate; embark on structural adjustment; and maintain political support for reform.

Was this program implemented? Were its assumptions borne out? This paper concludes that the emphasis on fiscal policy was justified, that slower stabilization reflected political difficulties but rarely eased the costs of transition, and that the advantages of exchange-rate-based stabilization, although detectable, were not overwhelming.

How much was "normal macroeconomics" impeded by bad debts and control failures in banks? Despite control failures, state-owned enterprises generally suffered reductions in their share of credit, and, at least in Europe, financial difficulties of banks did not induce a dramatic widening of interest rate spreads. Measures to "resolve" these problems were themselves problematic, and the possibility of further crises remains.

The paper observes that, in the transition from direct to indirect instruments of monetary control, infrastructure cannot be created overnight. More rapid moves to full indirect control in Central and Eastern Europe would probably have been unsuccessful and unwise.

Once stabilization is accomplished, continuing transition is likely to involve monetary restraint but an appreciating equilibrium real exchange rate: a combination that will attract big capital inflows. Fending off these inflows is difficult and costly; allowing them in may delay disinflation. The paper advocates greater exchange rate flexibility and documents the trend toward wider bands for monetary regimes.

The final section draws key lessons and discusses how this evaluation might differ from one made at the start of the transition.

## I. INTRODUCTION

Different economies are at different stages of transition, having started at different dates and progressed at different speeds. One set of questions applies to all transition economies. How did they fare in initial stabilization? Why did they adopt different policies and with differing success? With hindsight, should we have offered different counsel?<sup>2</sup> Section II addresses these issues from the standpoint of monetary policy.

A second set of questions applies once stabilization is achieved. Outcomes in leading transition economies offer lessons both for their own continuing progress and for other transition economies following along behind. Section III examines how bad debts and arrears affect both the objectives and transmission of monetary policy; evaluates policy responses; and examines relevant evidence. Section IV discusses sequencing of the instruments of monetary policy as a transition economy moves from direct to indirect instruments of monetary control.

Section V reverts to the big picture, the overall regime for monetary policy. How does it evolve from emergency anchor during initial transition to a new design robust to the changing pressures as transition continues. Such pressures include the impossibility of sustaining forever a nominal exchange rate peg,<sup>3</sup> and the more general appearance of capital inflows whatever the exchange rate regime. Section VI draws conclusions, looking to the future as well as evaluating the past.

## II. INITIAL STABILIZATION

To distinguish problems of stabilization from problems thereafter, one needs to define when stabilization is achieved. Examining 127 countries during 1962-92, Bruno and Easterly (1995) conclude substantial output costs of inflation arise only when annual inflation exceeds 40 percent. Reducing inflation to below 40 percent a year, around 3 percent a month, is a practical measure of when stabilization is first achieved.

### 1. Must stabilization hurt? Evidence from other countries

Most of us associate disinflation with a temporary fall in output. Bruno (1993a) argues that the cost of stopping hyperinflation in a crisis may be lower than that of tackling more modest but persistent inflation that has become embedded in nominal inertia. Dornbusch and

---

<sup>2</sup>Bruno (1993a) assesses, as of early in 1992, the academic literature on transition and the Fund's performance to that date. It is a useful marker against which to compare subsequent developments.

<sup>3</sup>I measure the exchange rate as the international value of the domestic currency not the domestic price of foreign exchange. Increases in the exchange rate therefore are appreciations and, *ceteris paribus*, reduce competitiveness.

Fischer (1993) confirm, for a range of countries, that successful stabilizations are frequently followed by long periods of annual inflation in the 15-30 percent range; moreover, when disinflation begins from this range (e.g., Ireland, Spain, Korea), there is a significant output cost in bringing inflation down further.

Easterly (1996) corroborates the first part of the Bruno thesis. Defining successful stabilization as a move in inflation from two successive years above 40 percent to two successive years below 40 percent, the sample of 127 countries during 1960-94 yields 28 episodes of successful stabilization. In these episodes, peak inflation was usually preceded by two years of falling output; the turning point for output actually preceded the year of peak inflation; and positive growth quickly resumed and was sustained.

Care is required in making inferences from this evidence. It applies only to stabilizations that succeed, and the decision to stabilize is itself endogenous. One interpretation is that inflation crises arise during wars of attrition<sup>4</sup> in which output falls sharply; when the conflict is resolved, stabilization and growth resume. There is no evidence that all efforts to stabilize lead to rapid resumption of growth, only that the output costs of successful stabilizations are small. Nor is it evident that stabilizations introduced during adverse external shocks lead to small output losses, merely that successful stabilizations do not add much to output losses that would otherwise occur.

Political conditions are crucial in determining economic success. Where the government is strong, or has a window of opportunity, the evidence cited above does not reject the view that an initially ambitious stabilization may in the long run involve lower output costs than a more protracted stabilization; it does not imply that ambitious stabilization will succeed whatever the balance of domestic political forces.

## **2. Components of stabilization**

Bruno (1993a) sets out a five point plan for stabilization and structural reform: (a) establish the real fundamentals for internal and external balance; (b) pursue multiple nominal anchors to coordinate disinflation; (c) undertake measures such as currency reform to accelerate stabilization; (d) undertake structural reforms to remove distortions and facilitate growth; (e) consolidate democracy.

(a) Is essential. If fiscal policy is too loose, no monetary policy will hold the line for long. It is misleading to compare the success of "money based" versus "exchange rate based"

---

<sup>4</sup>War of attrition models, e.g., Alesina and Drazen (1991), Fernandez and Rodrik (1991), Havrylyshyn, Miller, and Perraudin (1994), stress the need to resolve conflicts before achieving effective results. Models such as Dewatripont and Roland (1992, 1993) emphasize the political economy of maintaining support during a program. Roland (1994) surveys models of the political economy in transition.

stabilizations without also controlling for the fiscal policy pursued. Sometimes, early decisions about real fundamentals exacerbated subsequent difficulties, as with the decision by Hungary to keep servicing its large external debt, which in turn imposed a severe domestic fiscal burden.

The attempt to impose sound macro fundamentals is not guaranteed to achieve stabilization: it may be undermined by inadequate progress in structural reform, which can prevent tight macro policies having their normal and desired effect. Monetary (or fiscal) policy may then fail not because of any fault in its macro design but because it was not appropriately accompanied by suitable microeconomic policies.

### **3. Monetary policy as a nominal anchor**

#### **a. The standard prescription**

Although advice must reflect the circumstances of individual countries, design of initial stabilization tended to follow a fairly standard diagnosis and prescription: take steps to get the real fundamentals in balance, prefer heterodox stabilization to orthodox stabilization to coordinate disinflation better in the presence of potential nominal rigidities or multiple equilibria. Potential multiple anchors are an exchange rate peg, money and/or credit ceilings, and wage (and possibly also price) controls.

Although anchors must be mutually consistent one must take precedence. This cannot be wage/price controls in transition *away* from central planning. Two reasons argue where possible for primacy of an exchange rate peg rather than money or credit ceilings: the inevitable instability of money demand during transition, and possible exchange rate overshooting during money based stabilization (Fischer, 1986).<sup>5</sup> Hence the standard medicine has been to rely where possible on an exchange rate based stabilization. Two conditions were held to make this impossible, leaving floating exchange rates and money-based stabilization as the fall back: (i) inadequate international reserves, and (ii) inadequately tight fiscal policy, making rapid disinflation incredible and the life expectancy of any nominal exchange rate peg brief.

Since the Fund typically offered this advice, there is a sample selection bias in comparing the success of the two nominal anchors: more optimistic cases for treatment were given the pegged exchange rate medicine, cases where the fundamentals were more

---

<sup>5</sup>Fischer also notes that the exchange rate pegs will deal better with velocity shocks, whereas floating under a monetary target copes better with terms of trade shocks; transition economies of course experience both shocks in large measure.

problematic were prescribed money-based treatment.<sup>6</sup> Even if both treatments are equally effective in disinflation, we should see greater 'success' under exchange rate based stabilizations. Should the two treatments lead to roughly equal outcomes, this would in fact be evidence of the superiority of money based stabilization.

#### **b. Outcomes of stabilization**

Tables 1 and 2 show inflation and output in five groups: the countries of Central Europe that were the first to embark on transition (Poland in 1990, the others in 1991); the Balkan countries, all of which except Albania were part of the former Yugoslavia, but which nevertheless began reform at different dates (Slovenia late 1991, Albania 1992, Croatia 1993, and FYRM 1994); the Baltic republics, formerly part of the USSR, which since 1992 have been converts to rapid reform; and selected other republics of the former USSR, which typically delayed reform until 1993-94 but are grouped according to their pace of reform.

Table 1 shows that Central Europe had largely stabilized by the end of 1992. In Bulgaria and Romania the first attempts at stabilization failed; it is too soon to claim that later attempts succeeded. In the Balkans, Albania, and Slovenia stabilized by 1993, Croatia in 1994 and the FYR Macedonia in 1995. Stabilization also succeeded in the three Baltic republics. Other CIS states have progressed more slowly. Table 1 shows that, even in the countries such as Ukraine in which reform was longest delayed, inflation is now falling steadily.

Table 2 shows that real output fell cumulatively by at least 20 percent, often by much more. Recovery came first in Poland, in which vigorous reform was adopted earliest, and by 1994 was established throughout Central Europe, the Baltics and the Balkans (with the sole exception of the FYR Macedonia). For the CIS, the consensus of forecasts in late 1995 was for positive growth in 1996 in all republics except Belarus and Ukraine, in which recovery may take another year still.

#### **4. Initial stabilization viewed through the spectacles of hindsight**

This section looks at four issues in policy design that underlay original prescriptions for stabilization policy: was money demand as unstable as proponents of exchange rate based stabilization assumed; did deep early devaluations sustain real depreciation; was stabilization needed before recovery began; and was more gradual reform better?

---

<sup>6</sup>Some countries, such as Latvia, preferred to adopt money based stabilization even though they met the criteria that normally led to advice to adopt exchange rate based stabilization.

**Table 1. Inflation 1991-95, at end-year (Percent per annum)**

	1991	1992	1993	1994	1995	Reform Began
<b>Central Europe</b>						
Bulgaria	339	79	64	122	50	1991
Czech Republic	52	13	18	10	10	1991
Hungary	32	22	21	21	28	1990
Poland	60	44	38	30	23	1990
Romania	223	199	296	62	30	1991
Slovak Republic	58	9	25	12	10	1991
<b>Balkans</b>						
Albania	104	237	31	16	5	1992
Croatia	149	937	1,150	-3	3	1993
FYR Macedonia	115	1935	230	55	10	1994
Slovenia	247	93	23	18	10	1992
<b>Baltics</b>						
Estonia	304	904	36	42	22	1992
Latvia	262	958	35	26	23	1992
Lithuania	345	1,175	189	45	30	1992
<b>Moderate CIS reformers</b>						
Kazakhstan	150	2567	2169	1160	60	1994
Kyrgyz Republic	170	1,171	1,366	87	25	1993
Russia	144	2318	841	203	145	1993
<b>Slow CIS reformers</b>						
Belarus	93	1,558	1,994	1,875	260	1994
Ukraine	161	2,000	10,155	401	150	1994

Sources: EBRD Transition Report, 1995; and International Monetary Fund.

Note: Data are averages of estimates by many international agencies and national authorities. Dates of start of reform differ from those in Fischer, Sahay, and Vegh (1995b) only where the initial program failed to achieve stabilization. I show the date at which the first attempt was made; Fischer, Sahay and Vegh list the dates at which began the most serious reform program in each country.

**a. Money demand and monetary aggregates during stabilization**

Table 3 shows the velocity of broad money, inclusive (M2X) and exclusive (M2) of foreign currency deposits held in domestic banks. For Central Europe, Table 3 shows us two unsurprising things: velocity usually declined as inflation declined, transition proceeded, and

real money demand increased, though there have been marked differences across countries<sup>7</sup> and the velocity of M2X inclusive of foreign currency deposits was more stable than the velocity of domestic money M2. Currency substitution can be volatile as confidence fluctuates. M2 is more amenable to government control and more relevant to the public finances.

Table 2. Real Output 1990-95

	Percent change per year					1995 output
	1990	1991	1992	1993	1994	(1989 = 100)
<b>Central Europe</b>						
Bulgaria	-9	-12	-7	-2	1	75
Czech Republic	0	-14	-6	-1	3	85
Hungary	-4	-12	-3	-1	2	86
Poland	-12	-8	-3	4	5	91
Romania	-6	-13	-10	1	3	81
Slovak Republic	0	-15	-7	-4	5	84
<b>Balkans</b>						
Albania	-10	-28	-10	11	7	75
Croatia	9	-14	-9	-3	1	75
FYR Macedonia	-10	-12	-14	-14	-7	53
Slovenia	-5	-8	-5	1	6	94
<b>Baltics</b>						
Estonia	-8	-11	-14	-7	6	74
Latvia	3	-8	-35	-15	2	54
Lithuania	-5	-13	-38	-24	2	42
<b>Moderate CIS reformers</b>						
Kazakhstan	0	-13	-13	-12	-25	44
Kyrgyz Republic	3	-5	-25	-16	-27	43
Russia	-4	-13	-19	-12	-15	49
<b>Slow CIS reformers</b>						
Belarus	-3	-1	-10	-12	-22	35
Ukraine	-3	-12	-17	-17	-23	43

Source: EBRD Transition Report, 1995.

Note: Data are averages of estimates by many international agencies and national authorities. Dates of start of reform differ from those in Fischer, Sahay, and Vegh (1995b) only where the initial program failed to achieve stabilization. I show the date at which the first attempt was made; Fischer, Sahay and Vegh list the dates at which began the most serious reform program in each country.

<sup>7</sup>The renewed outbreak of high inflation in 1993-94 in Bulgaria and Romania shown in Table 1 is reflected in increases in velocity in these countries.

Romania apart, the countries of Central Europe in Table 3 exhibit rather stable measures of velocity. Is there an error in the conventional wisdom that money demand was too unstable to make monetary targets an easy nominal anchor, or was Central Europe simply unrepresentative? Other countries shown in Table 3 exhibit much greater fluctuations in velocity. Moreover, even if velocity could be forecast perfectly, one must still forecast both real output and prices in order to decide the appropriate target for nominal money.<sup>8</sup> Thus, monetary targeting may be particularly difficult at a time of considerable doubt about real output and about prices, as during early transition given (i) the collapse of the CMEA, (ii) staged liberalization of prices, and (iii) the emergence of a hidden economy of uncertain but significant size.<sup>9</sup> Annual snapshots also obscure large movements within the year, both because of systematic and large seasonal variations and because of short run volatility in money demand.<sup>10</sup> Nor are output and prices the only determinants of nominal money demand: there is also the effect of interest rates which, early in transition, may be unpredictable. Five years into transition, monetary targeting remains uncomfortably difficult, a conclusion compatible with the original advice to prefer exchange rate stabilization where possible,

---

<sup>8</sup>Although prices are the ultimate target in such an exercise, in which case it might be imagined that they need not be forecast, monetary policy should be geared to underlying or medium run inflation rather than trying to eliminate every short run blip in prices; the alternative involves unnecessary pressures on the real economy. In such circumstances, uncertainty about transient pressures on prices complicates formulation of monetary targets.

<sup>9</sup>Lacko (1995) estimates the size of the hidden economy using (reasonably reliable) data on energy consumption, inverting estimated demand equations (based on income, relative prices, and weather conditions) using parameter estimates from estimates on a sample of western economies. His results (below) imply that the hidden economy could be around 30 percent of GDP. Changes in the size of the hidden economy may significantly bias official estimates of output growth early in transition:

Size of the Hidden Economy  
(in percent of GDP)

---

Poland	35	Ireland	21	Italy	16	Germany	11	France	6
CSFR	34	Spain	21	Portugal	16	U.K.	10	Norway	5
Hungary	33	Greece	20	Finland	11	France	6	Switzerland	3

---

<sup>10</sup>Even for the Czech Republic, whose annual velocity data in Table 3 follows a steady trend, internal IMF studies calculate that quarterly movements during 1992-95 fluctuate by more than one standard deviation around this trend, which is more than plus or minus 4 percent of the level of broad money. Within the CIS republics, velocity movements cannot yet be described as trending; rather they tend to drift and then make large discrete jumps.

though Tables 1 and 3 remind us that, *despite* the documented instability of velocity, many countries succeeded in money-based stabilization.

**Table 3. The velocity of broad money, selected countries, 1991-94**

	PY / M2				PY / M2X			
	1991	1992	1993	1994	1991	1992	1993	1994
<b>Central Europe (since 1991)</b>								
Bulgaria	1.69	1.48	1.37	1.70	1.31	1.31	1.29	1.30
Czech Republic	1.60	1.46	1.37	1.27	1.47	1.32	1.26	1.18
Hungary	2.46	2.23	2.43	2.68	2.11	1.95	2.01	2.16
Poland	4.12	3.72	3.91	3.89	3.10	2.80	2.78	2.78
Romania	2.18	3.81	6.07	5.70	2.13	3.22	4.41	4.54
Slovak Republic	1.60	1.55	1.54	1.53	1.48	1.48	1.38	1.35
<b>Baltics and CIS (since 1992)</b>								
Estonia		4.29	3.55	4.92		3.31	3.08	4.35
Kazakhstan		3.21	4.64	10.32		2.95	3.86	8.40
Kyrgyz Republic		3.64	9.90	7.78		3.41	8.25	7.28
Russia		3.07	4.98	9.92		1.76	3.48	6.55

Source: International Monetary Fund.

Note: Velocity measured by annual nominal income divided by year end money stock. Higher frequency data on nominal money are available, but higher frequency data on real GDP are unreliable, especially in the earlier years.

What about the alternative, stabilization via an exchange rate peg? How do we know what nominal level at which to start or the rate at which the equilibrium real exchange rate will then appreciate? Two rejoinders are possible. First, productivity growth and supply side improvement is more sedate than the big swings in real money demand that occur with changes in financial structure or from currency substitution induced by the changing fortunes of the stabilization program. Second, while the information content of domestic prices is limited by the transition in pricing regime, it helps to have one nominal variable, the exchange rate, that is easy to interpret.

Thus, exchange rates may offer the more robust nominal anchor during initial stabilization. Yet money-based stabilizations performed better than might have been expected, especially given the sample selection that assigned most of the healthiest patients to the exchange rate based clinic. The success of money-based stabilizations in countries as diverse

as Albania, Croatia,<sup>11</sup> Slovenia, Latvia, Lithuania--and perhaps soon in the Kyrgyz Republic and Moldova--may reflect three things. First, whatever the nominal anchor, ultimate success depends more on fiscal responsibility. Second, when nominal targets were set at inappropriate levels, they were simply adjusted ex post. One can exaggerate the credibility earned by the achievement of nominal money targets or lost when they failed to be met; this again is compatible with the primacy of fiscal policy but may also reflect the persistent difficulties of economists in identifying credibility gains from announcements (Fischer, 1994). Third, the heterodox approach drew on its multiple nominal anchors. Failures in one need not prejudice the entire program; nor may adherence to one alone be sufficient for success.

**b. The real effects of deep nominal depreciations**

Getting depreciation in early is held to be a key to success ( Bruno, 1993a). Large early nominal depreciations were common whatever the nominal anchor: pegged exchange rates typically began with a deliberate devaluation (beyond that necessary to unify the exchange rate), floating regimes often experienced sharp early depreciation. Credible money-based stabilization should lead to initial real *appreciation* as high real interest rates attract foreign capital. The pervasive failure of this to occur must reflect one of three things: limited initial mobility of capital; low credibility of money-based stabilizations; or, related, the failure of the monetary-fiscal mix to achieve positive real interest rates on domestic assets.

How long did the initial competitive advantage last before depreciation fed into domestic prices? Halpern and Wyplosz (1995) provide an econometric answer based on pooling the experiences of all transition economies whether fixed or floating. They estimate the determinants of the equilibrium real exchange rate, then model temporary deviations and gradual adjustment as nominal rigidities are overcome. Their two key findings are (a) on average a nominal devaluation of 10 percent has an impact effect of 3.5 percent on the real exchange rate once induced price increases are taken into account; and (b) half this initial competitive advantage is unwound within 10 months, relatively quickly by OECD standards. While dramatic regime changes are occurring, nominal inertia is less entrenched than one expects it to become later on.<sup>12</sup> This reinforces the judgement that one should be ambitious about the speed of disinflation early in transition.

**c. Was stabilization a prerequisite for recovery?**

Easterly (1996) shows that in successful stabilizations real output growth usually becomes positive within a year of the peak year of inflation. The obvious interpretation is that

---

<sup>11</sup>Some stabilizations that officially were money based in fact paid considerable attention to the exchange rate (see section V). Croatia might easily be classed as an exchange rate based stabilization.

<sup>12</sup>For recent econometric evidence of substantial nominal inertia in Poland, see Griffiths and Pujol (1996).

a growth crisis prompts a change in policy regime that affects prices before output because price dynamics occur more rapidly; on top of this there may be output effects of lower inflation per se. Successful disinflation is evidence of a credible regime change that, by dealing with the worst distortions of the previous regime, has already laid a foundation for an imminent resumption of output growth. Disinflation may be as much a symptom as a cause of measures to achieve output recovery. Bruno (1993b) takes a similar view.

However, timing and dynamics are critical for one liners such as 'stabilization always precedes renewal of growth.' In Easterly's sample of successful stabilizations, growth on average resumed within a year of peak inflation. Even so, inflation may then still be above the critical 40 percent annual rate defining eventual success; therefore, we can *not* appeal to evidence from other episodes to assert that output only picks up after stabilization is achieved. Moreover, the traditional dynamics of stabilization for an individual country, acting in isolation, must be amended when discussing a family of stabilizations in countries that formerly traded almost exclusively with one another.

Rodrik (1994) estimates that the adverse CMEA shock was responsible for about half the fall in measured output in individual countries. Superimposing this shock on what would otherwise have been the stabilization dynamics will delay recovery of output. Hence we should expect the *early* stabilizers to achieve disinflation before output growth resumes, but this is as much evidence about the timing of the CMEA shock to output as about any inevitable dynamics.

Tables 1 and 2 suggest that Romania, and probably Bulgaria and Lithuania, resumed growth before stabilization was accomplished (but for a drought-induced fall in agricultural output, Bulgarian growth might have resumed in 1993 well before stabilization). Since this was achieved despite the adverse CMEA shock to output, it is stronger evidence against the simple proposition that disinflation always precedes the resumption of output growth. Large shocks invite a subsequent rebound; without more detailed modeling it is hard to know what role such shocks played in the paths of output and prices. What matters more for policy design is whether slower stabilization would have allowed a faster resumption of growth. Fischer, Sahay, and Vegh (1996a,b) argue that the evidence is that it would not: after controlling for structural reform that may coincide with stabilization, stabilization tends to help not hinder output recovery.

**d. Did tight money raise the output cost of transition?**

Table 4 recalls key facts of Table 1 pertinent in assessing lessons from Romania, Bulgaria, and Lithuania, the countries resuming output growth before stabilization was achieved.

### Box 1. Estonia, Latvia, and Lithuania : lessons from Baltic disinflation

Differing policy choices in the three Baltic republics offer opportunities for interesting comparisons (Hansson and Sachs, 1994). Estonia alone of the former Soviet republics used an exchange rate peg for its initial assault on inflation, adopting a currency board committed to peg both the exchange rate and domestic money creation: balance of payments surpluses were the only source of growth of the monetary base (though changes in reserve requirements could still alter the money multiplier). Estonia was well placed to pursue this route, given fiscal surpluses during 1991 and early 1992 and recovery of its prewar gold reserves from the BIS, the Bank of England and Sweden. It is therefore no surprise that Estonia opted for exchange rate based stabilization.

Lithuania also adopted a currency board, but only in 1994 *after* fiscal consolidation had been achieved. This corroborates several propositions of the text: (a) when feasible, exchange rate stabilization may be preferred; (b) prior fiscal control is strictly necessary for such a regime; and (c) policy promises are not binding commitments; rather reputations are earned by successful delivery. It is possible to lose reputation *ex ante*, by embarking on a plan knowingly inconsistent and unachievable, but reputation is gained only after the fact according to one's achievements.

Latvia met the fiscal prerequisites but preferred to disinflate through money based stabilization, reinforced by making its central bank independent, and is a counterexample to the proposition that when feasible exchange rate stabilization is always preferred. The table shows that, from similar inflation levels in 1992, Latvian disinflation was more dramatic than that in Estonia. The table also shows real output in both countries. Substantially lower 1994 output in Latvia than Estonia is not necessarily evidence that money based stabilization is more costly. The largest asymmetry in output fall took place in 1991-92 before stabilization began; thereafter output paths were much more similar. Differences both in external trade partners and in the pace of privatization were also potential sources of differential output performance. These major qualifications notwithstanding, by 1994II Estonia's real output had recovered its level of 1992II; over the same period in Latvia output had fallen by more than 10 percent. More sophisticated analysis may yet confirm that the cost of stabilization was indeed higher in Latvia than Estonia.

The table also confirms, as we expect, that nominal interest rates were higher under money based stabilization in Latvia than under the exchange rate based stabilization of Estonia: pegging the exchange rate stimulates monetary inflows when domestic nominal interest rates rise too much above world levels. However, the appeal of this regime is based on avoidance of the high real interest rates and associated real exchange rate appreciation likely to emerge under floating. In fact, since real interest rates (on 3-6 month deposits) were substantially negative in both countries, policies that raise real interest rates may be good not bad. The particular comparison of Estonia and Latvia offers no easy confirmation of the general superiority of exchange rate based stabilization.

	1992			1993			1994	
	II	III	IV	I	II	III	I	II
<b>Estonia</b>								
Real GDP (1991=100)	85	80	76	77	82	85	82	77
Annualized inflation (%)	1028	1167	1122	293	135	61	38	44
Deposit interest rate (%)				16	19	17	14	12
<b>Latvia</b>								
Real GDP (1991=100)	64	62	60	51	55	56	59	52
Annualized inflation (%)	722	1097	1272	398	186	85	34	34
Deposit interest rate (%)				60	47	43	25	16

Source: International Monetary Fund.

**Table 4. Real Output During Stabilization, 1990-95**

	First year of output recovery	Cumulative percent of fall prior to that year	1995 output as percent of 1989 output
<b>Central Europe</b>			
Bulgaria	1994	27	75
Czech Rep.	1994	20	85
Hungary	1994	19	86
Poland	1993	21	97
Romania	1993	26	81
Slovak Rep.	1994	24	84
<b>Balkans</b>			
Albania	1993	35	75
Croatia	1994	30	75
FYRM	-	-	53
Slovenia	1993	17	94
<b>Baltics</b>			
Estonia	1994	30	74
Latvia	1994	48	54
Lithuania	1994	61	42
<b>CIS</b>			
Kazakhstan	-	-	44
Kyrgyz Rep.	-	-	43
Russia	-	-	49
Belarus	-	-	35
Ukraine	-	-	43

Source: EBRD Transition Report, 1995; International Monetary Fund.

Reversal of the normal pattern can be achieved either because the initial fall in output is small, a symptom of good performance, or because the period of disinflation is protracted, a symptom of poor performance. Table 4 shows that in these three countries the path of output was far from favorable. Comparing 1995 output to that in 1989, Bulgaria and Romania are bottom in Central Europe; Lithuania bottom of the Baltics. Reversal of normal adjustment ranking of output and inflation may be attributed more to delays in disinflation than to any suggestion earlier macroeconomic policy per se was beneficial for the real economy. In the same vein, the CIS countries suffering the largest falls in output (Belarus, Ukraine) were the countries in which initial stabilization most patently failed.

The depth of recession cannot be attributed to a pervasive 'credit crunch' from overambitious monetary restraint.<sup>13</sup> Real money stocks did fall substantially in most countries but this is consistent with the elimination of monetary overhang and the flight from money during high inflation; in short, with changes in real money demand that induced prices changes to alter real money supply. Corroboration is provided by Sherlock Holmes' dog that didn't bark in the night. Here, that dog is real interest rates on bank deposits. Had the problem been an exogenous fall in real money supply, real interest rates would have been much higher. The rarity of this is a significant clue that orthodox monetary austerity is not the prime suspect in causing the severe recessions.

I do not claim aggregate demand was unimportant; fiscal tightening and the systemic implosion of export demand within CMEA mattered. Nor do I imply enterprises and households could borrow at reasonable real interest rates. The converse must be true: otherwise, faced with the massive investment project of transition, with costs up front and benefits only later, we should have seen more intertemporal smoothing than took place. Rather the low levels of borrowing by the sunrise sectors of the transition economies should be sought in the imperfection of capital markets, and hence in the forces that determine their infrastructure and operation, not in the overall monetary aggregate within which they had to operate.

At this deeper level, some responsibility, perhaps a good deal, for problems of transition may still be laid on the design and conduct of monetary policy. Sections II and III further explore two aspects: bad debts and incentives within banks to extend credit; and the instruments of monetary control and their relation to development of financial markets and institutions. Since the experience of other parts of the world suggests that both these problems are obdurate and their solution protracted, it makes sense to examine these issues not merely in the context of initial transition but as part of continuing development once stabilization has been accomplished.

## **5. Monetary policy design during initial stabilization: an evaluation**

Finally, I ask three questions about the advice offered from outside. First, the blueprint in Bruno (1993a) was a sound diagnosis of what was needed, its components had been understood since the late 1980s, and the IMF itself had contributed to this consensus. Did advice about reforms follow the prescription? Second, was appropriate advice given to fix or float the exchange rate? When fixing, what governed the initial choice of exchange rate peg? When floating, did monetary targets provide adequate monetary control? Third, where did the IMF fit in? What role did it see for itself? Could that vision have been different?

---

<sup>13</sup>Blanchard and Berg (1994) also note that inventory stockpiling in Poland, the country in which the credit crunch argument has been made most plausibly (Calvo and Coricelli, 1992), argues against supply collapses based on inadequate credit for working capital.

By 1995 many countries had completed their stabilization objectives; more will follow in 1996. The many successes are not unconnected with the quality of the advice offered and its subsequent implementation by governments. Necessarily, in what follows my discussion tends to dwell on the aspects that were less successful.

**a. Building for the future: was the blueprint followed?**

Stabilization needed the adoption of policies that dealt with the fundamentals, the fiscal deficit and the external deficit, both as sources of excess demand and as indicators of solvency that affect confidence. Since substantial private sector external borrowing during early transition was implausible, there was a close connection between fiscal and external behavior. This reasoning seems to have been well understood by those advising from abroad, but two 'political' difficulties made it hard to implement.

First, where insufficient resolution of previous conflicts, both about the positive economics of the appropriate policies to follow and about normative issues implied by substantial redistribution, left government without a clear mandate for reform, it was hard to tighten fiscal policy sufficiently to achieve rapid stabilization.

Second, where adequate fundamentals required external debt reduction to undo mistakes from the past, the international community did not always act speedily or decisively. I call this 'political' because the crucial constraint was not mistaken analysis but concerns about what the precedent might then imply, not only for debtor countries but for the creditor countries that are the main shareholders of the international agencies concerned. External debt reduction in Poland, and to a lesser extent Bulgaria, may be judged a success; it is hard to reach the same conclusion about Hungary.

These cases aside, the appropriate strategy was compromised sometimes by details of implementation. Difficulties in capping spending and maintaining tax revenue were both anticipated and inevitable, but were not helped by poor accounting. Admittedly, inflation accounting is still inadequate in OECD countries, but the distortion is mitigated by the modest levels of inflation. In more inflationary situations, the focus on nominal measurements of current flow variables, and their perpetuation in targets for programs, invites trouble.<sup>14</sup> Examples include the apparently positive effect of price liberalization on enterprise profits because of nominal stock appreciation (which by disguising the extent of enterprise difficulties

---

<sup>14</sup>Warnings were given in earlier IMF publications (e.g., Tanzi et al, 1987; Blejer and Chu, 1988). In some other IMF programs, e.g., in Latin America, where perhaps data is better, the operational deficit has been used to complement conventional measures of the deficit. In transition economies, existing attempts to cross check the fiscal position need to become routine.

delayed structural adjustment and subsequently confronted banks with enterprise customers in poor financial shape); and the treatment of all nominal debt interest as part of the fiscal deficit.

If this latter distortion overstates the fiscal deficit, two other distortions understate it. These are intertemporal rescheduling to 'improve' current flow data at the expense of future flow data (a comprehensive assessment, whether by stock data or explicit consideration of future flow data, would mitigate this problem although its implementation will always be incomplete); and contemporaneous rescheduling of liabilities from 'scrutinized' government accounts to other parts of the consolidated public sector, e.g., as 'quasi fiscal' liabilities of the central bank, many of which are also off balance sheet, changes in which can dwarf apparent 'improvements' in monitored data on budget deficits. When continued access to Fund programs depends on the outcome, it is important that conditions be specified comprehensively not on narrow measures that can be circumvented. Although difficult to implement, it is better to begin immediately the hard task: it sends better signals and develops experience.

The second part of the Bruno blueprint is heterodox stabilization through *multiple* nominal anchors intended to increase security and reduce nominal inertia by better coordination of individual actions and expectations. This has been widely and successfully followed. Where stabilization failed (both reversals and/or unnecessarily high costs) this usually could be traced to failures to meet the first component (getting the real macro fundamentals right). Unnecessarily lax monetary policy has not usually been an error of major significance. In part this judgement turns of course on what is meant by unnecessary, as I attempt to flesh out below.<sup>15</sup>

It appears also that the earlier lesson of Chile was well learned: whatever the causes of the deep recessions in transition economies, it is hard to lay the blame on substantial nominal inertia that converted nominal austerity into protracted real contraction. Although some of the credit should be awarded to careful policy design, for example the temporary adoption of wage controls to reinforce monetary stringency, the more dramatic extent of the regime change in transition economies probably mitigated nominal inertia, though it was never completely eliminated.<sup>16</sup>

---

<sup>15</sup>Monetary laxity induced by subsidized credit or assistance channeled through the banks is often fiscal in nature and in cause. However, misguided bailouts, e.g., the scheme to clear interenterprise debt in Romania and in Kazakhstan, are instances in which monetary policy exacerbated what was anyway a weak fiscal position. Such issues form the substance of section III.

<sup>16</sup>Another Latin American lesson is that dogged pursuit of an exchange rate peg (or predetermined crawl) unmatched by credible fundamentals rapidly leads to a grossly overvalued exchange rate that impedes continuing success. In giving advice on the form of nominal anchor during initial stabilization, it may be more costly mistakenly to classify a

(continued...)

The third component of the blueprint is administrative measures to enhance the credibility of nominal anchoring, for example by currency reform. Some adopted such reforms, some did not. The most significant change was perhaps the emergence of separate currencies. A half way house was unsustainable: for a while individual Republics continued collectively to use the rouble yet decided nationally how many roubles to create; the ultimate free rider problem. Outside onlookers were quickly aware of the seriousness of the problem but, like EMU, it was so hard to separate economic from political issues that the pace of evolution to a more stable economic arrangement is no reflection of the economic advice that was offered.

The fourth blueprint component, structural adjustment, is beyond the scope of this paper, though sections III and IV deal with aspects of financial services and markets that relate directly to the conduct of monetary policy. Despite widespread technical assistance from abroad to help with banking supervision, financial regulation was slow in addressing its full range of tasks. It would have been more efficient to have devoted more resources, both domestic and international, to such activities. Macroeconomics got into trouble when insufficient attention had been paid to micro underpinnings. For this policy advice should take some share of the blame.<sup>17</sup>

The fifth category in the blueprint for stabilization is consolidation of democracy. Democracy has proved more robust than many at the outset might have feared, especially if then they had known the full extent of falls in recorded output that would subsequently be announced.

#### **b. The choice of monetary regime**

Generally, countries were advised to adopt an exchange rate peg if they could, for which two conditions were necessary: a fiscal trajectory not implausibly loose and a prospect of adequate foreign exchange reserves. Too loose a fiscal policy implied a likely degree of monetisation rapidly rendering any nominal exchange rate peg incredible; inadequate reserves would make a peg too vulnerable to changes in sentiment even when medium-run prospects were adequate.

---

<sup>16</sup>(...continued)

country as suitable for an exchange rate than mistakenly to classify it as unsuitable for an exchange rate peg.

<sup>17</sup>Even where substantial resources were devoted to banking supervision, enforcement was sometimes impeded by unwillingness of government to harden budget constraints on state enterprises. For example, Albania and Romania by 1993 had rules limiting the maximum to be lent to a single borrower, but such rules were still being waived in 1995. Similar remarks apply widely to enforcement of bankruptcy in transition economies.

Essentially, the first condition was sensible but the second was not. Where other considerations suggested an exchange rate peg but this was rejected only because the initial stock of reserves was inadequate, one expects international agencies, and the Fund in particular, to organize the necessary initial stock of reserves (as sometimes it did), enabling the borrower to overcome an acute capital market imperfection. This case should be distinguished sharply from cases in which the inadequacy of reserves is endogenous and derives from the policies in force. Shortage of reserves is then not the true reason the country is unsuitable for exchange rate pegging; the fundamental cause is lax monetary policy caused by lax fiscal policy. But then references in Fund documents to 'inadequate reserves' as a determinant of the design of nominal regime is misleading. It is important that discussions, at least within the Fund, are clear about the cause of inadequate reserves: initial condition or market response. The former invites one response by the Fund (assistance in establishing a stabilization fund), the latter a second response (advice to float and begin to tackle fiscal deficits).

My earlier review concluded that it was possible to justify the preference for policy advice that favors exchange rate based stabilization where preconditions were appropriate. Early deep devaluations did secure real competitive advantages, although these did not last indefinitely. Despite their initial attractions, exchange rate pegs eventually have to be abandoned, a process that is often messy. Section V discusses this further. Meanwhile, countries that, for whatever reason, have instead adopted money based stabilization are by no means doomed to failure despite the adverse conditions from which they often begin. This suggests two things about the policy advice of the blueprint. First, if fiscal and external fundamentals can be adequately corrected, monetary policy is no longer subject to uncontrollable pressures, confirming that it is fiscal not monetary policy that truly is fundamental, though of course unwise monetary policy can mess things up all on its own. Second, despite the fluctuations in money demand, some of which render obsolete previously announced targets for money and credit aggregates, sensible revision of the targets in response to new information is possible, and in several countries has been sufficient to ensure success.

One final remark. The standard blueprint does *not* advocate early removal of controls on capital flows. Countries hoping to attract foreign savings to help finance investment in transition must offer foreign investors assurances about repatriation of their funds. Moreover, since transition in the 1990s is embedded within a global capital market more integrated even than one decade ago, the date of many of the experiences on which the standard sequencing prescriptions are based, mobility of international capital can be combined only with imperfect attempts to restrict the capital mobility of residents. These qualifications notwithstanding, it remains desirable not to volunteer too early a relaxation of capital controls on residents. Policy advice may not have stressed this sufficiently, particularly in the countries of Central Europe keen to adopt EU practices as a prelude to negotiations for formal EU membership.

**c. The role of the Fund**

The Fund has two functions, systemic and bilateral. Transition has essentially been about the second. Opportunities fleetingly existed to do something more, to foster payments unions, or similar multilateral facilities, in Central Europe and in the CIS. In Central Europe, where stabilization succeeded quickly in the leading transition economies and regional moves to freer trading areas have been negotiated, systemic intervention by the Fund quickly came to seem unnecessary.

In the CIS, where stabilization was delayed, the rouble zone collapsed and trade between the republics imploded. Was an opportunity missed? Eichengreen (1993) concludes not: for any significant stimulus to interrepublic trade, a payments union would have required *temporary* credit to finance temporary trade imbalances. This needs *prior* stabilization if creditors are to lend with confidence. Eichengreen notes that this is not merely a theoretical point but also an empirical characteristic of previous payments unions, e.g., Western Europe in the 1950s. Neither in Central Europe nor in the CIS was there an evident systemic role that the Fund failed to perform.

Bilateral relations between the Fund and individual transition economies had several aspects: alleviation of acute capital market imperfections by loans from the Fund that, despite being small in scale, were sometimes large in significance; benefits from implicit certification by the Fund, a stamp of approval that enhanced a country's access to world capital markets or reduced its cost; benefits from the commitment value of Fund conditionality; and a more general learning process from having detailed discussions with the Fund about current policy, contingencies, and possible responses.

Evaluation of other aspects of the policies advocated by the Fund has been conducted during the preceding pages. I conclude with remarks about procedure. Two things strike an outside observer: the diverse treatment of different countries and the absence of a common database. By diverse treatment I mean not the sanctioning of different policies in different countries, as may be entirely appropriate, but that within and across departments the arguments adduced and evidence cited can and do vary. A little more investment in infrastructure appears a good investment. This applies a fortiori to a database. Partial databases exist in many parts of the two European departments. Making them genuinely common and easily accessible, devoting time to filling in the holes that undoubtedly exist, is time well spent. It supplies valuable infrastructure to those on the ground; fosters cross country analysis valuable to testing the robustness of hypotheses until time series on individual countries lengthen; and puts pressure on national authorities to produce the data required.

### **III. BAD DEBTS, ARREARS, AND FINANCIAL RESTRUCTURING: ISSUES AND IMPLICATIONS FOR MONETARY POLICY**

This section discusses the solvency of banks and their clients, the consequences for monetary policy, and the extent to which financial restructuring is a precondition for effective monetary policy. Under central planning, financial needs of enterprises were accommodated by banks, whose needs in turn were accommodated by the central bank as lender of first resort. Perotti (1994) gives a recent taxonomy of financial systems.

Stabilization programs were accompanied by tight money, though often with disappointing effects: hardening budget constraints was difficult (Blejer and Gelb, 1992). Banks began with bad debts inherited from the previous regime but their significance can be overstated: the initial jump in the price level to eliminate the monetary overhang often reduced the real value of inherited nominal debt. The debt problems that matter now are those that developed after the start of transition not those carried over from central planning.<sup>18</sup>

Enterprises in financial trouble have four ways to soften the budget constraint: they can fail to pay workers, government, suppliers, or creditors. Arrears to workers are common but unlikely to cumulate far. Arrears to tax authorities have been serious, especially since the initial tax structure relied heavily on taxation of profit; with tax reform, such as the introduction of VAT, nonpayment becomes more difficult or is subsumed in other problems such as failure to pay suppliers. These arrears, and the interenterprise debts to which they give rise, are discussed in section III.3. From the standpoint of monetary policy, the most significant failure is failure to service bank debt. Not only does this undermine the use of interest rates as the fulcrum of monetary policy, it threatens solvency of banks themselves. This may pervert the transmission mechanism of monetary policy; and leads to pressure for credit creation to bail out ailing banks and enterprises, thereby undermining monetary control.

Section III.1 examines bad debts in banks and implications for monetary policy. Section III.2 discusses possible solutions. Section III.3 analyses interenterprise debt. Section III.4 looks at the experience of transition economies, and Section III.5 at the response of policy. Section III.6 offers a final evaluation.

#### **1. Bad debts, bad banks and bad options for monetary policy**

Why do banks let customers cumulate interest arrears rather than force them to pay or threaten them with bankruptcy? Mitchell (1993) identifies motives for such 'creditor

---

<sup>18</sup>Even in the Czech and Slovak Republics, in which the initial price jump was moderate and early assistance for nonperforming loans was in respect of those undertaken during the previous regime, banks continue to experience problems largely attributable to behavior *since* the start of transition.

passivity': costs of enforcing bankruptcy may outweigh the benefits of assets realized;<sup>19</sup> the option value of waiting to see if the debtor's situation improves; and fear that action may reveal inside information about the poor quality of the bank's own assets.

Procedures for bankruptcy and liquidation affect the climate in which banks operate. Improving infrastructure is desirable but likely to be slow, requiring changes not only in law but also in experience and confidence about how the system operates. Nor should wholesale bankruptcy and liquidation be an objective of transition (van Wijnbergen, 1993a,b; Portes, 1994). Often what is needed is changes in incentives and operating behavior. The aspect of creditor passivity easiest to remedy arises from inadequate initial capitalization and consequent reluctance to acknowledge and pursue bad debts. Remedies to the 'stock problem' are discussed in section III.2.

There are also three 'flow problems' to be addressed: better incentives within banks so that, once healthy, banks wish to stay healthy; better incentives within enterprises, without which no amount of initial health in banks may be sufficient to withstand the pressures to which banks are likely to be subject; and the design of policy to improve these key areas without fueling expectations that further spoonfuls of the healing medicine will be dispensed in the future. Section III.2 discusses possible remedies to these flow problems.

Benign neglect is a bad policy. Introducing the price mechanism cannot secure efficiency gains if budget constraints are not enforced and price signals can be ignored. Moreover, in the absence of action by government, the response of a (well run) bank is to make its own progress, rebuilding its assets by a wider spread between borrowing and lending rates. Latin American history offers examples of such financial repression. There is widespread agreement that it is to be avoided (e.g., Bruno, 1993a). High lending rates inhibit investment;<sup>20</sup> low deposit rates may imply negative real interest rates for household saving. Together these lead to financial disintermediation at a time when financial deepening is an important objective. Uncertainties about money demand may further add to problems of monetary control.

<sup>19</sup>State-owned banks may not be permitted to seize assets or initiate legal recourse.

<sup>20</sup>Begg and Portes (1993a) cite the experience of Chile, for which (annualized) interest rates were:

	<i>Real Loan Rate</i> (In percent)	<i>Spread</i> (In percentage points)
1975-77	68	60
1978-80	21	12
1981-83	30	12

Benign neglect threatens not merely the level but the composition of credit. In the worst case, banks are forced to allocate a portion of their (tight) limit for overall new credit to new loans to meet the accruing arrears of existing enterprise debtors.<sup>21</sup> Being nervous about the quality of such loans, there is then a tendency to allocate a substantial portion of remaining lending to the safest possible customer, namely the government, crowding out borrowing by the emergent private sector.

Benign neglect may also induce perverse responses in monetary transmission. Perotti (1995) models a Laffer curve for monetary discipline. Tight money today, other things equal, imposes discipline; but other things may not be equal. Tighter policy makes more enterprises fall into arrears, raising the probability of a government bailout and credit expansion in the future. Beyond some level of monetary tightness, further tightening today so raises the belief in a future bailout that this expansionary effect outweighs the effect of tougher policy today.

Finally, benign neglect perpetuates mistaken accounting. Cumulation of arrears in debts of banks that are either state owned or likely to enjoy future help from the state is of course a liability of the consolidated state sector, a fiscal liability initially incurred *off* the balance sheet of either the general government or the central bank.<sup>22</sup> Flemming (1994) argues that international agencies, notably the Fund, have focused wrongly on the budget deficit of government rather than on the public sector deficit: the latter, if properly measured to include interest owed in the deficits of enterprises, brings the relevant items on to the relevant balance sheet, providing a sounder basis for assessing policy in general and monetary policy in particular.

Together, these problems make undesirable a policy of benign neglect of bad debts in the banks. How should policy respond?

## **2. Dealing with bad debts in banks**

Banks have a stock problem, insufficient net assets to take tough action with debtors, and a series of flow problems--the extent of loss making enterprises, inappropriate corporate governance of banks and enterprises, inadequate monitoring resources and experience, inadequate financial infrastructure. Solving the stock problem is necessary but not sufficient.

---

<sup>21</sup>It is sometimes argued that cumulating arrears is effectively equivalent to writing off the initial debt, which in many instances is a policy being recommended. This is mistaken for two reasons. First, writeoffs do not preempt the allocation of new lending, whereas cumulation of arrears is equivalent to new lending to meet old interest obligations. Second, whilst enterprises make no further payments in either case, allowing arrears to linger may leave a senior creditor (bank) with an outstanding claim and therefore affects the ability of the enterprise to raise new money.

<sup>22</sup>As an example of how large such magnitudes can become, see Easterly and da Cunha (1994).

Recapitalizing banks *without* tackling the associated flow problems is unlikely to succeed; and, being expected to fail, the prospect of further bailouts will exacerbate the flow problems. A stock problem will reemerge. Recapitalization alone is therefore likely not to accelerate but to delay the restructuring required (van Wijnbergen, 1993a,b).

Nevertheless, recapitalization is itself necessary, otherwise banks are too fragile for too long. An insufficient reason to oppose recapitalization is its fiscal cost: the money disappeared from the state finances when the bad debts were incurred not at the point at which this was acknowledged.<sup>23</sup> Begg and Portes (1993a) argue that it is the role of international agencies to approve the increase in the *declared* deficit when off balance sheet liabilities are first discovered: that much is just honest accounting.

How should policy then respond? Refusal to capitalize banks implies either (a) banks must succeed in restoring their own capital adequacy by some combination of workouts with their debtors and wider spreads for their normal customers (in which case the fiscal position is restored through money effectively raised through the banking system); or (b) having failed to deal with the stock problem today, the problems will be even worse by tomorrow. The latter is unattractive, the former takes an optimistic view of workouts and the cost of a long period of financial repression. Moreover, inadequate action on the stock problem may inhibit even the above flow response to widen spreads; banks may await a larger future bailout. Recapitalization deals with one of the necessary conditions for improved banking but at the cost of an explicit fiscal burden now and in the future, namely the flow of interest payments on the bonds injected into the assets of banks. The second best calculation must balance the costs of unduly high spreads and the dangers of temporarily inadequate bank capital against the costs of wide spreads and disintermediation. This determines how much recapitalization should be achieved by fiscal injection, how much by provisioning out of the profits of banks. This tradeoff will vary from country to country, but failure to address the problem is likely to be an error of policy whatever the circumstances.

To what levels should targets for bank capital aspire? Adequacy requirements should be appropriate to the task and imposed as part of the regulatory structure. If the Cooke ratio of 8 percent is adequate for a sophisticated bank in a familiar environment in an OECD country, it is probably too low for banks trying to withstand the pressures of transition.<sup>24</sup> Per

---

<sup>23</sup>Opposition to such acknowledgment is sometimes driven by the political economy of maintaining the momentum of reform rather than by theoretical misunderstandings. IMF (1995: 31).

<sup>24</sup>The 1995 EBRD *Transition Report* takes the opposite view, arguing that high requirements for capital adequacy will inhibit bank lending and thereby delay transition. Whilst it is true that investment will need to recover from its subdued levels if rapid growth is to be established, the principal quantitative source of investment finance, as in advanced countries, is likely to be retained profits. Encouraging bank lending without first solving the stock and

(continued...)

se, this argues for ensuring banks begin with adequate capital, not expecting them to claw their way gradually upward toward 8 percent or above from initial levels that are much lower.<sup>25</sup> This applies not only to existing banks but to licencing of new ones; lax entry conditions do not foster competition in the parts of the banking business that matter, where strength as well as skill is required.

Any solution to the stock problem is likely to fail unless it ties recapitalization to credible measures to address the flow problems. Privatization, effective capital markets and corporate governance take years to accomplish and refine. In the meantime, a practical measure is some ex ante recapitalization of banks coupled with some procedure for negotiating debt workouts with enterprises.

This is done most simply when delegated to banks themselves. Recapitalized banks would then, additionally, get whatever they could negotiate with debtors. Aghion, Blanchard, and Carlin (1994) argue this is especially attractive when banks have inside information about enterprises and when it is possible to design incentives that penalize bank managers who persist in supporting bad projects; a public policy case for subsidizing bank monitoring may also exist. Establishing the practice of debt workouts is a concrete step towards the idea of no further recapitalizations.

Pursuing workouts is one way to reverse belief in future bailouts, a second is to insist that banks provision properly for bad debts as they arise. Provisioning plus enforcement of capital adequacy helps prevent banks fall into a future stock problem. These of course are part of the wider problem of banking supervision which remains difficult in the early years of transition. Developing expertise within both banks and their regulators takes time; requiring extensive disclosure does not. Unless regulatory systems look as if they mean business, they cannot be expected to have great force.

Addressing the flow problem of bad debts requires better management of all loans not just more determined pursuit of loans in trouble. One improvement has been in loan structure--for example, Albanian banks finally realized that a bullet repayment (the old norm) made monitoring more difficult than requiring regular payment--a second improvement has

---

<sup>24</sup>(...continued)

flow problems of banks is likely to lead to inefficient projects that delay rather than accelerate transition.

<sup>25</sup>It is important for banks to pursue workouts of enterprise bad debts. The purpose of ensuring that banks begin with adequate capital is not to free them from the discipline and learning that come from pursuit of workouts, but to ensure that banks face appropriate incentives whilst pursuing workouts and other aspects of banking business. This is discussed further below.

been to require independent valuation of collateral and to exclude private housing (where seizure was either illegal or incredible).

New private banks start unencumbered with the problems of the large banks, but corporate governance of small banks cannot be taken for granted early in transition. Their ambitions may lead them into the same problems as established banks. Banking is a scale economy business. A fragmented banking system may be inefficient. Dewatripont and Maskin (1994) stress free riding problems in monitoring with multiple creditors, and Faini et al (1993) attribute persistent structural problems of Italy's Mezzogiorno to deficiencies in its fragmented banking system. The banks that would provide competition and expertise are of course foreign banks.

Without government encouragement, foreign banks may confine themselves to cream skimming (e.g., banking business for expatriots and multinationals). It would be better to involve them in mainstream banking. Carlin and Richthofen (1995) emphasize how, instead of wishing to make links with local banks, East German firms wished to forge ownership links with partners from the same industry in the west to facilitate transfer of expertise. Applying the same logic to banking, importing foreign expertise has a large payoff in transition. Even if governments are reluctant to sell banks to foreigners, using medium term management contracts should yield a high return.

### **3. Interenterprise debt**

Begg and Portes (1993a) note OECD economies have a large stock of interenterprise debt (IED), some being normal trade credit voluntarily extended. Early transition will see a dramatic rise in IED. However, two cases may induce an explosion of IED: an incredible stabilization in which, by delaying payment, firms effectively borrow from suppliers at a negative real interest rate; and when a future bailout of IED is expected.

IED affects the timing of receipts and payments and hence money demand, obscuring monetary conditions and impeding monetary control: IED may increase endogenously when monetary policy is tightened. IED also aggravates bad debt problems for banks. How does enterprise A bear the financial burden when unpaid by enterprise B? It may eat into its own profits, thereby joining the banking business. If it has no profits, enterprise A will itself have to defer payment, to another enterprise, its workers, or the government. In the aggregate, enterprises as a whole are most likely to run up arrears with banks. Since the credit and liquidation valuation of individual enterprises then depends not just on their own performance but on the solvency of the complex web of their creditors, the efficiency of the financial system is reduced by this poorer quality of information. This network effect induces moral hazard: an enterprise that individually is not 'too big to fail' may deliberately enmesh itself with others so that the indivisible whole becomes too big to fail.

Once IED is large, the government may intervene. A crude solution is to bail out all IED, but creation of new credit is very inflationary. Multilateral clearing of IED appears a

better solution, money creation covering only the residual, but Rostowski (1994) shows multilateral clearing is far from neutral: by valuing all debt at par whether or not it is likely to be repaid, it induces strategic behavior in anticipation of such clearing. Multilateral clearing is still inflationary: creditors holding bad debts themselves run up arrears to have something to cancel in the clearing process.

A well designed attempt to deal with IED must mark debts to market before clearing occurs, after which there is no objection to clearing itself. The harder problem is to ensure any additional bailout component (pure credit injection) is not expected to be repeated in the future, in which case flow problems are likely to be exacerbated by this attempt to solve the stock problem. Begg and Portes (1993a) conclude the best response is to do nothing: IED is a symptom not a root cause of the problem. If poor discipline in banks is the problem, the measures in section III.3 may effect the cure: suppliers will face pressure to withhold deliveries from delinquent payers; it may also be possible to securitize existing claims, explicitly marking them to market. Reinforcing the conclusion that bailouts and non-neutral clearing of IED are unwise, Rostowski (1994) notes that two other policies also fall into the market-based camp to which the do nothing approach belongs: IED auctions and forced securitization of IED. Whilst IED abnormal in both its quantity and in doubts about its eventual payment impedes the operation of monetary policy, quick fixes are to be avoided.

#### **4. The experience in transition economies**

##### **a. The buildup of bad debts in the banks**

Table 5 shows the pervasive extent of bad loans in the banks of transition economies. Table 6 offers more details and highlights problems in interpreting such data. First, there are different degrees of being overdue in the service of debt, and consequently different risks faced by banks. Second, efforts by the authorities to consolidate loans and recapitalize banks affect the data, as for Hungary in 1992 in Table 6. Third, there are differences in reporting standards to classify when loans are in trouble. The practice of capitalizing arrears into a new loan may remove arrears from a bank's records even though no payment has been received. But some countries, including those of Table 6, have made progress in establishing more rigorous and transparent classification of problem loans. The table shows explicitly how reclassification affected Hungary in December 1993. Some of the increase in nonperforming loans reflects a change in reporting practice; even after allowing for this, nonperforming loans are increasing in Hungary, and probably in many other countries.<sup>26</sup>

---

<sup>26</sup>Balance sheet data do not indicate off balance sheet commitments. Tuma (1994) argues that the government of the Czech Republic have sometimes guaranteed bank loans to ailing enterprises of social importance, using privatization proceeds in the National Property Fund to back guarantees.

**Table 5. Nonperforming Loans, 1993-94**

(Percent of all bank loans)

Albania	50	Latvia	33	Poland	20	Slovenia	9
Bulgaria	50	Russia	27	Hungary	15	Estonia	4

Source: Borish, Long, and Noel (1995).

**Table 6. Nonperforming bank loans, 1992-94**

(Percent of bank credit)

	1992	1993	1994		
<b>Czech Republic</b>	19	24	38		
<b>Slovak Republic</b>	14	22	37		
of which:					
special mention (< 90 days overdue)	11	10	7		
substandard (90-180 days)	0	3	7		
doubtful (180-360 days)	2	6	9		
lost (over 360 days)	1	3	14		
<b>Hungary</b>	<u>1992a</u>	<u>1992b</u>	<u>1993a</u>	<u>1993b</u>	<u>1994</u>
	17	11	17	22	26
of which:					
under observation	...	...	...	2	8
substandard	2	2	4	4	2
doubtful	4	4	4	5	4
lost	11	5	9	11	12

Sources: National authorities; and Fund staff estimates.

Note: Hungarian data for 1992 are before and after loan consolidation; for 1993 are before and after the adoption of tougher classification standards for nonperforming loans. Similar standards were also adopted at the same time in the Czech and Slovak Republics.

When some loans are nonperforming, banks' may increase spreads, especially when competition is limited.<sup>27</sup> Has transition meant substantial financial repression? Does this ease as stabilization occurs? Tables 7-10 shed light on these questions.

Table 7 shows interest rate spreads (a major source of bank revenues) and pretax profits of banks in the Czech and Slovak Republics, and the amount banks had to set aside to build up adequate provisions for bad loans. Table 7 suggests a large share of profits went to provision for nonperforming loans. Until they have fully been provisioned, portfolios of bad loans are likely to contribute significantly to interest rate spreads in transition economies that have made progress in and established a measure of corporate governance of banks.<sup>28</sup> In contrast, prior to the hardening of budget constraints on banks (or when there is a general

**Table 7. Bank spreads (loan minus deposit interest rates) and provisioning for bad debts: evidence from the Czech and Slovak Republics**

<b>Czech Republic (1994)</b>	<u>interest rate spread</u> <u>(percentage points)</u>		<u>of which attributed</u> <u>to provisioning</u>	
entire banking system	6.1		4.4	
big 4 banks	5.9		4.8	
foreign owned banks and branches	3.9		3.0	
<hr/>				
<b>Slovak Republic (1991-94)</b>	1991	1992	1993	1994
provisions as % of pretax profits before provisioning				
VUB (largest bank)	33	45	55	70
Savings Bank		57	55	67

Sources: Czech National Bank; Annual Reports of VUB and Slovak Savings Bank; Fund staff estimates.

expectation of further bailouts of banks themselves), there is less motive to rebuild bank capital by widening spreads. However, from the viewpoint of transition economies intent on progress in both stabilization and structural adjustment, the evidence from Table 7 is significant. Further corroboration is provided in the OECD's 1994 *Economic Survey of Poland* which concludes that, of spreads of 7-9 percent, just over half is explained by the need

<sup>27</sup>High spreads also reflect two other considerations, lack of competition between banks that remain regionally and sectorally segmented, and the burden of high reserve requirements. For example, in Poland demand deposits attract a 23 percent reserve requirement. For further discussion see Section IV.

<sup>28</sup>The prevalence of wide spreads reflects not just the need to build reserves to provision against bad debts but also the more general need to attain international standards of capital adequacy.

to provision against bad debts (and a further 1.5 percentage points explained by high reserve requirements on which no interest is paid).

If bad loans raise spreads, does this inhibit financial deepening? Table 8 shows data for some of the more advanced transition economies. Both measures of a weak financial system--interest spreads and a negative real interest rate on deposits--have a negative correlation with inflation,<sup>29</sup> so stabilization is likely to encourage intermediation. The roots of disintermediation must be sought in macroeconomics as well as microeconomics. Table 8 also allows a direct examination of the relation between spreads and velocity. Regressing velocity on spreads and inflation in the pooled sample (standard errors in parentheses)

$$\begin{aligned} \text{logarithm ( M2X velocity)} = & - 0.089 + 0.016 \text{ inflation} + 0.054 \text{ spread} \\ & (0.123) \quad (0.003) \quad (0.016) \end{aligned}$$

Not only is high inflation correlated with high velocity (low money demand) but, even after controlling for inflation, larger spreads also tend to reduce money demand and increase velocity. Nor can this be attributed to the most readily accessible channel of currency substitution, switches into foreign currency deposits with domestic banks, for M2X includes such deposits. So Table 8 provides evidence that, to the extent bad loans raise spreads, spreads in turn damage financial deepening.<sup>30</sup>

Another question prompted by Table 8 is whether spreads are large in relation to OECD.<sup>31</sup> Table 9 shows that the latter are around 3 percent. So stabilized transition economies do exhibit larger spreads, but not massively so. Indeed, since for the more stable macroeconomies the excess spread over OECD levels is not dissimilar to the earlier estimates of the burden of provisioning, this may indicate that there is scope for spreads to fall if the bad debt problem can be satisfactorily resolved (including by the building of adequate reserves to provision against such losses).

---

<sup>29</sup>OLS regression for the data of Table 2.4 yields:

$$\begin{aligned} \text{spread} = & 5.18 + 0.10 \text{ inflation} \\ & (1.18) \quad (0.04) \end{aligned}$$

$$\begin{aligned} \text{real deposit interest rate} = & 5.60 - 0.50 \text{ inflation} \\ & (3.22) \quad (0.12) \end{aligned}$$

<sup>30</sup>It would be desirable to repeat the exercise on quarterly data and take account of the possibility of simultaneous equation bias in estimation.

<sup>31</sup>Table 9 is more significant as an indicator of OECD spreads than as a ranking within OECD.

**Table 8. Banking Indicators (end of calendar year)**

	Year	Interest rate spread (%)	Real deposit interest rate (%)	Inflation rate (%)	Velocity		Money multiplier	
					M2X	M2	M2X	M2
Poland	91	8	-23	55	3.1	4.2	2.5	1.7
	92	8	-7	38	2.8	3.7	3.0	2.2
	93	9	-20	46	2.8	3.9	3.5	2.5
	94	9	-10	32	2.8	3.9	3.9	2.8
Czech Republic	92	7	-4	10	1.3	1.5	5.8	5.0
	93	7	-3	10	1.3	1.4	7.0	6.5
	94	6	-3	10	1.2	1.3	6.5	6.0
Slovak Republic	92	7	-6	13	1.5	1.6	5.8	5.5
	93	4	-4	11	1.4	1.6	7.7	6.8
	94	4	0	11	1.4	1.6	6.2	5.4
Hungary	91	5	8	24	2.1	2.5	1.5	1.3
	92	11	-3	20	2.0	2.3	1.7	1.5
	93	8	-3	20	2.0	2.4	1.8	1.5
	94	6	-3	25	2.2	2.7	1.7	1.4
Albania	92	7	-6	40	1.9	2.6	2.0	1.5
	93	7	3	22	2.1	2.8	1.7	1.3
	94	6	4	10	2.0	2.5	1.7	1.4
Estonia	93	15	-28	40	3.6	3.7	1.6	1.5
	94	13	-23	33	4.3	4.9	1.9	1.6

Sources: National authorities; Fund staff estimates; and author's calculations.

Notes: Deposit rates (and hence spreads) average across both households and enterprises, and across sight and time deposits. Inflation is a 5-month centered moving average of actual inflation. Velocity data based on end year money but, for comparability and data availability, nominal GDP for the calendar year (except Albania which is annualized value of fourth quarter GDP). M2X is broad money including foreign currency deposits.

**Table 9. Spreads in OECD Countries, 1993 (in percent)**

Italy	5.4	Sweden	3.3	Germany	2.6	Switzerland	2.3
Spain	5.0	U.K.	3.3	France	2.5	Finland	2.1
Denmark	4.9	Austria	3.0	Netherlands	2.3	Belgium	1.9

Source: T. Timmermans (1995).

**Table 10. Allocation of Bank Lending by Sector**  
(Real level of domestic credit by sector, 1991 = 100, year-end)

		1992	1993	1994
Poland	Nongovernment	87	84	75
	of which : households	114	156	
	state enterprises	78	69	
	private firms	97	99	
	Government	269	293	286
Czech Republic	State owned enterprises	79	57	25
	Households	114	96	86
	Private firms and coops	189	262	308
	Government	90	50	33
Slovak Republic	Households and firms	105	93	85
	Government	149	176	153
Hungary	Enterprises	83	74	75
	Households and small firms	92	94	75
	Government	102	96	96
Albania	State enterprises and farms	28	24	...
	Private firms and households	223	328	...
	Government	78	127	...
Bulgaria	State enterprises	72	68	27
	Private firms and households	76	69	49
	Government	106	150	99
	of which bad debts	55	88	141
Romania	Nongovernment	46	31	32

Sources: National authorities; Fund staff estimates; and authors' calculations.

Notes: Bank credit to government in Romania is small (and indeed has often been negative). 1994 data for Albania refer to third quarter not end-year.

Did bad debts distort the *composition* of bank credit? For seven countries, five of which had stabilized (Romania and Bulgaria had not), Table 10 shows how real credit evolved after 1991. Where bank credit to enterprises can be identified separately, clearly it has been curtailed significantly in real terms. The downward trend in real lending to enterprises transcends occasional discrete removals of nonperforming debt from the banks' books. There is no universal evidence that banks continued passively to supply the credit needs of enterprises by allowing unrestricted cumulation of arrears. Experience varied by country. Polish bank employees were given stock options to be exercised when banks were eventually privatized, a direct incentive for loan officers to care about the profitability of new lending. Yet, Bonin and Schaffer (1994) report that, despite an overall fall in real lending to

enterprises, the least profitable, most heavily indebted Hungarian enterprises received large real *increases* in credit. Nor does a lower share of bank credit to enterprises prove stabilization is succeeding and budget constraints are being enforced. Shares fell nearly as much in Bulgaria and Romania, where initial stabilization failed, as they did in the countries which succeeded in stabilization and made more progress hardening budget constraints.

When banks shunned lending to enterprises, the government not the emergent private sector was often the beneficiary.<sup>32</sup> Banks sought safety in lending through purchases of government securities. This composition effect was most marked in Poland where real bank credit to government nearly tripled during 1991-94; elsewhere, changed composition usually implied maintenance of real credit to government when overall bank credit was falling. The chief exception to this general pattern is the Czech Republic where fiscal prudence allowed sharp falls in government demands on real bank credit, and hence significant lending to the private sector. Albania also achieved rapid expansion of credit to the private sector, despite fiscal deficits and increases in bank credit to government; rather credit to state enterprises and state farms was cut.

This completes my discussion of the chain of transmission from bad loans through higher spreads to financial distortion. A more comprehensive study would address at least two further questions. First, to what extent does financial repression affect both the quantity of household savings and the assets in which it is held. As yet we have only a "reduced form" answer: higher spreads have a detectable effect, over and above inflation, in reducing the stock of broad money. This is compatible with the view that current saving is reduced and past savings partly go abroad. Second, one might ask similar questions about enterprise borrowing. When domestic interest rates are unduly high, one might expect adverse selection to be unduly pronounced. Those knowing themselves to be good risks avoid the domestic market entirely, preferring to borrow abroad; only those knowing themselves to be poor risks borrow from domestic banks, thereby exacerbating problems of bad debts in the banks. In countries yet to stabilize credibly, widespread foreign borrowing is implausible. However, most of the substantial capital account inflow into the Czech Republic since early 1994 has not been foreign direct investment but rather Czech enterprises borrowing abroad. To the extent that it is prompted by the consequences of weak banks at home, it is another macroeconomic symptom of a problem in structural adjustment.

## **5. Governments' response to bad debts in the banks**

Broadly speaking, there have been two approaches to the stock problem: attempts to identify intervention with consequences of the previous regime, hoping that a solution to the

---

<sup>32</sup>One should not forget that in OECD countries the vast majority of private investment is not financed by equity issues or bank credit but rather out of retained earnings. The same has been true in transition economies: Marrese (1994) reports that 63 percent of investment in the former CSFR and 75 percent of investment in Poland has been financed through this channel.

stock problem coupled with normalization of financial regulation and ownership will then be sufficient to solve the flow problem; and comprehensive programs dealing simultaneously with the stock and flow problems, making assistance with the stock problem contingent on progress with the flow problem.

**a. Did tying bank recapitalization to the inheritance from the previous regime make credible the claim of no further bailouts?**

The ex-CSFR, Hungary, Bulgaria, and Albania all followed this route. Bulgarian banks were recapitalized to a small extent in 1991, more substantially during 1993-94, in an effort to offset bad debts incurred before 1990. It would be surprising if this were successful. Although inflation since 1990 failed to eliminate the real burden of earlier debt since a large part of SOE debt to banks before 1990 had been denominated in foreign currency, continuing solvency problems in banks are more a reflection of bad loans made since 1990; the continuation of which may be expected to induce further recapitalization, thereby exacerbating the flow problem. In any case, recapitalization failed to restore capital adequacy (e.g., banks were given injections of government bonds yielding interest rates well below market rates, thereby reducing the effective value of the injection).

This failure also suggests the conditions in which recapitalization untied to changes in banks' flow might conceivably succeed. Fiscal rectitude should have been quickly established (so that fears about the fiscal consequences of recapitalization do not delay recapitalization beyond the point at which it can plausibly be attributed to the previous regime), and progress should be well advanced in other measures to help deliver responsible flow behavior by banks and enterprises. Experience in financial supervision, early steps towards privatization are obvious candidates, and government commitment to structural adjustment seem obvious candidates.

The failure of Hungary's first recapitalization of banks is thus no surprise. In 1991 banks received bonds to replace half the nonperforming debt transferred to banks in 1987 when the monobank was broken up. Assistance, tied to the previous regime, came appropriately early, in a country without dramatic inflation. Yet the gradualist approach failed to resolve the stock problem--banks were unable fully to provision against remaining nonperforming loans--nor was the flow problem helped by slow progress on privatization, acquiescent supervision in continuing capitalization of arrears, and little evidence of government commitment to structural adjustment.

In contrast, the CSFR met the criteria for such recapitalization to have the best chance of success. In 1991 banks' loans of working capital to enterprises made under the previous regime and involving long term commitments at low nominal interest rates were transferred to the new Consolidation Bank, a state workout agency, which did recover some of the loans. Simultaneously, banks were recapitalized with government bonds, both to compensate for

inherited loans and to raise banks' capital adequacy. Czechoslovak banks were told there would be no further assistance from government.

Did banks manage to rebuild capital and provisions for bad debts (solving the stock problem for credits not initially written off). Has the growth of nonperforming debt been arrested (solving the flow problem)? The answer to the first question is broadly yes, but the continuing rise in nonperforming debt makes the answer to the second question uncertain, even though some of the rise reflects changes in the rigor of reporting. If this uncertainty remains even in countries in which circumstances were favorable, such a hands off approach to the flow problem is probably inappropriate in more problematic circumstances. Have more comprehensive schemes fared better?

**b. Bank recapitalization contingent on adjustment of bank behavior**

A clear example of this strategy is Poland. By 1993 bad debts were clearly part of the current regime. The Law on Financial Restructuring of Enterprises and Banks (March 1993) offered recapitalization of nonperforming loans as of end-1991 if banks produced credible plans to restructure debt, and established workout departments to negotiate with creditors about full or partial loan recovery. There was a binding one year deadline, then enterprises could be liquidated or given explicit state support. In the event banks made deals for partial recovery with debtors covering half the bad loans,<sup>33</sup> and a third of the remainder resumed full debt service or paid off the debt in full (EBRD, 1995). In contrast to the centralized workouts in the CSFR through the Consolidation Bank, the Polish scheme may have had two advantages. First, banks, keeping the fruits of their workout efforts, had more incentive to succeed than a state agency, especially since employees had stock options exercisable after privatization. Second, since skills in loan evaluation, negotiation and monitoring are the essence of successful banking, decentralized workouts offered on-the-job training whereas centralized agencies may attract relevant skills away from banks.<sup>34</sup> Despite these arguments, the Polish scheme has been only a partial success (for a recent, mixed, review see Gray and Holle, 1996).

Hungary, having failed credibly to tie recapitalization to legacy of the previous regime, during 1992-93 undertook further recapitalizations as part of a piecemeal strategy probably doomed from the outset: substantial but inadequate stock injections with no attempt to address continuing flow difficulties. Table 10 confirms that, even on the original reporting

---

<sup>33</sup>Debt workouts are usually impeded by free rider problems: every creditor benefits from forgiveness by other creditors. In the Polish scheme, negotiations were binding on all creditors once a majority of creditors (by value) agreed a deal; and the discount agreed automatically applied to arrears in tax and social security as well as to bank arrears.

<sup>34</sup>van Wijnbergen (1993b) observes that successful bank workouts enhance job security for bank employees, whereas success by a state workout agency terminates the jobs of its employees.

basis and despite these bailouts, the share of nonperforming bank loans continued to rise during 1993. Only then did Hungary turn to the Polish strategy. Recapitalization, in three stages over 1993-94, aimed to provide banks with adequate capital. Banks had to enter 'consolidation contracts' to alter their behavior and establish workout departments. Only one of the eight major banks met this requirement, yet the government proceeded with the next stages of recapitalization for all eight banks! Given the low credibility of government after its past bailouts of banks and general reluctance to undertake structural adjustment, such failures to implement its own policy were unhelpful.

The Romanian experience illustrates two variations on these themes, not only the absence of explicit measures to deal with the flow problem but prevalent directed credits at cheap interest rates signaled the unwillingness of government to subject both industry and agriculture to significant structural adjustment. As late as 1994, industry and agriculture each were running quasi deficits of 6 percent of GDP through preferential credit or explicit bank arrears. In 1994 the government adopted a variant of the comprehensive approach to stock and flow problems, with an interesting Romanian twist: the 25 largest state enterprises plus 5 utilities, together responsible for 30 percent of bank arrears and 50 percent of state enterprise losses, were themselves to become the subject of detailed supervision and a high priority for special management incentives.<sup>35</sup> As part of the plan, the government also undertook to end subsidized credit.

**c. Did small banks fare better?**

In Central and Eastern Europe the monobanks were split up into commercial banks that began with most of the market. New banks entered, often in large numbers, but were rarely able to provide effective competition.<sup>36</sup> New banks could not claim to be saddled with debts from the past; might not feel an obligation to support state enterprises for social reasons; and in many cases were private from inception. Yet in almost every country, small banks faced spiraling nonperforming loans, and in some instances were forced to close or merge.

Three explanation were offered for the disappointing performance. First, some banks were set up by particular enterprises, with whom most of their business was conducted and upon whose fortunes they depended. Corporate governance, weak in the enterprise, was unlikely to be strong in the associated bank. Second, unless new banks were branches or subsidiaries of foreign banks, their access to scarce banking skills was no greater than of larger banks. Third, early in transition, most countries pursued lax regulation of new banks,

---

<sup>35</sup>Begg and Portes (1993a) advocate cash limits on the deficits of problem enterprises as a component of a solution to the flow problem when banks are under particular pressure.

<sup>36</sup>In contrast, in the Baltics and the states of the CIS a different approach was pursued, with new banks quickly becoming the major force in the banking industry.

welcoming potential competition to large banks. Capital requirements and other aspects of bank licensing, such as requirements for information disclosure, were inadequate. Regulators may have concentrated their monitoring effort where it mattered most, with the larger banks; to this extent, the problem lies again in insufficient infrastructure of expertise and experience. However, some difficulties reflected misjudgements and were remedied subsequently in two respects. First, supervision criteria have been made more rigorous for small banks. Second, by definition small banks are not 'too big to fail'. In several countries, the authorities have allowed a few failures of small banks since 1992.

#### **d. Banking supervision**

Early discussion of central banks in transition often emphasized central bank independence and the macroeconomics of credibility, rather than the urgency of improving standards of banking supervision. Belatedly, this has been recognized as an integral part of dealing with the flow problem of banks.

OECD countries have an 8 percent capital adequacy requirement for banks. Few transition economies began close to this figure, but by now all leading transition economies have introduced capital requirements of 8 percent as an immediate obligation or to be achieved in stages. Section III.2 argued banks in transition economies should face tougher capital adequacy requirements than OECD countries. Adequate capital is necessary but not sufficient. Without credible measures to address flow problems and diminish expectations of further bailouts, banks continue old behavior anticipating further injections from government. Only where the authorities were prepared to face rapid structural adjustment and introduce associated policies would tougher earlier targets for capital adequacy have been desirable.

Supervision took time to impose a standard classification of nonperforming loans by the length of arrears and the probability of repayment. Normal classifications are: standard or performing (serviced on time), watch or under observation (arrears of 1-3 months), substandard (3-6 months overdue), doubtful (6-12 months overdue), and lost (over a year overdue). Table 6 showed how changes in classification in 1993 dramatically altered estimates of nonperforming debt in Hungary; the same is true in the other countries that introduced loan classification around this time. Not just an early warning signal to regulators and monetary authorities, classification allows differential, more realistic provisioning to reserves. EBRD (1995) reports that almost all transition economies now classify loans and have adopted international practice for provisioning: 20 percent for substandard loans, 50 percent for doubtful, and 100 percent for lost. As with capital adequacy, the authorities with the greater credibility (e.g., Poland and the Czech Republic) have been more rigorous in enforcing provisioning.

OECD countries also observe a Cooke ratio limiting credit a particular source. Transition economies have moved in this direction, but national limits vary perhaps because of different structures of ownership, degrees of specialization, and relations with customers. Convergence does however appear to be occurring slowly.

Perhaps the area in which progress has been slowest, but for which the need is now recognized, is in disclosure requirements to reduce the cost of monitoring by supervisors, customers and owners of banks. As in other aspects of bank supervision, it is unclear how much an earlier appreciation of its importance could have brought forward its benefits: one should not underestimate the significance of experience and the time required to develop the human and financial infrastructure required. Whilst its deliberate neglect is unwise, overambitious early introduction may also serve to discredit. But skill development should be a high priority for transition economies and technical assistance with banking supervision is a valuable form of external help.

**e. Interenterprise debt (IED)**

All transition economies quickly experienced a sharp increase in IED. Increases were sometimes less dramatic than they first appeared: in countries such as the UK and USA it is common for IED to be around 20 percent of GDP. Since transition economies began with abnormally low levels of IED, some increase was to be expected.

Section III.3 advocated a hands off approach to IED. Countries that essentially followed this approach included Poland and the former CSFR, and more recently Latvia and Lithuania. IMF (1995) report that IED peaked in Poland at around 22 percent of GDP in 1991 and in the former CSFR at around 20 percent of GDP shortly afterwards. In Latvia and Lithuania IED peaked in 1993, at a comparable stage of transition.

In marked contrast, Khan and Clifton (1992) describe how IED spiraled over 50 percent of GDP in Romania, prompting several interventions by government during 1991-92 to promote netting out (itself inflationary, as explained in section III.3) and also leading to explicit credit injections to write off IED. Solving the stock problem was of course insufficient and in itself likely to promote expectations of further assistance. Eventual progress owed at least as much to explicit steps to address flow aspects: application of interest to interenterprise arrears (at an interest rate that by January 1994 was as high as 0.4 percent *a day*); and tax penalties on enterprises continuing to supply firms already in arrears to them.

Albania also applied a coordinated mix of stock and flow policies, with apparent success. In January 1993 it introduced measures requiring payment *in advance* of supply and then made partial compensation to net creditors that themselves had a good performance record over the preceding six months.

What lessons can be drawn from this experience? The diagnosis of IED as chiefly a symptom of problems of stabilization and structural adjustment seems upheld. As stabilization took hold, IED subsided, a hypothesis corroborated by subsequent experience in the CIS: during 1993-94, IED as a share of GDP fell in the Baltics and the newly stabilizing Kyrgyz Republic but continued to increase sharply in Belarus and Ukraine, two countries in which stabilization at that date was clearly still some way off.

These views are further corroborated in the recent evaluation of CIS countries in Citrin and Lahiri (1995). Major netting operations and/or credit injections in response to IED took place in many CIS countries, notably Azerbaijan, Belarus, Kazakhstan, Turkmenistan, Ukraine, and Uzbekistan. Citrin and Lahiri confirm that at best such exercises merely dealt with symptoms not causes, leading quickly to demands for further intervention; at worst they raised expectations of further bailouts. CIS evidence confirms the lessons from Central and Eastern Europe, and introduces one additional element of political economy. In resource-rich Russia and Turkmenistan, arrears were unduly concentrated in the energy sector. Such asymmetries in the costs and benefits of intervention often provoke the most effective lobbying, an idea that has long been familiar in the positive economics of tariff levels in international economics.

Was private action an alternative to government intervention? Did mechanisms exist with which to discipline delinquent payers? Did national differences reflect the effectiveness of bankruptcy proceedings? Not much. Poland 'solved' its IED problem (and wider problems of bad debts in banks) without extensive use of bankruptcy courts; delinquent payers found suppliers reluctant to supply goods and banks unwilling to extend new credit. At the other extreme, Hungary enacted a draconian bankruptcy Law at the start of 1992 mandating bankruptcy proceedings once arrears (to banks or enterprises) reached 90 days. So many enterprises fell into the bankruptcy trap that the Law was repealed before the end to the year. By the end of 1994, 26000 petitions for bankruptcy, 10000 of which were initiated in 1992, had been filed in courts whose capacity to deal quickly with these cases was obviously limited, and average delays in settlement were about two years.<sup>37</sup> Despite this legal activity, it cannot be claimed that the Hungarian experience was superior to that of other transition economies of Central and Eastern Europe. Just as an exchange rate peg cannot itself convert a fiscally irresponsible government into one that is prudent, so, when a government's commitment to structural adjustment is lukewarm, mere introduction of bankruptcy legislation cannot work miracles. Rather, like Gulliver, successful transition needs to be tied down with many little threads which together exert a powerful hold and demonstrate the government's conviction.

## **6. Evaluation: successes and failures of policy design**

An unsound banking system perverts the transmission of monetary policy (especially when it relies on indirect instruments); inhibits financial deepening, reducing saving and investment; and, by distorting credit allocation, impedes structural adjustment. Enhancing the soundness of the banking system is a priority.

Once the significance of the problem had been recognized, how well were policy responses designed? In the leading transition economies, there are successes to record. Bad debts and arrears, though still visible, are receding. The need to recapitalize banks was

---

<sup>37</sup>Hrnecir and Klacek (1995) report that in the Czech Republic the number of cases concluded in the courts was 5 in 1992 rising to 254 by 1994.

addressed. It has been increasingly recognized that moral hazard is minimized when injections of finance are tied explicitly to changes in flow behavior by banks, preferably reinforced by the prospect of privatization. Within Central and Eastern Europe, there has been no widespread government intervention to "solve" the problem of interenterprise debt, correctly diagnosed as a symptom rather than a deep cause of other difficulties. In the CIS, misguided attempts to tackle the stock aspect of interenterprise debt without addressing the deeper flow difficulties occurred despite not because of external advice.

Introduction and implementation of bankruptcy was slow, but many countries avoided a subsequent backlash of excessive liquidation. The Baltics aside, the leading economies negotiated the hardest years of transition without a general collapse of banks, as happened for example in Chile, though the potential for a crisis remains almost everywhere. The significance of banking supervision is now appreciated, even if full implementation and expertise will be achieved more slowly. Technical assistance to accelerate these processes has been sought and been forthcoming.

Where was policy design and advice less successful? Piecemeal recapitalization, untied to binding commitments to reform flow behavior, was generally a failure when implemented (except perhaps in the Czech Republic, which had two advantages: a long established reputation for prudence which may have acted as a substitute for explicit guarantees, and the prospect of imminent (partial) privatization of banks in the first voucher wave). The adverse experience with bank recapitalization in countries such as Hungary may not be attributed solely to mistaken policy design: given lukewarm commitment to structural adjustment and substantial budget pressures, better designed policies might have lacked credibility; and political support for more sensible banking reform may have been impossible. Even so, policies that knowingly augment moral hazard problems are likely to have additional fiscal costs in the future.

Progress in banking often stemmed from introduction of loan classification, insistence on provisioning, and targets for capital adequacy. Yet implementation must be effective not nominal. This raises two issues: the caliber of supervisors and the provision of capital. Even economies with a richer endowment of financial expertise face difficulties in preventing skilled people being bid away from public sector roles by the salaries offered by private banks; this problem is necessarily more acute when the endowment is less abundant. Paying regulators too little is a false economy.

Few countries have recognized that capital standards adequate for the OECD may be inadequate in the dangerous early stages of transition; Poland is an exception, having recapitalized banks to 12 percent of assets. Elsewhere, the trend (and advice) has been to aim at most for the international norm of 8 percent, and frequently to get there in stages by tapping the flow of bank profits. Inevitably this is a slow process: the gap between initial capital and adequate capital is large.

This policy leaves banks vulnerable, risking unnecessary persistence of adverse selection, distorted credit allocation, perverse monetary transition, and slow structural adjustment. Yet, at least in the leading transition economies, some problems were less acute than expected and less bad than sometimes currently perceived. Take the danger of bad debts and extensive provisioning leading to high spreads, a common view in 1995 of even the leading transition economies. Table 8 shows Latin American levels of financial repression did not materialize. Once stabilization was achieved, spreads were usually in single digits, often only a few percentage points larger than in Western Europe. Given the other uncertainties of transition, it is hard to believe that such spreads imposed a severe distortion on saving and investment; the wedge was too small. This is not to deny that spreads were high, that this was costly, and that spreads may fall once the burden of provisioning and reaching capital adequacy targets has been met. Moreover, if banking is a key sector, it is important not to drive the profit rate in banks too low: one wants high-quality staff and other resources in the industry.

Spreads were sometimes raised because of substantial reserve requirements, often ineligible for interest (there are exceptions, e.g., Hungary). Guaranteeing seigniorage and a tax base for the inflation tax may appear a smart policy in countries plagued with fiscal deficits but strengthening the Finance Ministry by weakening the banks was not always a good investment. In the leading transition economies, this lesson has now been learned, and the emphasis is to reduce reserve requirements. Other transition economies following in their wake should note the need to strike a more equal balance between the needs of fiscal and monetary policy.

Finally, mistakes were made about entry of small banks, and more generally in thinking about competition within the banking sector. Even where, as in the Baltics and the CIS, new banks were to be the essence of the new banking market, initial regulation of banks was insufficient. Where, as in Central Europe, the monobanks were broken up into a few large banks, expecting a wave of small entrants to provide substantial and effective competition was naive, and the laxity of initial regulation of new banks even more mistaken. These lessons now seem to have been learned.

#### **IV. INSTRUMENTS OF MONETARY POLICY: SEQUENCING AND TRANSITION**

Transition economies inherited the tools of central planning. Monetary control meant direct control of the price and quantity of credit. Best practice in OECD economies typically prefers the use of indirect instruments of monetary control which, by acting on demand and supply in the credit market, affect the equilibrium price and quantity of credit. This section discussed why indirect monetary control should not be adopted at once, identifies relevant considerations in sequencing the evolution to indirect monetary control, and examines the experience of transition economies to date.

## 1. Direct and indirect monetary controls

Direct controls may regulate the price of credit (interest rates) or the quantity of credit. The latter can take many forms, most notably bank by bank credit ceilings and directed credit for specified borrowers. Indirect controls operate through the market to affect the supply and demand for credit through open market operations in primary or secondary markets, through limiting access to rediscount and Lombard windows, through auctions of central bank credit, and through reserve requirements for banks.<sup>38</sup>

Advanced countries rely increasingly on indirect controls, especially open market operations in secondary markets for government and private paper (either outright purchases and sales or repos and reverse repos). The U.K. has shown that it is not even necessary to retain reserve requirements: the Bank of England seems adequately to be able to forecast the response of banks to its open market operations that change banks' desired reserves, and is able to formulate monetary policy accordingly.

Indirect control are that it is flexible, promotes competition and efficiency, and depoliticizes the allocation of credit to borrowers. However, it is most effective only when the following preconditions exist: (i) an adequate market infrastructure; (ii) sound and competitive financial institutions; and (iii) macroeconomic stability.

Market infrastructure is the legal and technical provisions for, and practical experience of, thick and well functioning markets for money, interbank deposits, and securities, for which (ii) and (iii) may also be necessary. Without such infrastructure, large open market operations are impossible or imply unacceptably large changes in interest rates. The relevant infrastructure also includes an efficient payments system, without which the settlement process forces banks to hold large, volatile floats. When the demand for bank reserves is volatile, techniques of indirect monetary control that rely primarily on manipulation of the supply of bank reserves are hard to judge.

Sound financial institutions help the transmission mechanism work as it should. When banks are unsound, interest rate changes can have perverse effects (e.g., gambling for resurrection), and adverse selection problems are likely to be acute: making interest rates the fulcrum of monetary policy may then be unwise. Moreover, faced with banks of dubious solvency the central bank may be reluctant to impose the interest rates that indirect monetary control requires in particular circumstances.<sup>39</sup> But banks must be competitive as well as

---

<sup>38</sup> Although these have aspects of direct control, principally they influence the demand for bank reserves and supply of bank deposits.

<sup>39</sup> Prudent commercial banks provision against doubtful loans; the central bank should do likewise. The practice of automatically paying out all central bank profits to the Treasury *without* due regard to the quality of the central bank's loan portfolio should therefore

(continued...)

sound, otherwise changing interest rates may have little effect on bank lending. Efficiency in lending is in any case a proper and distinct objective.

Macroeconomic stability is needed for a flourishing market in government paper of all but the shortest maturity. Without government instruments in which to deal, the central bank may be forced to deal in private securities themselves of dubious soundness in a climate of macroeconomic instability. The solvency, reputation and authority of the central bank may then be undermined by the assets that it has acquired.

The objective of indirect monetary control cannot be attained quickly in a transition economy, yet the inherited system of direct controls is not sustainable for ever. Direct controls encourage political interference in credit allocation; inhibit both price competition for loans from existing banks and the entry of new banks (and exit of old ones); tend to foster negative real interest rates, disintermediation and financial repression; and become prone to avoidance and evasion as the financial system deepens. Direct control of domestic markets diverts business into foreign currency transactions, first with domestic institutions and then, as these too become subject to direct control, with foreign institutions. Since direct controls become steadily less effective but indirect controls cannot be introduced at once, the issues for reform are those of pace and sequencing. Greater precision about the second best issues that arise should guide this evolution of monetary instruments.

## **2. Stage 1: Incomplete stabilization and rudimentary structural adjustment**

Initially, stabilization has yet to be achieved, budget constraints of enterprises remain soft, the (still state owned) banking system is cumulating arrears on bad debts, and the incipient private sector is just starting to emerge. Household savings in domestic currency may be earning negative real interest; currency substitution is occurring. The monobank has been split up but credit markets remain segmented (e.g., agriculture, households, industry). Competition between banks is minimal, spreads are high.

Stabilization at this stage is a high priority, so risks of uncertain or perverse transmission should be avoided.<sup>40</sup> Dangers of adverse selection are also acute. It may be appropriate to retain some forms of quantitative controls over bank credit until these dangers begin to subside, especially when banks have customers too big to fail: borrowers failing to meet interest payments may be unaffected by rises in interest rates.

---

<sup>40</sup> Although section II identified systematic relationships between interest rates and velocity in samples heavily reliant on pooling across countries, this does not imply such relationships must hold reliably in a higher frequency time series; e.g., internal IMF studies conclude that for Polish time series the effect of interest rates on the money stock is 'perverse', and in Hungary 'unclear'.

How is a monetary overhang to be absorbed when financial markets are undeveloped? Most simply, by raising reserve requirements (shifting government deposits from the banking system to the central bank has a similar effect). But there is a danger in taxing the banks, causing disintermediation, higher spreads and financial repression (see section III). This suggests changes in reserve requirements might be linked to initial recapitalization of banks to offset bad loans from the past, or that some consideration be given to paying interest on reserves.

Should some portion of overall credit be the subject of competitive bidding? Until markets in bills and bonds develop, auctions of central bank credit are a feasible way to introduce such market-based behavior: evidence from other countries (see below) suggests that robust securities markets are likely to be slow to develop, and the careful nurturing of the market habit should begin early. Mathieson and Haas (95) nevertheless conclude that problems of moral hazard and adverse selection are too serious to ignore at this stage. Until techniques of supervision are better developed, until exclusion of potentially insolvent institutions from market based auctions is easier, and until there are better techniques of public sector control over enterprises and banks before their net worth falls to zero, wide access to credit auctions is hazardous. Tradeable bank by bank credit ceilings, confined to banks themselves the subject of careful scrutiny, may be preferable. In other cases, where *controlled* interest rates remain, it is desirable that real interest rates be positive.

The pace and extent of reform during stage 1 partly will be governed by the central bank's wish to establish its reputation and by its interaction with the finance ministry. From the central bank's viewpoint, the safest eventual method of open market operations is the secondary market for government securities. Initially this possibility does not exist. Other factors may affect the relationship between central bank and finance ministry, and thus the interaction of monetary and fiscal policy. Until budget deficits are fully brought under control the pressure to monetize may remain; until concerns about the flow of new bad debts in the banking system recede, the finance ministry will properly be concerned about their eventual fiscal implications. Hence, the fiscal authorities may continue to press for maintenance of direct controls until both macro stabilization and the micro solvency of banks and their clients are better secured: direct controls are more likely to give government access to credit on preferential terms, may raise the tax base for the inflation tax, and may limit the fiscal damage from further extensions of credit to enterprises that will never be able to repay.

Monetary subservience, however, has two costs: it fails to pressure the fiscal authorities to make substantial gains in fiscal fundamentals, and it fails to launch the market-based reforms that ultimately deepen the financial sector. Appropriate sequencing must balance these two considerations but must if anything err on the side of the second: there are other ways to help impose fiscal discipline but few other ways to secure a financial system that works. Other aspects of market infrastructure must also be tackled early if later progress is not to be held back. These include clarification of legal and supervisory rules and the development of an efficient payments system without which interbank and other market

transactions are unlikely to flow smoothly; unnecessary settlement risk can seriously impede market development.

### **3. Stage 2: Reinforcing stabilization and pursuing financial rehabilitation**

By stage 2 initial stabilization has been accomplished. With some fiscal responsibility and the emergence of lower and less uncertain inflation, primary markets for nominal government securities should start to develop. The central bank may now engage in open market operations in this primary market. If the volume of government securities is insufficient, the central bank may begin dealing in its own bills too. As the market economy takes hold, the case for retaining direct control of interest rates weakens.

Even after macro-stabilization, problems of solvency of banks and their client enterprises may remain. A lesson from Latin America and elsewhere is the obduracy of this problem long after the macroeconomic picture looks quite healthy. One implication is serious adverse selection. Where such concerns remain serious, anonymous market-based dealings may be insufficient: only extensive supervision, disclosure and monitoring suffice. Despite the scarcity of the resources with which to carry out these activities, pressing ahead with them is an urgent priority.

Thus in stage 2 the central bank may begin open market operations in primary markets for government and central bank bills, but must also encourage more financial fitness of banks (see section III) and subsequent incentives for banks' own provision for their continuing health. As the budget comes under control, an early priority should be relaxation of the high reserve ratios required to absorb the initial monetary overhang.<sup>41</sup> Not only is it unwise to have substantial taxes on banks at a time when consolidation of transition requires that banks be strong enough to harden budget constraints, but the reversal of earlier currency substitution is an important precondition for further financial deepening. Lower reserve requirements, by allowing a reduction of spreads in the banking system, may help achieve positive real interest rate on deposits.

### **4. Stage 3: Toward financial maturity**

By stage 3 the financial sector should be in sounder health, fiscal prudence should be longer established, and the stock of private savings should begin rising.<sup>42</sup> Together, these

---

<sup>41</sup>In practice, reserve ratios may be under upward pressure for a different reason, namely the wish to sterilize the capital inflows that develop once stabilization looks successful, especially when it has been accompanied by commitments to an exchange rate peg (see section IV).

<sup>42</sup>Private savings may fluctuate quite markedly during the early stages of transition. Early fears often stimulate precautionary saving, though this may be accompanied by currency substitution. The first signs of success might actually be expected to be accompanied by

(continued...)

allow the evolution to indirect monetary control. A healthier financial sector is better able to stand the short term movements in interest rates that indirect monetary control imply; and more likely to transmit those effects in a predictable manner. The combination of lower risk on government paper and greater availability of domestic savings in search of assets in which to invest will thicken the market for government securities to the point at which sizeable open market operations in this secondary market becomes feasible.<sup>43</sup> At this juncture, the monetary authorities are likely to relinquish dealings in the primary market which expose the central bank to greater risk.

Monetary policy cannot operate smoothly with yawning gaps in the spectrum of financial instruments. Interventions in the market for bank reserves need to cascade easily through money and interbank markets to longer-dated government securities (and equities) and to bank lending. The central bank should take modest steps to stimulate the emergence of these markets. Axilrod, Capriolo, and Farahbaksh (1995) recommend that the central bank underwrite interbank flows to stimulate development of the interbank market. This recommendation is probably too strong: as with deposit insurance, a complete guarantee for interbank transactions is likely to induce moral hazard. However, partial insurance might secure most of the benefits at small cost. As secondary markets emerge, many countries favor repos (in effect collateralized loans that the lender can sell off if necessary) as an effective *money market* instrument. But a recurrent lesson from developing and middle income countries is that deepening secondary markets is a protracted process needing perpetual encouragement.

## 5. Evidence from other countries

Before examining transition economies, it is helpful to examine previous transitions from direct to indirect monetary control. Alexander, Baliño, and Enoch (1995) offer evidence from both the OECD and 19 middle-income countries and LDCs.<sup>44</sup> Even in OECD countries, indirect monetary control is a phenomenon of the last two decades, coinciding with the integration of world financial markets. During the golden age of postwar growth up to 1973, important elements of direct monetary control were used.

---

<sup>42</sup>(...continued)

dissaving as capital market imperfections begin to ease and people start borrowing against an increasingly secure future. Nevertheless, sustained real output growth is likely sooner or later to enhance the stock of domestic savings available for purchase of assets.

<sup>43</sup>Whilst it is possible to encourage a capital inflow and then sterilize it by selling government securities, thereby in effect using foreign savings to help launch a domestic securities market, this is clearly a dangerous strategy, being vulnerable to a withdrawal of foreign savings at a future date.

<sup>44</sup>Although the study includes the transitional economies of Poland and Hungary, the study also includes five countries from Latin America, five from Asia, four from Africa, and three from the Middle East.

Nor was the subsequent move to indirect control always easy. In the UK quantitative controls on bank lending, 'the corset',<sup>45</sup> were *reintroduced* in the early 1970s and not finally phased out until the end of capital account restrictions in 1979. French moves to indirect control in the late 1960s were derailed by unwillingness to abandon unlimited access to the discount window at prevailing market interest rates. These examples underpin the above discussion of sequencing: even economies well grounded in the market can face pressures in monetary control, the British example stemming in part from temporary macroeconomic excesses, the French example from banks not sound enough to stand a monetary squeeze.

Alexander, Balino, and Enoch draw several lessons from their empirical analysis. Indirect control allowed more intermediation and eventual financial deepening, though *half* of the countries experienced temporary setbacks on the way, especially when changing monetary instruments more rapidly than underlying infrastructure could be developed. During the transition to indirect monetary control, spreads increased before they fell; the volatility of the money multiplier increased a lot initially then fell substantially; the volatility of short term interest rates increased but never fell thereafter. The mean length of the transition period was nearly four years; many countries took considerably longer. The authors conclude that during transition monetary control is difficult; that market infrastructure including the presence of sound and competitive banks is crucial; as is transparency both in the operation of money and interbank markets and in the regulation of banks: 'The too frequent experience has been that financial liberalization--in the absence of these measures--leads to financial crises and subsequent reversion to direct methods of monetary control.'

## **6. The experience of transition economies**

### **a. Real interest rates, monetary instruments, and financial deepening**

Prior to a contrast of direct and indirect monetary control, one should ask whether there are criteria that cut across these different regimes. Direct controls often go hand in hand with directed credit at negative real interest rates, but this is not inevitable. Some countries, such as Albania, set administered interest rates to achieve positive real rates. Conversely, merely moving to indirect monetary control is insufficient to establish equilibrium real interest rates that are positive (e.g., Poland, Hungary, the Czech Republic). How much does the level of real interest rates matter?

---

<sup>45</sup>Technically, the corset worked not by quotas but by taxing banks via a high marginal reserve requirement on lending beyond certain guidelines. Like its whalebone precursor, the corset essentially redistributed rather than reduced the flab, much of the heavily taxed business simply being diverted offshore, the traditional response to excessive onshore financial repression.

One indicator of financial deepening is the money multiplier, which indicates the extent to which bank money has superseded cash. Table 8 shows data on money multipliers for six countries in which stabilization has been accomplished. Table 11 shows regression results for measures of the money multiplier that include and exclude foreign currency denominated deposits with domestic banks. The table examines the influence of inflation, and of real interest rates on bank loans and bank deposits.

**Table 11. Financial deepening, interest rates and inflation**  
(Countries and years in Table 2.4; OLS regression, standard errors in parentheses)

Dependent variable	constant	inflation	real interest rate on bank loans	real interest rate on bank deposits
Log (M2 multiplier)	2.87 (0.35)	-0.03 (0.01)	-0.17 (0.05)	0.11 (0.04)
Log (M2X multiplier)	2.76 (0.32)	-0.04 (0.01)	-0.17 (0.04)	0.10 (0.03)

Pooling the cross section of time series of Table 8, Table 11 suggests deep financial systems with large money multipliers are correlated with low inflation, low real interest rates on bank loans and high real interest rates on bank deposits. This third effect to some extent corroborates the significant role of positive real interest rates on deposits in the process of financial deepening, whatever the nature of the regime for monetary instruments. Table 11 also yields a note of caution: raising deposit rates may induce higher loan rates, and any one for one increase in the latter will dominate the beneficial effect of the former. In well functioning market economies with sound banks, tighter monetary policy can usually be expected to reduce spreads in banks; this cannot be taken for granted in transition economies.

Inadequate interest rates on deposits may not simply reflect attempts by banks to rebuild their capital base out of the flow of profits; they may also reflect systematic attempts by government to maintain low interest rates in order to reduce the cost of financing the budget deficit. A simple way to investigate this possibility is to compare the data on real interest rates on deposits in Table 8 with the corresponding data on general government deficits (as a percent of GDP; data from EBRD, 1995). Plotting one against the other makes clear that there is no direct bivariate relationship. However, since the few very large negative real interest rates in the sample of Table 8 may be associated with unanticipated inflation, one could regress ex post real interest rates on the size of the budget deficit and the level of inflation. For data pooled across the countries in Table 8 this yields (standard errors in parentheses):

$$\text{real deposit interest rate} = 2.33 - 0.55 \text{ deficit/GDP} - 0.51 \text{ inflation} \\ (3.26) \quad (0.24) \quad - (0.11)$$

Thus, once one controls for inflation, large deficits tend to be accompanied by low real interest rates, which may suggest that governments pressurize the central bank to set low interest rates that aid fiscal financing at the expense of financial deepening. This evidence also suggests full reliance on indirect monetary instruments must await not merely the development of appropriate banking and financial market infrastructure but also progress with macroeconomic stabilization and budget consolidation.

**b. Monetary instruments during initial stabilization**

The basic regime choice for monetary instruments is whether to pursue bank by bank credit ceilings<sup>46</sup> or to take an immediate step towards indirect monetary control by auctioning central bank credit to banks. Albania leapt to the top of the output growth league in 1994 despite still not having begun the transition to indirect monetary control. Even so, most transition economies quickly began auctions of central bank credit to replace bank by bank credit ceilings. Auctions introduced open market type operations before markets for securities existed, established the first stages of interbank competition, the first market-based signals of monetary conditions, and began depoliticisation of credit allocation.

This simple step can take an economy a large step towards indirect control; but it may not. Until banking is more soundly established, interest rate signals may mislead and channels of transmission may remain perverse. Much also depends on the fraction of credit channeled not through auctions but through directed credits (to agriculture or large enterprises in financial difficulties). These side conditions for the effectiveness of credit auctions are not aspects of monetary policy but of fiscal policy, political economy, and wider attitudes to structural adjustment.<sup>47</sup> Wise decisions about the pace of transformation must reflect other aspects of transition.

Nonetheless, if transition is succeeding, the impediments to indirect monetary control are gradually being removed; and one should expect moves to indirect monetary control to begin with auctions of central bank credit, as was the case in the more advanced transition economies such as Poland and Czechoslovakia.<sup>48</sup>

---

<sup>46</sup>In fact, even bank by bank credit ceilings can be tradeable. Bulgaria, for example, relied on such a system until 1994; Albania too.

<sup>47</sup>For example, in Romania, despite some auctions of central bank credit, directed credit remained large, principally for agriculture; indeed, the agricultural bank received fiscal subsidies for interest payments, and so dominated the part of credit that was auctioned. Only after 1993 did monetary policy tighten and negative real interest rates begin to disappear. Even so, quasi-fiscal deficits of agriculture and industry via debt service arrears was 6 percent of GDP in each sector in 1994.

<sup>48</sup>Hungary, having begun structural reform much earlier, is an exception to the usual

(continued...)

**c. Establishing markets for securities and for interbank flows**

Even in the more advanced transition economies, interbank markets for deposits took several years to establish, finally taking off in 1993.<sup>49</sup> Three factors inhibited earlier development. First, it took time to introduce efficient payments systems. Inefficient systems increase transactions costs but also risk, by delaying settlement times. This was especially significant given the second factor, concerns by banks about other banks' solvency. Even when interbank markets matured, as in the Czech Republic, large banks remained reluctant to lend to small banks whose solvency was known to be less secure than that of the large banks which, by then, had received government assistance, were subject to more stringent supervision, and might be 'too big to fail'. Third, credit markets have often remained heavily segmented both by region and by sector, for example with specialist banks for agriculture and for foreign trade. The influx of new but small banks has not always broken down this segmentation. These considerations suggest that forcing the pace in development of the interbank market may be counterproductive if the other elements required are not yet in place.<sup>50</sup>

By 1992-93 leading transition economies had also established primary markets in short dated securities, Treasury and Central Bank bills, and eventually even in longer dated government bonds. These markets were given a spur by the adverse experience of banks in lending to enterprises during 1991-92. Lending to government seemed a better bet. It is sometimes asserted, incorrectly, that, while banks remain state owned, loans to government are merely offsetting transactions within the public sector that achieve little. Ownership, however, is not the key issue. On the balance sheet of banks, the counterpart to the asset called bank lending to government is the liability called deposits from households and enterprises, genuine intermediation of savings.

Although it was generally possible to establish primary markets, development of large volume secondary markets in government debt was harder. Wealth levels may yet be insufficient to enable the diversified absorption of large quantities of debt; and the costs and

---

<sup>48</sup>(...continued)

chronology. It had a treasury bill market in 1988, a market for interbank funds in 1990, refinancing credit auctions in 1991, part of the new strategy for monetary control. Hungary also paid interest (at nearly market rates) on required reserves, but then used variable reserve requirements to control money and credit.

<sup>49</sup>For example, in Poland prior to 1993 the interbank market was heavily segmented, not least by regions. The introduction in 1993 of a national clearing house and concentration of commercial bank reserves at the central bank helped integrate the interbank market.

<sup>50</sup>On occasion, governments have actually taken steps to inhibit interbank transactions. For example, in January 1995 the Czech Republic introduced an interest rate ceiling in the interbank market in an effort to deter capital inflows (for further discussion, see section IV).

risks of transactions have yet to fall to the level needed for thick, active markets. Even these difficulties have now been overcome in some countries; in others, such as Slovakia, the slow pace of development of secondary markets has meant continuing reliance on primary markets when the central bank wants to undertake open market operations. Such a reliance carries with it the danger that the timing of operations may be dictated more by fiscal needs than by monetary considerations.<sup>51</sup>

## **7. Policy evaluation**

The steady adoption of indirect instruments of monetary control is a proper aim of policy in transition economies. It depoliticizes credit allocation, develops a framework to promote eventual competition and efficiency, and is more robust to ongoing structural change in banking and financial markets. An old lesson learned in Western Europe is that quantitative controls become progressively less effective as competition develops across markets, across financial institutions and across countries.

OECD countries grew rapidly during 1950-73 despite large elements of direct monetary control, but financial markets were much more nationally segmented than today. This does not mean that capital controls are now completely ineffective or instantly to be abandoned in transition economies--their appropriate role is discussed in section V--but moves to indirect monetary control cannot be determined independently of the pace of liberalization of capital account transactions.

This external consideration aside, the precise significance of the speed of transition to indirect controls can be exaggerated. The simple devices of making bank by bank ceilings tradeable and/or auctions of central bank credit to commercial banks initiate competition between banks and market incentives in credit allocation. When incumbent banks are few and the market segmented, the immediate benefits to such competition may be small; when there are deep concerns about the solvency of banks and their customers, responses to market signals may be perverse; when government solvency is also a problem, market mechanisms may be suppressed by interest rate ceilings; when there is political concern about particular enterprises or sectors, directed credits may linger on even when the residual portion of credit is allocated more competitively. From this two things follow.

First, heterodoxy of instruments is initially appropriate for two reasons: systematic perversities in transmission and uncertainties about transmission. Quantitative controls place a ceiling on both. Second, the optimal pace of transition will differ by country, depending on

---

<sup>51</sup>Securitization of previous loans to government loans can increase central bank holdings of securities with which to conduct open market operations. Once this has been done, shortage of supply of securities is likely to be a significant problem only in countries, such as Slovakia and the Czech Republic, with a history of financial prudence. Elsewhere, the problem lies in fostering the demand for securities.

how quickly other constraints are relaxed. Broadly speaking, these principles have indeed governed the evolution of monetary instruments in the leading transition economies, in many of which indirect control is now established. As elsewhere, secondary markets have remained slow to deepen, which makes more difficult the attempt to reconcile monetary control with reasonable paths for the level and volatility of interest rates. Where this matters most is probably in relation to attempts to sterilize capital inflows (see section V).

Nor can one yet rule out crises in individual banks that may prompt temporary reversion to modes of quantitative control. If these occur, they are not necessarily failures of strategy: such risks have always existed and probably always will; bank failures occur from time to time in all economies, including those of the OECD; and the causes of failure always seem obvious after the fact but much less so *ex ante*.

Those disappointed with the progress towards indirect monetary control in particular economies should be clear that a more rapid switch of instruments alone would have been unlikely to succeed. Rather the blame should be laid on mistakes in the supervision and regulation of banks, the obduracy of fiscal deficits, and, in some instances, political reluctance to abandon directed credits. The Fund and other international agencies have generally been clear and correct in their advice about the dangers of budget deficits and of persistence with directed credits.

If little could have been done to speed the transition to indirect monetary control, did policy advice err by encouraging too hasty a transition? Did reliance on market mechanisms before consolidation of infrastructure lead to excessive or misallocated credit, delaying stabilization and structural adjustment? The likeliest lamppost under which to seek such evidence is early in transition. In countries such as Poland we know that when direct ceilings on bank by bank credit operated in parallel with initial moves towards indirect monetary control, ceilings were not in fact attained. More generally, Table 10 showed the steady reduction of credit to enterprises, in some cases a complete collapse, during the early years of transition. It is hard to sustain the general case that indirect control meant inadequate overall control. When stabilization suffered setbacks, as in Romania and Bulgaria, more fundamental causes--fiscal deficits, banking bailouts, lukewarm commitment to reform--were responsible.

Early reliance on market mechanisms did few favors to the emergent private sector. Quantitative earmarking of a share of bank credit for new private firms, as in Poland, might have achieved a more efficient overall allocation of credit but was not guaranteed to succeed. For example, in Albania earmarked credit for the private sector has gone unused for the last two years because of unwillingness of banks to lend to private borrowers with scanty financial records and inadequate collateral (private houses that it will never be feasible to repossess). Hence, the response of banks to the initial wave of bad debts in state enterprises was to flee into 'safer' lending to government, the principal beneficiary in the short term of the policies actually pursued.

More fundamentally, initial transition was usually accompanied by depreciation of the exchange rate (Halpern and Wyplosz, 1995) providing early profit opportunities in traded goods, while lack of initial competition often allowed high profit margins in nontraded goods. Thus, in practice and as in OECD economies, the principal source of finance for expansion was retained profits. This mitigates the force of the criticism that monetary policy was unnecessarily slow in promoting efficient allocation of credit.

## **V. THE NOMINAL ANCHOR AS TRANSITION CONTINUES**

Sections III and IV argued that monetary policy cannot be divorced from the markets and institutions through which it operates. Having examined these linkages, I revert to the macroeconomic regime itself. As transition proceeds, with evidence of stabilization and structural adjustment, to what pressures will the monetary regime be subject? Is a change in regime needed and, if so, how should it be managed? What evidence is available from other middle income countries? How should we assess the performance and policy responses of the pacemakers in transition?

### **1. The issues: An overview**

During initial stabilization, real magnitudes change but nominal magnitudes change more. In theory, stabilizing any nominal variable will bring inflation down to moderate levels, though fiscal responsibility is needed for a nominal anchor to be retained for long. Given this, any reasonable nominal targets suffice. Stabilization has been accomplished with different nominal anchors. Priorities change once stabilization is achieved and inflation moderates. Nominal changes no longer dwarf changes in real money demand and real exchange rates. Nominal objectives can now be undermined by inadequate diagnosis of, or response to, changes in the real economy.

A prevalent expression of this general problem is the emergence of capital inflows of substantial size but uncertain maturity and intent. Capital inflows may reflect increasing confidence about transition; the combination of high real interest rates and an appreciating real exchange rate; or lack of other investment opportunities elsewhere in the global capital market. The scale of inflows, whenever it occurs, may require a rapid policy response. Monetary policy is likely to be the first line of defense whatever the longer term solution. When considering the choice of monetary regime at this stage in transition, it is wise to anticipate that such pressures may emerge.

Capital inflows are not the sole source of reserve inflows and consequent problems for monetary policy. Current account surpluses can have a similar effect, even if their emergence is likely to be less dramatic. Repatriation of earnings of foreign workers may be hard to distinguish from capital inflows; for small economies such flows may have the scale and suddenness of capital movements. Nevertheless, current account surpluses are diagnosed

eventually and, if they persist, may induce even cautious policy makers to allow exchange rate appreciation. The harder policy problem stems from inflows on the capital account.

Section V.2 examines the evolving design of monetary policy as a nominal anchor after initial stabilization, section V.3 discusses special problems posed by capital inflows. Section V.4 examines the experience in the leading transition economies, section V.5 discusses the policy responses, and section V.6 offers an evaluation.

## **2. Monetary policy as a nominal anchor**

The original anchor is unlikely to survive intact as transition continues. For a nominal exchange rate peg, even with a deep initial devaluation and the onset of productivity growth, stabilization to annual inflation rates of 10-40 percent will normally imply the eventual erosion of competitiveness, a threat to healthy transition. Where countries begin with an exchange rate peg, the issue may not be whether it should be abandoned but at what stage and with what it should be replaced. Even where initial stabilization used monetary targets, continuation of the regime is not certain. There is now a clear move away from monetary targets (Leiderman and Bufman, 1995) in countries of quite different structures and stages of development. This primarily reflects unstable money demand, buffeted by financial liberalization at home and financial integration with other countries, problems likely to be large in transition economies.

One possibility is to make adjustments when necessary either to the exchange rate peg or the monetary targets; such pragmatism is preferable to dogged pursuit of previously announced targets in the hope of winning further credibility. Credibility is earned slowly by pursuing a sound mix of policies repeatedly delivered. Tough announcements about monetary or exchange rate targets have little effect if other components of the policy package are unable to support them and may indeed be counterproductive if the inappropriate mix forces the abandonment of the announced target. Yet if pragmatic adjustment becomes routine accommodation of past shocks, nominal anchoring will soon be lost. Given these difficulties, two new forms of nominal regime have been gaining popularity in advanced and middle income countries: inflation targeting and exchange rate bands that crawl at preannounced rates.

### **a. Inflation targets**

Inflation targets have been adopted in Canada, New Zealand, Sweden, and the U.K., often along with greater central bank independence (Leiderman and Svensson, 1995; Leiderman and Bufman, 1995), and in recognition that tough monetary policy has no long run effects for growth or unemployment (Alesina and Summers, 1993; Grilli, Masciandaro, and Tabellini, 1991). Inflation targeting focuses monetary policy on its ultimate objective rather than on an intermediate target that may not be a stepping stone to this objective. Nor does it require stability of the transmission mechanism: when inflation is above (below) target, policy

is tightened (loosened). Since inflation targets depend on both monetary and fiscal policy, this framework also has the virtue of forcing implicit coordination of the two policies.<sup>52</sup>

What is needed to enjoy these attractive features? First, the central bank must be sufficiently independent and prestigious to be an effective counterweight to the Finance Ministry. Several features of early transition may rule this out: governments aware of their continuing need for monetary financing may be reluctant to accord central banks too much independence; insolvent banks, dubious assets on the central bank's balance sheet, or losses incurred during sterilization may threaten the status of the central bank; the size of continuing shocks may blow inflation well off target in the short run, undermining the reputation of those responsible for keeping it under control;<sup>53</sup> and reliable data on inflation must be quickly and readily available.

More subtly, if the central bank has operational responsibility for achieving inflation targets, it must be able to raise interest rates when necessary. Sometimes, even this threat (and the associated exchange rate effect) may convince the government to tighten fiscal policy. But during transition the government will sometimes already be at the limit of the fiscal austerity that is politically feasible. An adverse shock will not then elicit a fiscal response, and further raising of interest rates may not always be appropriate; in short, there are circumstances in which letting inflation slip is in fact the optimal response. But then it is unwise to invest too much in an inflation target.<sup>54</sup>

This is not a recommendation for monetary laxity; continuing to ratchet inflation downwards remains an important objective. However, during a phase of transition in which the infrastructure for inflation targeting is not in place and inevitable shocks should sometimes

---

<sup>52</sup>Transparency is likely to assist the build up of credibility. For example, the Bank of England's *Inflation Report* together with publication of minutes of the meetings between Bank and Treasury are thought to have helped the U.K. maintain low inflation despite a substantial devaluation after its EMS exit in 1992; that this occurred at a time of recession and high unemployment helped also.

<sup>53</sup>Although de facto the Bundesbank pursues something akin to an inflation target, adjusting announced monetary targets when velocity shocks made previous targets inappropriate, it has always favored *announcing* targets for *monetary* aggregates, something the Bundesbank could control if it chose, whereas it cannot guarantee a particular inflation outcome, in the short run, given lags in the transmission mechanism. Where, as in New Zealand, the central bank has a formal inflation contract, this contains explicit exemptions for shocks such as changes in indirect taxes or explicit devaluation, whose short run effects on inflation could not be offset by any realistic monetary policy.

<sup>54</sup>For extensions of Barro Gordon (1983) to models with output persistence, allowing formal proofs of the optimality of greater accommodation of shocks in order to prevent costly propagation of output changes, see Lockwood, Miller and Zhang (1995) and Svensson (1995a).

be allowed to affect inflation, it may be too early to adopt this regime even though it is a sensible aspiration for the longer run. In conversation, it is unnecessary to wait that long. In its discussions with national authorities, the Fund should (and does) use the framework of inflation targeting to encourage both the awareness of issues in coordination of monetary and fiscal policy and the advance planning of contingent behavior to meet future shocks when they occur.

#### **b. Crawling exchange rate bands**

If inflation targets are the recent regime innovation in advanced countries, crawling exchange rate bands have become popular in moderate-inflation middle-income countries such as Israel, Mexico, Chile, and Colombia (Helpman, Leiderman, Bufman, 1994). Adopted unilaterally and introduced when inflation still precludes a stable peg, crawling bands have had to address *ab initio* the trajectory for the central parity (speed of crawl and whether it is preannounced or backward looking), the width of the band and how it evolves, and the usual questions about how the edge of the band is defended and whether intramarginal intervention should occur. A backward looking crawl, as in Chile, is less of an innovation, resembling managed floating or frequent devaluations in countries such as Hungary, and sharing the drawback that it may make the authorities look anxiously accommodative. The other countries cited above have opted for a *forward looking* crawling parity, whose trajectory is announced up to a year in advance, trying to combine some nominal anchoring with sufficient flexibility to rule out persistent appreciation of the real exchange rate. They aim to reduce the rate of announced crawl as disinflation and structural adjustment occur.

Crawling bands may be useful in transition economies after initial stabilization. However, the band width should not be too narrow: uncertainties remain great, scope for fiscal responses to shocks is small, and capital inflows may appear. Countries adopting crawling bands have typically chosen to *widen* the band over time, partly in response to emergence of such pressures. Wide bands are now prevalent in countries facing capital mobility. Bands are plus and minus 7 percent in Columbia and Israel, 10 percent in Chile (and 15 percent in the fixed but adjustable parities of the EMS).

What about intramarginal intervention? Early in a crawling band regime it may be desirable to hold the exchange rate within an 'inner band' to reinforce credibility, but continuing such a policy may be counterproductive: by reducing currency risk, it stimulates speculative capital flows when domestic interest rates are attractively high. Leiderman and Bufman (1995) document evidence for Israel that the announcement that such an inner band would no longer be maintained *diminished* speculative capital flows without deterring longer term investment, throwing risk rather than sand in the wheels of speculative capital mobility. For such a policy to work the band must be interestingly wide in the first place. Anticipating problems of successful transition thus reinforces the case for moving to a wide band even before its full width is needed.

A band implies an effort to defend its edges. Defense may entail sterilization (broadly defined), changes in interest rates (by unsterilized intervention, changes in fiscal policy, or tightening of controls on capital flows). Changes in fiscal policy can rarely be secured quickly enough, although bands must be supported by appropriate fiscal policy; inconsistencies between fiscal stance and announced bands are likely to induce exchange market crises. A lesson from the sequencing of reform in Latin America is that early repeal of capital controls is misguided: success in transition is likely to require continuing tight money but also an appreciating *equilibrium* real exchange rate, an irresistible temptation for speculators; equivalently, the initial overshooting under free capital mobility would produce a level of uncompetitiveness that threatens successful transition. There is no reason to volunteer early relaxation of controls on residents. Foreigners, however, need the assurance of easy repatriation of funds if direct foreign investment is to be encouraged, and partial arbitrage between domestic and foreign citizens is inevitable and likely to be increasingly efficient.

I postpone discussion of the remaining choices, using monetary policy to defend the band or abandoning the commitment and realigning the parity trajectory, until section V.3 when I discuss responses to capital inflows.

**c. Exchange rate passthrough revisited**

Countries often hang on to a peg fearing that nominal depreciations encourage rapid exchange rate passthrough to prices; depreciation adds little to competitiveness but exacerbates inflation. This concern is fed by the experience of high inflation countries in which extensive indexation encouraged such behavior. Yet full and rapid passthrough occurs only in exceptional circumstances; it is not the norm and should not be expected to apply during *continuing* transition. Drawing on much wider evidence of recent decades, Obstfeld (1995) concludes that the high correlation of nominal and real exchange rates continues to confirm that nominal depreciation can improve competitiveness in the short to medium run, and that it need not lead to domestic inflation (e.g., if fiscal policy is tightened and unemployment remains high, as in the U.K. post 1992); conversely, fixed exchange rates are no guarantee of price stability because inappropriate fundamentals may cause fixed exchange rates to be breached.<sup>55</sup>

Dornbusch (1987) provides theoretical underpinning for partial exchange rate passthrough when competition is imperfect. Moreover, the permanence or otherwise of exchange rate changes affects pricing behavior. Discrete devaluation and depreciation during hyperinflation are unlikely to be reversed, and are more likely to be transmitted quickly into domestic prices than is the case when the exchange rate depreciates within a wide band or a clean float, when reversal is a greater possibility.

---

<sup>55</sup>In addition, there is the possibility of self fulfilling attacks on an exchange rate peg, as set out in Obstfeld (1986). Eichengreen, Rose, and Wyplosz (1995) offer a comprehensive assessment of crises and events in foreign exchange markets.

Leiderman and Bufman (1995) provide further support. First, when Chile and Israel, having stabilized with emergency nominal anchors including exchange rate pegs, then introduced crawling bands, there was no loss of inflation control; and the correlation of nominal and real exchange rates *increased* (a *reduction* in passthrough, and greater short run scope to manipulate competitiveness through exchange rate policy). Second, more accommodating exchange rate policy should increase persistence, as for example in models of overlapping wage contracts (e.g., Begg, 1990), but Leiderman and Bufman find no increase in inflation persistence in Chile and Israel after the adoption of crawling bands. This reminds us that it is the entire policy mix that matters. It is mistaken to seek answers to the dynamics of endogenous variables by looking in the entrails of the monetary regime alone. By the same token, introducing such exchange rate regimes before stabilization is secure may be dangerous. Third, Leiderman and Bufman conclude that higher unemployment diminishes passthrough from exchange rates to prices. Since competitiveness is critical to transition, some unemployment may be useful in sustaining discipline in product and labor markets.

Having discussed possible designs of monetary policy as a nominal anchor, I now examine how any such regime is likely to fare when subjected to capital inflows.

### **3. Responding to capital inflows**

Capital flows are not confined to advanced countries. Emerging markets interest investors, and liberalization has made access easier. The causes of inflows may be external or internal. Calvo, Leiderman and Reinhart (1993) is typical of the empirical literature arguing that the surge in inflows to middle income countries in the early 1990s primarily reflected forces external to those countries, notably the low level of U.S. interest rates that prompted global investors to try their luck elsewhere. External causes increase the presumption that inflows are portfolio or short term rather than the longer horizon one might expect for direct foreign investment. There is no guarantee that these funds will stay: if U.S. interest rates fall, they can also rise.

Other causes of inflows are domestic: successful stabilization, belief in growth and a return in confidence. Other reasons include high domestic real interest rates while disinflation continues, belief in an imminent real appreciation, and liberalized financial transactions. In short, domestic causes of inflows derive either from success or from imbalances that offer profit until corrected. Since monetary policy is subject to less political scrutiny and control than fiscal policy, many imbalances take the form of monetary policy that is much tighter than fiscal policy. Interestingly, the empirical evidence from other countries is that, although inflows do pursue imbalances, success is even more of a green light: studying capital surges in six middle income countries,<sup>56</sup> Schadler et al (1993) found that large inflows occurred only after fiscal consolidation.

---

<sup>56</sup>Chile, Colombia, Egypt, Mexico, Spain, and Thailand.

**a. Policy responses to capital inflows**

Transition is a vast investment project with big early costs and (hopefully) larger future benefits. The first best response of a country would be to borrow the entire amount abroad and plan eventually to run a trade surplus to service the debt. Moral hazard and adverse selection are severe problems. Countries find themselves unable to borrow nearly as much as they would like. Even if they can, they know that multiple lenders confer externalities on one another, setting up individual incentives to panic at the first sign of crisis when collectively it would be better for lenders not to call in their loans.<sup>57</sup>

But for this second problem, the appearance of capital inflows would constitute an unambiguous easing of a country's external constraint, offering opportunities for 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 not a luxury but a constraint. When a transition economy is close to full capacity, and when previous borrowing constraints have been so severe that the economy is well away from intertemporal smoothing, it may be optimal to spend most of the inflow immediately. The capital account surplus would induce a current account deficit of roughly comparable size. There would be little increase in domestic money, nor any overheating of the domestic economy, since extra demand for consumption and investment has been matched by extra import supply. Note, crucially, that it would be *misguided* then to complain about the extent of the current account deficit.

Where monetary inflows reflect an increase in demand for domestic money, the additional money supply will be held not spent and puts no upward pressure on prices. Where monetary inflows reflect borrowing from abroad in order to finance domestic spending, the problems described below arise either because market forces do not automatically and fully channel capital inflows into a current account deficit (the transfer problem) or because governments take active steps to prevent this happening. Since some of the inflows are spent on nontraded goods, in the short run it would require a real appreciation to switch expenditure to traded goods. Governments that began transition with devaluations usually attempt to resist such an appreciation. Resistance is reinforced by concern that the inflows may be reversed (as in Mexico). Apart from any economic costs arising from swings in competitiveness, governments fear that hard won credibility will be undermined by an exchange rate crisis.

What are the elements of a second best policy? First, if possible distinguish between short term and long term inflows and their causes. Long term flows should be allowed to

---

<sup>57</sup>The recent Mexican crisis is one obvious example. Sachs, Tornell, and 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).

affect the real exchange rate; the response to short term flows is more problematic, but it will sometimes be less dangerous to allow even short term capital inflows to burn themselves out through an exchange rate appreciation. In any case, distinctions based on the maturity and intent of capital inflows are hard to draw reliably and quickly. Second, acknowledge that when inflows exceed any corresponding increase in domestic production capacity (as will surely be the case early in transition) the only policy that reliably removes overheating without reducing competitiveness is a fiscal contraction. If the objective is nurturing incipient export industries, further fiscal sacrifices are needed. Yet it is unlikely these can be accomplished easily or sufficiently quickly;<sup>58</sup> this makes it wise to anticipate crises and run a tougher fiscal policy than otherwise would have been necessary.

In practice, the first reaction of most countries experiencing capital inflows is to try to sterilize them. Sterilization can either be defined narrowly as neutralizing the effect of forex intervention on the monetary base (by an offsetting domestic transaction in securities) or defined broadly as offsetting the implications for the wider money supply. The latter need not work only through neutralization of the monetary base, but also through changing reserve requirements or by shifting government deposits from the commercial banks to the central bank. In advanced countries, where capital mobility is agreed to be high, sterilization has for a long time been regarded as almost pointless (Obstfeld, 1982; 1995); it may have a very short term effect, and may signal the future intent of monetary policy. Unless that intent is quickly delivered, the effect of sterilization quickly wears off. In a recent study of nine East Asian and Latin American countries over the last decade, Frankel and Okungwu (1996) cannot reject that there is *no* scope at all for sterilization. They conclude that high nominal (real) interest rates in such countries must implicitly be associated with fears of future nominal (real) exchange rate depreciation.

When sterilization is ineffective, monetary inflows spill over into higher domestic money. Unless the sole cause of the inflows was an increase in domestic money demand, the higher money stock puts pressure on domestic inflation. Schadler et al (1993) report that, in their sample of middle income countries, effects on both money stock and inflation were in fact quite small. The most obvious interpretation is that, faced with the costs of sterilization, countries abandoned it, preferring to allow an exchange rate appreciation (whatever the exchange rate regime). Leiderman and Bufman (1995) catalogue how capital inflows precipitated both realignments and wider bands in countries that had adopted crawling bands.

---

<sup>58</sup>It is sometimes asserted, mistakenly, that since inflows amount to several percentage points of GDP, fiscal cuts of this magnitude are simply infeasible. The purpose of fiscal contraction is not to reduce aggregate demand one for one with the scale of inflows but rather, by affecting demand and hence interest rates, to reduce the incentive for short term inflows to occur. When capital mobility is high, a small change in interest rates can have a large effect on capital flows.

What are the costs of sterilization that lead governments to abandon their first line of defense against inflows? First, sterilization has a quasi-fiscal cost, borne first by the central bank but ultimately a drain on the budget. Since sterilization trades foreign exchange for domestic securities, the (flow measure of the) fiscal cost is the volume of sterilization multiplied by the risk premium on domestic securities (the departure from uncovered interest parity),<sup>59</sup> a premium often 10 percentage points. Large capital flows thus impose substantial fiscal costs of sterilization; Schadler et al (1993) estimate these at 0.8 percent of GDP for Colombia in 1991. Wider notions of sterilization need not neutralize effects on the monetary base; they can operate on the money multiplier, most simply by raising reserve requirements on the banking system. This replaces a tax on government with a tax on banks. Since fragility of banks is a recurrent theme of early transition, this is not an appealing solution.

Second, governments recognize that successful sterilization implies interest rates higher than they would have been had sterilization not been undertaken. This is not a convincing argument. Presumably, before capital inflows appeared, interest rates were set at a level compatible with monetary control and continuing disinflation. Allowing capital inflows to increase the money supply will reduce interest rates, but such an increase in the money supply was already an option that had been rejected. Unsterilized inflows must therefore be expected to overheat the economy, and, for a given nominal exchange rate path, to reduce competitiveness.

If the eventual outcome is to be a real appreciation, it is better to achieve this at once by a nominal appreciation rather than belatedly by domestic inflation: the former avoids both the inflation and the cost of attempting to sterilize. Reluctance of governments to grasp this nettle often hinges on the exchange rate commitments in which they have invested: better to lose competitiveness through inflation than to be seen to deviate from the nominal commitment. This logic is twisted: the purpose of the commitment was to provide a nominal anchor against inflation.

#### **4. The experience of transition economies**

##### **a. Balance of payments: flows on current and capital accounts**

Table 12 summarizes the current and capital account flows for many of the leading transition economies that had stabilized by 1994. Note first the prevalence of balance of payments surpluses, especially as transition continues, both in countries officially pursuing an

---

<sup>59</sup>The cost of sterilization is sometimes mistakenly computed as the interest liabilities on the securities issued. This vastly overstates the cost when inflation is high since it neglects substantial capital gains on foreign exchange reserves as the nominal exchange rate depreciates, plus any interest earned on forex reserves (all of which is properly priced in the uncovered interest parity calculation).

exchange rate peg (Czech and Slovak Republics, Poland, Estonia, and latterly Lithuania) but also in Albania, Slovenia, Latvia, Croatia and (sometimes) Hungary. Floating, when it took place, was a very managed float that frequently aimed to stabilize the exchange rate in an effort to preserve competitiveness; free floating would have eliminated this tendency for systematic payments surpluses in so-called floating, money based stabilizations. 'Floating' therefore had plenty in common with the supposed alternative, the exchange rate based stabilization.

Second, the most common pattern is a current account deficit (more than) offset by a capital account surplus. Initially, capital inflows primarily reflected loans from international agencies. As transition was consolidated, sharp increases in private sector capital inflows took place. Poland and Hungary merit further discussion. Although significant, capital inflows in Poland scarcely match a view of Poland as one of the stars of transition to date. However, negotiations with external creditors to accomplish debt and debt service reduction were only completed in 1995, and this may have inhibited capital inflows; certainly, short term inflows picked up sharply in 1995. Similarly, although to date Hungary has met debt service in full, concerns about both government and external debt burdens continue. The largest inflows to Hungary have been direct foreign investment, presumably secured by physical assets, and latterly government borrowing *in foreign currency*; private portfolio flows have been restricted (inward) or prohibited (outward, by residents).

By 1994 capital inflows were substantial in many of the countries that had already stabilized. Table 12 shows that in four of these countries, the Czech and Slovak Republics, Albania, and Slovenia, the external surplus became large relative to GDP. Since velocity ranged from about 1.5 in the Czech Republic to 3.5 in Slovenia, the final column would be much larger if the inflow was expressed relative to broad money rather than GDP; larger still relative to monetary base. This shows the scale of the problem confronting the monetary authorities. Moreover, data for 1995 show the problem was getting worse not better. Private sector capital inflows were detected on a larger scale than previously experienced (e.g., the Czech Republic), were detected when previously they had not been substantial (e.g., Estonia, Poland), and even were detected in countries such as Bulgaria and FYR Macedonia yet to stabilize at all.<sup>60</sup>

---

<sup>60</sup>Ize (1996) examines capital inflows in the Baltics and the CIS, documenting large inflows not only in the Baltics but also in Russia, Belarus, Kazakhstan, Uzbekistan and Turkmenistan. Clearly achievement of stabilization was not a necessary condition, but inflows often followed the adoption of tighter macroeconomic policies that eventually might lead to stabilization. Ize also shows that in these countries the principal policy response was to allow inflows to increase the money supply.

**Table 12. Balance of payments, selected countries (US \$ bn)**  
(Current account CA, Capital account KA, and balance of payments BP)

Date of stabilization	1992			1993			1994			BP/GDP (%)
	CA	KA	BP	CA	KA	BP	CA	KA	BP	1994
<b>By 1992</b>										
Czech Rep.	-0.46	-0.05	-0.51	0.69	2.40	3.09	-0.01	4.17	4.16	<b>11.6</b>
Hungary	0.40	0.40	0.80	-3.46	6.07	2.61	-3.91	3.26	-0.65	<b>-1.6</b>
Poland	-0.27	0.37	0.10	-2.29	1.52	-0.77	-1.08	2.68	1.60	<b>1.7</b>
Slovak Rep.	0.05	-0.09	-0.04	-0.60	1.00	0.40	0.71	0.45	1.16	<b>8.2</b>
<b>By 1993</b>										
Albania	-0.10	0.42	0.32	-0.01	0.45	0.44	-0.15	0.26	0.11	<b>6.1</b>
Slovenia	0.93	0.35	1.28	0.15	0.10	0.25	0.48	0.71	1.19	<b>8.4</b>
<b>By 1994</b>										
Croatia	0.82	-0.43	0.39	0.10	0.02	0.12	0.10	0.20	0.30	<b>2.1</b>
Estonia	0.08	0.12	0.20	0.01	0.15	0.16	-0.17	0.20	0.03	<b>1.2</b>
Latvia	0.03	0.11	0.14	0.15	0.17	0.32	-0.09	0.23	0.14	<b>3.9</b>
Lithuania	0.02	0.01	0.03	-0.16	0.22	0.06	-0.22	0.22	0	<b>0</b>
<b>By 1995?</b>										
FYR Macedonia				-0.09	0.12	0.03	-0.17	0.25	0.08	<b>2.5</b>

Sources: International Monetary Fund; and EBRD (1995).

Note: Data limitations led me to estimate balance of payments as sum of current and capital accounts, ignoring errors and omissions, and other below the line items. A more comprehensive treatment would often *raise* estimates of the reserve inflows and reinforce the arguments of the text.

#### **b. The diverse causes of inflows during 1994-95**

In the Slovak Republic substantial short term capital inflows have yet to appear, nor has direct foreign investment been large; inflows primarily reflected a large trade surplus. The current account also mattered in other countries. Slovenia ran a current account surplus of 3.5 percent of GDP in 1994 (though capital inflows were even larger). After February 1995 Poland also experienced a surge in inflows, whose exact cause has yet to be fully determined; part reflected unrecorded border trade, i.e., the current account. In other instances, causes of monetary inflows lay in the capital account, often because of increasing optimism about future transition. Estonia experienced a surge in capital inflows despite negative real interest rates and a current account deficit of 6 percent of GDP in 1994. Nor do capital inflows always await stabilization. They were significant in FYR Macedonia and Bulgaria while annual inflation remained over 40 percent.

Bulgaria offers another clue: during much of 1995 nominal interest rates were 6 percent *a month*, yet the nominal exchange rate, having depreciated 40 percent in the crisis of March 1994, was broadly stable during 1995. Such a huge violation of interest parity will tempt international capital whatever the details of risk and of arrangements for controls on capital flows. Similarly, Slovenia maintained real interest rates of at least 6 percent during 1994 while trying to maintain a fairly constant real exchange rate to encourage exports; Albania is another example. These cases show 'floating' did not remove conflicts between domestic and external objectives for monetary policy.

Since capital inflows emerged under managed floating, it is unsurprising that they emerged under pegged exchange rates where the conflict between domestic and external objectives for monetary policy is more acute. Nowhere was this more evident than in the Czech Republic: capital inflows, nearly 12 percent of GDP in 1994, accelerated during 1995. By 1995 the Czech Republic was the *only* transition economy to have maintained an unchanged exchange rate peg since the outset of transition.

The Czech exchange rate peg helped bring low and stable inflation; whether its costs came to outweigh its benefits is a question I discuss shortly. Czech authorities stress a second reason for surging capital inflows. Czech banks fail to provide much maturity transformation of savings: they borrow short but lend short. The 1994-95 surge in capital inflows largely reflected foreign borrowing by the Czech private sector, often via the banks, and much of it of maturity over 5 years, another example of how micro distortions have macro consequences. It would be surprising if, given the risks in transition, prudent bankers in *any* transition economy adopted large exposure to intertemporal risk if this could be avoided; however, the familiar problems--precarious solvency, inadequate skills and experience in loan assessment, and property rights yet to be fully clarified in practice--exacerbate the difficulties of domestic banks.

The willingness of foreign banks to lend shows both the superior capacity of foreign banks (not merely skills but ability to diversify risk) and the creditworthiness of Czech borrowers. By relaxing the borrowing constraint, capital inflows allow greater intertemporal smoothing, which for the whole economy implies a current account deficit today, incurring foreign debt whose interest will be serviced in the future.<sup>61</sup>

---

<sup>61</sup>The transition economy that faced fewest problems with transfers from abroad was of course East Germany. For a discussion of exchange rate and current account implications see Begg et al (1990).

**Table 13. Central bank balance sheets: sterilization 1994-95**

	93 iv	i	94 ii	iii	iv	95 i	Change 93iv-95i
<b>Czech Republic</b>							
Monetary base (Kc bn)	166	179	201	204	233	239	+73
NIR	58	85	111	129	155	191	+133
NDA	108	94	90	75	78	48	-60
<b>Slovak Republic</b>							
Monetary base (Kc bn)	32	31	38	41	48	46	+14
NIH	-15	-16	-9	4	16	18	+33
NDA	47	47	47	37	32	29	-18
<b>Croatia</b>							
Monetary base (Kuna bn)	2.2	2.7	3.1	4.4	4.8	4.6	+2.4
NIR	3.9	4.3	5.0	6.6	7.2	7.0	+3.1
NDA	-1.6	-1.6	-1.9	-2.2	-2.4	-2.4	- 0.8
<b>Poland</b>							
Monetary base (Zloty, trillion)	159.6	173.0	187.6	191.1	196.1	198.4	+38.8
NIR	3.6	4.0	4.1	5.0	4.9	6.0	+2.4
NDA	156.0	169.0	183.5	186.1	191.2	192.4	+36.4

Source: International Monetary Fund.

Note: NIR is net international reserves of the central bank, NDA its net domestic assets.

## 5. Policy responses to monetary inflows

Was sterilization the first defense? Did it work? Was it costly? When it failed, were capital controls imposed? When all else failed, how was the choice made between an undesired increase in the money supply and an undesired exchange rate appreciation?

### a. Was sterilization the first line of defense?

The short answer is yes. Table 13 shows central bank balance sheet data for the Czech Republic, where the problem arose from capital inflows; the Slovak Republic and Croatia, where monetary inflows reflected both current and capital account surpluses; and Poland, where inflows surged only in 1995. The table shows the efforts made by the central bank to

**Table 14. Broad money, its counterparts and components, 1994**

	% change in M2X during 1994	of which		foreign currency deposits as % of M2X	
		NFA	NDA	1993	1994
Czech Republic	18.0	11.7	6.3	7.9	6.9
Slovak Republic	18.4	20.1	-1.7	11.5	13.0
Slovenia	46.0	43.0	3.0	44.0	44.0
Poland	38.3	25.8	12.5	28.8	28.5
FYR Macedonia	12.7	17.3	-4.6	65.5	57.3
Croatia	74.9	85.0	-10.1	52.7	48.4
Albania	39.5	n.a.	n.a.	20.4	18.5
Bulgaria	78.2	83.8	-5.6	20.3	32.6

Source : International Monetary Fund.

Notes: M2X is broad money inclusive of foreign currency denominated deposits in domestic banks; NFA and NDA are respectively net foreign assets and net domestic assets of the banking system. Money growth for the Czech Republic is from March 94 to March 95 to reflect the surge in capital inflows in 1994IV and 1995I. Bulgarian data for end 1993 include substantial foreign liabilities removed from the banking system during 1994 as part of the debt and debt service reduction agreement with foreign creditors. Excluding this operation would essentially reverse the contributions of NDA and NFA shown above.

sterilize by reducing the monetary base: in the Czech Republic, the Slovak Republic and Croatia: increases in central bank foreign exchange reserves accounted for more than the entire increase in the monetary base. Central banks were slashing domestic money creation.

Sterilization, for a given monetary base, can also be via the money multiplier, and hence broad money. Table 14 shows, for a larger range of countries, the evolution of broad money and the change in composition of the domestic and foreign assets backing the broad money supply. Actions to sterilize broad money should be expected to reduce the net domestic asset counterpart to the money supply. Four countries in the table show negative entries in this column. Even where this does not occur, in other countries the growth of NFA greatly exceeds that of NDA.

The last two columns show the percentage of broad money held in domestic banks as deposits denominated in foreign currency.<sup>62</sup> These data provide some indication of whether or not such currency substitution by residents was a critical component of the capital flows that then induced the monetary policy responses underlying the data in the first three columns. Generally, the last two columns do not suggest that reversal of currency substitution was a large source of capital inflows during the period,<sup>63</sup> though it is evident in 1994 in Croatia and FYR Macedonia, where stabilization had recently been achieved or now looked likely to be accomplished. The Bulgarian crisis of 1994 is reflected in a flight to foreign currency.

**b. Did sterilization work?**

Section V.3 suggested that, in Latin America, Africa, and Asia, sterilization rarely succeeded for long. Were risk aversion greater, markets thinner, or capital controls more binding in transition economies so that sterilization had more effect?

It was usually possible to sterilize, at least in part, for a number of months. There was also recognition that early methods (changing reserve requirements or shifting government deposits to the central bank) were crude and sterilization via open market operations if possible was better: capital inflows thus stimulated development of securities markets, for example by encouraging securitization of government debt held by the central bank.

Sterilization was most likely to 'succeed' when the inflow was temporary, usually meaning triggered primarily by the current account. Imperfect sterilization, overshooting previous monetary targets, hence a reduction in interest rates coupled with the domestic demand effect of high exports, then become channels through which the current account surplus can be unwound. Moreover, the more the source of the inflows could be identified as the current account, the more likely it was that the authorities, having begun by sterilizing until a clearer diagnosis could be reached, would then cease sterilizing and invoke the above channels of adjustment. Current account inflows could in this way lead to soft landings.

In contrast, where the root cause of inflows lay with the capital account--when the conjunction of real interest rates and the anticipated path for the real exchange rate proved too tempting for speculators--attempts to alter this reality by sterilization alone were always likely to be fraught with problems; and initial inconsistencies can spiral as the continuing bandwagon increases the one way bet on the eventual direction of a change in policy. Admittedly, even in

---

<sup>62</sup>To the extent prudential behavior, or conditions of regulators, require banks to hedge currency risk, deposits in foreign currency need backing by bank assets in foreign currency. Changes in residents' holdings of foreign currency denominated bank accounts have an impact in the foreign exchange market as if residents had actually invested abroad.

<sup>63</sup>There are exceptions: during February-March 1995 the share of foreign currency deposits fell by eight percentage points in Poland.

the most dramatic case, that of the Czech Republic, econometric estimates suggest that sterilization was not a complete failure: Internal IMF studies report an offset coefficient of at most two thirds, so that each US\$300 of intervention by the central bank stimulated a further inflow of no more than US\$200. Is the glass half empty or half full? One can argue, as the Czech authorities have done, that this limited ability can still meet the goals of sterilization; it simply requires intervention in large volume. On the other hand, since sterilization is not free, such volumes may involve large fiscal costs.

Imperfect sterilization not only has a fiscal cost, it impedes disinflation, except when higher money demand was the cause of the capital inflow; structural change and paucity of data continue to impede reliable empirical estimates of money demand. In newly stabilized economies, it is hard to draw inferences from overshooting of monetary targets or of inflation projections: there is little history with which to compare. Evidence of involuntary monetary expansion is most reliably gathered from countries earliest to stabilize: all overshoot monetary targets in 1994-95.<sup>64</sup> In Poland, by May 1995 there had been little progress in reducing inflation from the 32 percent annual level of 1994, despite an objective to get to 17 percent. In the Czech Republic, the surge in capital inflows in late 1994 (12 percent of GDP), led to money growth of 21 percent (the mid-year projection was 17 percent); unsurprisingly, progress with disinflation diminished. In Slovakia, broad money growth for 1994 was 18.5 percent compared with a target of 10.5 percent. In Slovenia, despite determined attempts to sterilize, two actions in 1995 signaled some confession of defeat: imposition of inward capital controls in February, and cuts in central bank discount rates (in real terms) from 10 percent to 6 percent in April.

**c. Was sterilization costly?**

Where sterilization of the monetary base was undertaken on any scale, fiscal costs were potentially large. The Czech Republic in 1994-95, with a pegged nominal exchange rate and nominal deposit rates of 7 percent, was several percentage points adrift of the interest parity condition, especially since if the peg were abandoned the spot rate would float up not down. Capital inflows in 1994 were almost 12 percent of GDP, more in 1995. Had all this been sterilized through open market operations alone, the flow cost might have been around 1 percent of GDP. In practice, the Czechs did not rely chiefly on such operations so the fiscal cost was smaller. IMF estimates still put the direct flow cost at 0.3 percent of annual GDP in 1994.

One should distinguish exogenous and induced capital inflows. Some Czechs wished to borrow at the interest rates at which foreigners were prepared to lend: simple gains from

---

<sup>64</sup>I exclude Hungary, which had a balance of payments deficit during 1994, and Albania, where the rudimentary state of financial markets perhaps reduced the attractiveness of sterilization; in any event, the Albanian authorities response of inflows was in part a nominal appreciation and in part a decision not to sterilize, simply allowing the money supply to increase.

trade. But the act of intervention generates further inflows which generate further intervention and yet further inflows, raising the cost of the original decision to sterilize. Reserve inflows correspond to foreign lending that, by the interest parity condition, is hugely unprofitable. In transition economies, even the prudent Czech Republic, volunteering for substantial fiscal costs needs careful scrutiny.

How were inflows sterilized other than by sales of securities? By a transfer of deposits of the National Property Fund from commercial banks to the central bank, by a increase in required reserves from 9 percent to 12 percent, and by a reduction in refinancing credits; measures that tax banks, raise spreads in banks, discourage intermediation, and impede efficient credit allocation for reasons discussed in section III.

**d. Did countries resort to new capital controls?**

Slovenia and the Czech Republic, subjected to the strongest capital inflows, were the two countries that adopted new capital controls in 1995.<sup>65</sup> In both cases, with sterilization becoming increasingly costly and ineffective, the authorities made a last bid to avert a change their monetary strategy. In February 1995 Slovenia introduced inward capital controls on short term investments (less than five years maturity). In April 1995 the Czech Republic announced a fee of 0.25 percent on central bank transactions in foreign exchange with commercial banks. Such sand made little difference to the wheels of what by then was a financial center increasingly integrated with its western neighbors. Further measures were needed. In August the Czech Republic placed a limit on the net short term liabilities of banks to nonresidents.

Did capital controls work? For the rest of 1995 they staved off an announced change either in the underlying regime of monetary policy or in its objectives, which continued to be adequate nominal anchoring plus adequately external competitiveness, whatever the implicit conflicts between the two. But they did not halt capital inflows. They did not halt pressure to change the monetary fundamentals, the money supply or the exchange rate. They did not prevent further fiscal costs being incurred.

---

<sup>65</sup>Some countries, such as Hungary, had always maintained capital controls on portfolio investment. This did not prevent Hungary getting the lion's share of the FDI to transition economies in Central Europe during 1993-94.

**e. Resolving monetary conflicts in the fundamentals**

Table 15 summarizes decisions about nominal anchors and the exchange rate regime. The first dilemma is the conflict between the nominal exchange rate as a nominal anchor and the fact that, since disinflation is protracted, fixed nominal exchange rates are likely to imply a gradual loss of competitiveness. Compare Poland and Hungary. In Poland, greater weight was placed on nominal anchoring, so devaluations were less frequent than in Hungary where greater weight was placed on competitiveness. Note that a generally greater commitment to reform and structural adjustment in Poland delivered within two or three years the basis for sustained productivity growth that has yet to be enjoyed in Hungary. Productivity growth weakens the conflict behind the first dilemma, by allowing competitiveness to withstand some real appreciation, which may explain why the Czech Republic was able to sustain a fixed nominal peg for five years (the Slovak Republic too, apart from their single 10 percent devaluation in 1993).

Comparing Poland, the Czech Republic and the Slovak Republic in the arithmetic of competitiveness, disinflation (from initially quite significant inflation) is more important than productivity growth: annual productivity growth will not exceed 10 percent, but it is possible to pursue an inflation path with annual rates 10 percent below what might otherwise have been the case, especially if one begins with 30-40 percent annual inflation or above. It was the disinflation victors, the Czech and Slovak Republics, not the productivity growth victor, Poland, could sustain an exchange rate peg.

Whereas the Polish combination of disinflation and productivity growth allowed a sequence of devaluations at respectable intervals, retaining some of the reputational benefit of nominal anchoring, the ever increasing frequency of Hungarian devaluations revealed the government's lack of stomach for austerity.<sup>66</sup>

After initial stabilization, a band whose rate of crawl is preannounced and forward looking combines many theoretical advantages of nominal anchoring with the reality that often it takes longer to get inflation down from 40 percent to single digits than to achieve initial stabilization. Table 15 shows that this regime was adopted by Poland in 1991, and by Hungary in 1995. The continuing use of the exchange rate as nominal anchor implies aiming for a trajectory in which pressure is continually exerted, but domestic productivity gains reconcile an appreciating real exchange rate (using CPI or PPI deflators) with acceptable competitiveness and slower growth of a real exchange rate index based on unit labor costs adjusted for productivity.

---

<sup>66</sup>The Hungarian reforms of March 1995, combining another attempt at fiscal austerity with a switch of exchange rate regime to a preannounced crawl, marks a significant and encouraging change of regime, for which continuing political support will be necessary for success.

Table 15. Exchange rate regimes in the transition, 1990-95, selected countries

Date	Regime	Reason
<b>Poland</b>		
1 / 90	fixed peg (after devaluation)	nominal anchor + initial competitiveness
5 / 91	fixed peg (devalued 17%)	restore competitiveness
10 / 91	preannounced crawl (1.8% a month)	combine anchoring and inflation adjustment
2 / 92	devalue 11%; crawl unaltered	restore competitiveness
8 / 93	devalue 7%; crawl now 1.6%	correct the level; toughen expected rate of change
2 / 95	reduce crawl to 1.2%	tougher anti-inflation stance
5 / 95	wide band (+ / - 7%) same crawl	cope with capital inflows; greater flexibility; reconcile upward float within band and preservation of past exchange rate commitments
<b>Hungary</b>		
91	managed float/ frequently adjusted peg 2 devaluations, 21% in total	conflict between need for nominal anchor but lax fiscal policy; no commitment to rapid stabilization; concern for real exchange rate
92	3 devaluations, 6% in total	
93	5 devaluations, 15% in total	increasing emphasis on real exchange rate target
94	7 devaluations, 17% in total	despite need for nominal anchor
1-2 / 95	2 devaluations, 3% in total	
3 / 95	devalue 8% and move to preannounced crawl: 1.9% monthly declining to 1.3% by end 1995	renewed effort at nominal anchor (coupled with fiscal austerity); correct initial competitiveness; regime more robust to the surge of capital inflows experienced at start of 1995
<b>Czech Republic</b>		
1 / 91	devalue and fix exchange rate	nominal anchor; maintained unchanged throughout CSFR and to date in CR
4 / 95	tax on banks forex dealings with Central Bank	capital controls as sand in the wheels
7 / 95	quantitative limits on banks liabilities in foreign currency	further capital controls on short term borrowing by banks to try to stem capital inflows
<b>Slovak Republic</b>		
91-92	as above for Czech Republic	
7 / 93	10% devaluation of peg (6 months after CSFR breakup)	concerns about competitiveness; exchange rate peg maintained thereafter; no capital controls; as yet no strong pressure from capital inflows though current account surplus large in 1994
<b>Slovenia</b>		
91	Managed float	Monetary targets the principal nominal anchor; nevertheless, concern about real exchange rate, which reasonably constant 1992-94, prior to large capital inflows and large current account surplus despite which real exchange rate has appreciated since 1994 and monetary policy also relaxed
2 / 95	controls on inward capital flows (under 5 years maturity)	
<b>Croatia</b>		
93	Managed float	Though with strong emphasis on keeping the kuna within a narrow band of the DM
94		Forced appreciate in response to forex inflows
<b>Albania</b>		
6 / 92	Devalue and float	Absence of reserves and credible track record
94-95		Forex inflows allowed to increase money supply and appreciate the exchange rate

Source: International Monetary Fund.

Therein lies the source of the deeper dilemma: whilst ULC-based real exchange rates are relevant for the current account, it is real exchange rates in terms of price deflators that should be plugged into a real-interest-rate and real-exchange-rate calculation of the interest parity condition determining incentives for capital flows. Once transition gets properly under way, a (price deflator based) real exchange rate that appreciates quickly enough to offset productivity growth, which in leading transition economies should be at least 5 percent a year after growth resumes, is offering international investors real returns of 5 percent just from capital gains on the exchange rate. Unless real interest rates in the transition economies are well below zero, capital flows are likely to appear. Since this is a real not a nominal problem, it is essentially irrelevant which nominal regime is adopted.<sup>67</sup>

The simple prediction of this line of argument is that capital inflows should be inexorable when (a) initial stabilization is accomplished and there is some prospect of structural adjustment (b) domestic real interest rates are positive, or at least not too negative, and (c) the authorities resist appreciation of the (price deflator based) real exchange rate. On my list, that picks off Albania, Croatia, Slovenia, the Czech Republic and the Slovak Republic as the best candidates for capital inflows. Not a bad correlation with the outcomes recorded in Table 15. By 1995 Poland, Bulgaria, Hungary, FYR Macedonia and others had joined the list.

And the policy response? Albania was readiest to let inflows run their course, partly as exchange rate appreciation, partly augmenting the money supply. Sterilization would have been difficult in any case. In 1995, after four years of a preannounced crawl (at gradually decreasing rates), Poland's new experience of reserve inflows led quickly to adoption of the wider band for the crawl discussed in section V.2.b. The exchange rate floated into the top half of the band, and the Polish authorities moved their narrower implicit range for intervention from the center of the band to its upper half, revaluing in all but name. In Croatia and Slovenia, where monetary targets and managed floating achieved exchange rate stability against the DM, reserve inflows during 1994-95 forced both monetary overshoots and 'unwelcome' appreciation.

To date, only the Czech and Slovak Republics retain the original strategy of an exchange rate peg.<sup>68</sup> How did they survive? Partly because increases in real money demand

---

<sup>67</sup>This is not always understood. I have heard it said that if only the Czech Republic could disinflate sufficiently to get nominal interest rates down to world levels, they could maintain the nominal exchange rate peg without capital inflows. While this seems to solve the capital account conflict, it neglects the current account: with Western inflation but above average productivity growth, successful transition would render the Czech Republic supercompetitive; capital inflows would resume in anticipation of a nominal revaluation. The 'Czech solution' works only if Czech productivity growth exhibits no catchup at all, a dire foundation for policy design.

<sup>68</sup>Since this paper was completed, the Czech Republic has finally adopted a wider exchange  
(continued...)

have absorbed monetary inflows, partly by imperfect and increasingly costly sterilization, partly (in the Czech case) by capital controls with only minor success to date, and partly by leakages into the money supply that impeded further disinflation. This of course is the answer to those who fear that appreciation may be bad for the current account: in real terms, appreciation happens anyway.<sup>69</sup>

With a perfect 10 from the outset and so much reputation invested in the peg, was it dangerous for the Czechs to appreciate lest they subsequently had to face a depreciation? This risk existed. I find the counterargument more compelling: the alternative of sterilizing, by prolonging and promoting capital flows,<sup>70</sup> builds up such a level of foreign capital within the country that any subsequent decision to leave might precipitate a Mexican style crisis far more likely to tarnish the reputation of the incumbent government. Despite the fact that initially (and, as now, in the Czech Republic) it was the private not the public sector in Mexico that indulged in foreign borrowing, it was the decision of the Mexican government to sterilize these capital inflows that left foreigners holding paper of the Mexican authorities; paper originally in pesos, but subsequently reissued in foreign currency to try to lock in foreign investors. When investors concluded that reserves could no longer meet these official obligations for external debt service, we know what happened next....<sup>71</sup>

---

<sup>68</sup>(...continued)

rate band, within which the exchange rate floated up somewhat. Capital inflows diminished.

<sup>69</sup>Czech fears about nominal appreciation have a historical foundation: in the 1920s their currency appreciated sharply, inducing a significant fall in exports and provoked a banking crisis.

<sup>70</sup>During 1995 I, of Kc 14 billion net sales of bills of the Treasury, Central Bank and National Privatization Fund, Kc 12 billion was acquired by nonresidents and branches of foreign banks.

<sup>71</sup> Sachs, Tornell, and Velasco (1996) discuss the Mexican crisis from a similar though not identical perspective, emphasizing that the preceding years exhibited no fiscal imprudence nor debt levels of worrying proportions per se, and noting the policy problems arising from the sterilization of reserve inflows before 1994 and from the sterilization of reserve outflows during 1994. Data in the their paper implies that during the three years prior to 1994, the cumulative flows were:

current account deficit:	\$ 63 bn	monetary base growth:	\$ 5 bn
capital inflow:	\$ 82 bn	growth of reserves:	\$ 15 bn
errors and omissions:	- \$ 4 bn	domestic credit growth;	-\$ 10 bn
reserve inflow:	\$ 15 bn		

The key difference between Mexico and the Czech Republic is of course that Mexico had been running current account deficits that were persistent and significant (though not thought ex ante to be excessively so) whereas the Czech Republic has been running current account deficits that are small (though sharply deteriorating in 1995). None of this means that a

(continued...)

## 6. Evaluation of policy advice and design

Several themes run through Fund discussions with, and advice to, transition economies at this stage in their evolution: the need to underpin monetary restraint with fiscal responsibility, the persistence of real exchange rate appreciations that will be faced, and the preference for taking these appreciations as nominal appreciations rather than incurring unnecessary domestic inflation. As big pictures go, it is a good one to paint.

The fiscal and monetary authorities in transition economies almost invariably resist this message. In part this is unsurprising. By definition, those economies in the leading group, to which this section is addressed, have managed to stabilize and their output is recovering, often after making a substantial shift in export orientation. Governments think they are now on the right track.

Within this group, with two possible exceptions, one can exaggerate the distinction between strategies based on exchange rate anchoring and on monetary anchoring. The Czech and Slovak Republics pursued an explicit exchange rate peg, Poland evolved from peg through crawling peg to crawling band, Slovenia and Croatia appeared to float but endeavored whenever possible to shadow the DM.<sup>72</sup> The first exception is Hungary (prior to 1995), where fiscal deficits and ambiguous commitment to structural adjustment made inevitable a sequence of frequent devaluations; it remains to be seen whether the new commitment to a crawling peg can be underpinned by a continuing fiscal improvement. The second exception is Albania, where fiscal deficits in excess of 10 percent of GDP made it implausible that domestic monetary requirements be subordinated to stabilizing the external value of the currency.<sup>73</sup>

Thus, for their different reasons, many transition economies have resisted nominal appreciation despite the logic of the Fund's big picture. Since healthy export performance is necessary for continuing success in transition, I sense that in some instances the Fund has lacked the courage of its own convictions, preferring what it hopes is the safeguarding of competitiveness even if delaying further disinflation.

---

<sup>71</sup>(...continued)

Mexican crisis is just waiting to happen in the Czech Republic, merely that stimulating vast capital inflows carry risks whose cost might exceed any reputational cost from finally abandoning a peg that has served its purpose.

<sup>72</sup>Bulgarian authorities, in moving from a 'managed float' to an 'exchange rate band' in 1995, observed that the new system was 'quite close to their current practice'.

<sup>73</sup>Though the nominal exchange rate actually appreciated during 1994, perhaps as a reaction to earlier overdepreciation (measured real output growth has been stronger during 1993-95 in Albania than in any other transition economy), perhaps as evidence of how reserve inflows bid up the exchange rate when substantial sterilization is not attempted.

If sustaining a lower nominal exchange rate simply leads to higher domestic money and prices, the real exchange rate appreciates in any case. The argument for 'caution' about nominal appreciation is only as good as the ability of sterilization, with or without support from capital controls, to hold down the real exchange rate. Already, I can hear the rejoinder: 'whereas it would be acceptable to have a nominal appreciation no larger than the increase in the underlying equilibrium real exchange rate, the problem with floating is that exchange rates will overshoot, denting competitiveness and puncturing the export revival on which so much hinges.'

Let me offer two responses. First, this logic is flawed. If, after the nominal appreciation has taken the real exchange rate as high as its equilibrium level, policy makers then wish to prevent further appreciation to the 'free floating' level, the ability to achieve this *still* depends on the ability to stave off speculation from this point onwards, either by sterilization or by a decision not to sterilize, allowing higher money to reduce interest rates to a level that removes further speculative pressure. And that is my second response: for there to be a systematic tendency for short run 'free floating' exchange rates to exceed the equilibrium levels consistent with current account balance, we require that transition economies on average have high real interest rates, on bank deposits and other assets in which mobile international capital might invest, in the early stages of transition. In practice, there were few such instances to make *overshooting* a major issue.<sup>74</sup> Only Albania, Croatia, and Slovenia offered real interest rates likely to be sizeably above world levels for a sustained period. Albania banking has some way to go to become integrated into the global economy; Croatia ignored the danger and allowed a substantial real appreciation during 1993-94, the source of rapid disinflation that as yet has *not* produced substantial current account difficulties. This leaves Slovenia as one country in which monetary expansion, and slower disinflation, may have been necessary purely to safeguard competitiveness by reducing real interest rates and the real exchange rate.<sup>75</sup>

But a general argument cannot be erected on that basis. It is therefore unclear how much 'cautious' strategies achieved their objective on competitiveness, and clear that they delayed disinflation and led to unnecessary costs of sterilization. The latter will I think prove more important than the former, though I recall the evidence of Leiderman and Bufman (1995) that nominal inertia is endogenous and can be increased by ill-advised policies just as it can be diminished by well chosen ones. Facing many risks and many difficulties, there is nothing wrong with diversification, in policy design as in other matters. I am not arguing

---

<sup>74</sup>By overshooting I mean the phenomenon in Dornbusch (1976) as distinct from speculative enthusiasm arising from herd behavior in a world of multiple equilibria.

<sup>75</sup>Many countries get high ex post real interest rates only because of surprising success in disinflation, in which case ex ante decisions of investors may not respond to apparently high real interest rates. Interestingly, Slovenia was also the country with the most extensive indexation of financial contracts: here what you see is not only what you get but also what you expected to get.

against some sterilization; if it works well and cheaply, so much the better. Rather, I am arguing that it is a slippery slope that one should embark upon having already considered one's options and having a clear idea *ex ante* of when it will be wiser to get off. In cases like the Czech Republic, that point has long been passed.

Nor am I against capital controls *per se*. I see no reason to revise the Bruno blueprint from section I: relinquishing of capital controls should come near the end in the sequencing of reform. Since it is not edifying to reimpose controls recently abandoned, one wonders whether, in their eagerness to appear suitable candidates for EU membership, aspirants have not embraced financial integration a bit too quickly. Again, what matters is to make decisions having already foreseen the consequences. For example, where access to world capital markets allows borrowing at cheaper rates, having regard to the exchange rate path likely to be followed,<sup>76</sup> this may be less worrying when such contracts are purely private, between foreign lenders and private domestic borrowers, than when government is directly involved; whether or not governments intend to sterilize then becomes relevant to the *ex ante* evaluation of the desirability of foreign borrowing by the private sector.

Where concerns about exports and competitiveness are too pressing to be risked at all, there is of course a foolproof fallback: tighten fiscal policy and cut interest rates, reducing the speculative heat without prejudicing domestic disinflation. This is the stark choice with which governments need to be confronted when they profess deep concerns about the effects of appreciation. Whilst this point is well understood in the abstract, its practical relevance can be obscured by two considerations, one of theory and one of accounting. First, the initial level of the budget deficit, however measured, is irrelevant to the decision; in particular there is nothing sacred about budget balance. For example, if the private sector, having new access to capital markets at reasonable rates, is dissaving strongly, only a large fiscal surplus will allow a reasonable current account performance.<sup>77</sup> Second, measured budget deficits are poor indicators of either fiscal stance or impact on public finances, ignoring many things that are important (e.g., quasi fiscal costs, contingent liabilities) and including many things that should be excluded (e.g., nominal rather than real interest costs of debt service). I make these points because the actual state of the budget deficit must be one of the alibis used by governments trying to justify their inability to make fiscal changes.

Summing up, whereas explicit or implicit reliance on exchange rate anchors has frequently been a vital nominal anchor during early disinflation, during later stages of transition the combination of productivity growth, responsible monetary policy and emerging investment opportunities is likely to make adherence to a narrow exchange rate target inappropriate and even unsustainable. Robust regimes require more exchange rate flexibility, which may be offered by a wider exchange rate band (not necessarily of horizontal trajectory

---

<sup>76</sup>Bargains for borrowers arise not because lenders are 'fooled', but because, previously, capital market imperfections had meant much higher costs of borrowing.

<sup>77</sup>Since this is an identity, I suppose this point is accounting too!

over time). Even countries ostensibly floating may end up pursuing less formally announced versions of a similar policy, at least until financial deepening is much greater, banking solvency on a sounder footing, money demand more predictable, and the domestic fiscal position sufficiently secure to make greater central bank independence a reality. However, by the time monetary targets become attractive for these reasons, it may in fact be preferable to adopt 'inflation targeting' as a nominal anchor.

Despite the difficulties, there were successes. Disinflation is widely established and in most countries continuing. Export reorientation occurred in spite of formidable difficulties. Most countries have negotiated the transition from emergency anchor to something more robust for the continuing transition. Generally, in this, they have been assisted by the advice that they received, even when they chose not to implement it.

## **VI. LOOKING FORWARD AS WELL AS BACKWARD**

I have tried, more than I should, to draw lessons at the end of Sections II-V. No purpose would be served by recycling these here. Before writing this final section, I reread the concluding pages of Bruno (1993a). It has it all: macroeconomic priorities for monetary and fiscal policy; the importance of consolidating microfoundations by setting up institutions and rules of behavior for micro units; the dilemma as to how much government should intervene in transition; and recognition that the contribution of economic advice is not merely to offer assistance to policy makers seeking to make wise judgements but also, by sharpening the clarity of the strategy, first in logic then in presentation, to enable well chosen policies to win the battle of public opinion. Offered in the context of reform as a whole, these views apply with equal force to the narrower question I have been examining, the design and conduct of monetary policy.

Would the unfolding events of the last three years have surprised a careful reader of Bruno? Not much, and not least because his judgements were not the product of snapshot evidence of early transition but also of a much longer experience of stabilization and structural adjustment in Latin America, the Mediterranean and East Asia. Such regions continue to provide experiences and evidence to triangulate interpretations of evolving transition, especially when evaluating the leading transition economies for whom more local comparators are unavailable; except of course comparisons amongst themselves. Until more time series become available, comparative study of transition economies remains a high priority. This does not imply national differences are unimportant. Only by understanding their role can one decide how much weight to put on evidence that appears general rather than idiosyncratic to a particular country. Nevertheless, the longer transition continues the more the experience

reinforces the claim that much more can be learned from the parts that are common to all countries than from the parts that are distinct.<sup>78</sup>

Even the elementary comparisons made in this paper have been far from straightforward, often involving piecing together data (and hypotheses) from disparate sources. When the infrastructure is fully established to allow comparative exercises to be conducted, if not routinely at least regularly, one significant step in the analysis of transition will have been accomplished. Such exercises are not only important from afar, as deep background for some future mission. They are a natural vehicle through which those on the ground, including governments, can test their ideas and clarify their strategy. Persistent requests for data in appropriate form is not an imposition with a low payoff. It stimulates questions and curiosity, which can be valuable side checks for those who otherwise may proceed with their previous plans a little too long.

Whilst the last three years contain few events to astound a reader of Bruno's earlier assessment, ensuing developments have of course fleshed out many details. In stabilization, the fragility of the first attempt in Bulgaria and Romania was I think evident from the outset, and for the correct reasons. Stabilization in the Baltics, and in the breakaway Balkan republics from the former Yugoslavia, was rapid in both intention and results; in contrast, the ensuing years cast harsh light on some earlier optimistic judgements about slow reform in Hungary. Stabilization in the CIS has of course been difficult, but is under way in many republics despite the implosion of the CMEA, collapse of the Rouble zone, and polarized politics inside individual republics. Where stabilization made progress within the CIS, it occurred despite the impossibility of using exchange rate pegs (though by 1995 Russia had adopted a wide band) and required fiscal discipline as a precondition for greater monetary control.

Hardening budget constraints and developing sound banking has been the formidable challenge that Bruno envisaged. Subsequent experience confirms the wisdom of avoiding both extremes: unconditional recapitalization of banks, and complete *laissez faire* that requires banks slowly to rebuild capital out of the flow of profits. Unconditional recapitalization has generally fared poorly, whilst the most *laissez faire* approach, that in the Czech and Slovak Republics, was nevertheless accompanied by some recapitalization and continuing scrutiny. The most significant changes of the last three years have been the articulation of schemes linking recapitalization to changes in operating procedures by banks, pioneered in Poland but increasingly emulated elsewhere; and the growing emphasis on banking supervision, with mechanisms for disclosure and enforcement, as the linchpin of a banking system that works.

---

<sup>78</sup>In part I think this reflects the typical spectacles that economists wear. The new political economy notwithstanding, most of the time we remain more interested in seeking to understand the operation of the economy conditional on the policy choices made rather than the determinants of these political choices themselves. National differences have clearly been extremely important for the latter.

Perhaps nowhere is there a better example of the proposition that governments cannot duck all intervention if transition is to succeed.

My discussion of section IV identified few surprises in the evolution of monetary instruments over the last three or four years. The aim of indirect control is appropriate but the pace cannot be forced. Until the infrastructure is in place--sound banking, respect of budget constraints, a better payments system, a degree of banking competition, effective regulation and supervision--overoptimistic introduction of indirect control can be a recipe for loss of monetary control or inefficient credit allocation. Nor can the speed with which new instruments are introduced and old controls withdrawn be determined solely within a domestic context; it also affects and is affected by decisions on the pace of abolition of capital controls.

The issues of section V, how economies make the transition from emergency nominal anchor to a monetary and exchange rate regime more robust for continuing transition, are clearly set out in Bruno (1993a): the belief that the monetary targets are likely to remain problematic, so that where possible the exchange rate may continue to offset a more appropriate nominal anchor; the conflicting conviction that excessive real appreciation, as in the early years in Chile, is a real threat to success; and hence a fairly favorable eye cast on capital controls, at least in those countries and for such time as they can be made effective at reasonable domestic cost.

Subsequent experience in the 1990s, not only in transition economies but in Latin America, East Asia, Israel, and even Western Europe, does not challenge this assessment, but builds on its foundations in several respects. Dogged pursuit of a previous commitment to one aspect of policy, when a wider view of the policy mix reveals deep conflicts, is no recipe for reputation: e.g., the U.K. and Italy in 1992; Mexico last year. For this reason, sustained commitment to narrow exchange rate pegs during a period of considerable structural change and continuing inflation requires relentless scrutiny. The pragmatic solution of the 1980s, realign when necessary, has to some extent been augmented by the 'crawling band' of the 1990s that again seeks to combine anchoring expectations and adequate flexibility in nominal exchange rates, a trick almost impossible to pull off completely. In transition economies it is too soon to say whether this avenue will prove fruitful; in any case, to date such economies for the most part continue to use managed floating (with similar objectives) or crawling pegs that hope, by preannouncing the rate of crawl, to minimize expectations of automatic accommodation of past nominal shocks.

I have given both capital controls and sterilization somewhat shorter shrift than would I think be anticipated by a reading of Bruno. This is not a difference of principle but one of degree. Three considerations shade the final judgement in the direction that I have chosen. First, the 1990s are no longer the 1980s. Global financial integration has proceeded significantly over the last ten years. Second, for countries in Central Europe, negotiations about EU entry are never far from the thoughts of policymakers. This is known by investors and serves to limit the downside of what can be expected. Third, although nominal rigidities, important in understanding Western Europe, are also present to the East, such considerations

have been less important in transitional Europe than in reforming Latin America or Israel, where the *pacto* mentality (and longer history of *sustained* inflation) was part of the initial conditions;<sup>79</sup> thus European transition economies are somewhat better placed to take risks with adjustment of the nominal exchange rate. We can argue about the exact weight that should be placed on empirical evidence about each of my three considerations, both in individual countries and for the region as a whole, but the direction in which they should move the policy prescription is unambiguous: staving off capital flows is less likely to succeed. Much of my analysis can be encapsulated in one useful theme as we look to the future. Endogenous variables are outcomes of processes; they provide indicators, but only by dealing with root causes can better long run performance be attained. Where the foundations remain shaky, improvements in surface indicators may be temporary and some setbacks should be expected. Rather than trying to massage the temporary values of the indicator variables, it is best to press on with securing the foundations.

Foundations are infrastructure, including monetary and financial infrastructure--in which I include banking supervision, market deepening, more efficient payments, greater competition--the whole slow business of securing better microeconomic performance, but foundations also entail a sound mix of macroeconomic policy, without which future crises will threaten smooth development. The job of monetary policy is to secure its own infrastructure and institutions and if possible to avoid participation in a macroeconomic policy mix that becomes a *cul de sac*. Sometimes such matters will not be within the control of monetary authorities. Here, outside agencies such as the Fund can usefully exert their influence

Building infrastructure costs money; so may buying consensus for continuing reform along a path on which redistribution is likely to be substantial for some time to come. Fiscal performance remains critical. Things that jeopardize fiscal performance should be viewed in a serious light. If it came free, we would all like to see further rapid disinflation. It does not come free in economies already five years into transition. Not only will it require measures that reduce the popularity of reformers who, honeymoon over, may by now have a tenuous hold on power, it will also reduce inflation tax revenue. Where such revenue would have been invested in infrastructure and structural adjustment, or simply in keeping in office a government more likely than its successor to pursue such policies, insisting on rapid progress on disinflation, in economies by now in the range within which we can no longer demonstrate empirically that further disinflation has large benefits, may not be good even for the future course of inflation itself. Fund missions, at least those with which I am familiar, seem to understand this but therefore have to tread a fine line, since they cannot be seen to sanction anything interpreted as abandoning the eventual objective of low inflation.

---

<sup>79</sup>The more lukewarm the commitment to far reaching reform, whether in Europe or in republics of the CIS, the more likely it is that such institutional influences from the past might still be powerful.

It may be helpful, when circumstances dictate, that ratification of relaxation of previously agreed targets for disinflation be tied explicitly to binding undertakings to accelerate structural adjustment. More generally, conditionality should focus at least as much on targets for structural reform and other fundamentals, thereby dealing with the causes, as it does on endogenous outcomes, such as inflation, which in the final analysis are only symptoms.

### References

- Aghion, P., O. Blanchard and W. Carlin (1994). 'The economics of enterprise restructuring in Central and Eastern Europe, *CEPR Discussion paper 1058*.
- Alesina, A. and A. Drazen (1991). 'Why are stabilizations delayed?', *American Economic Review*.
- Alesina, A. and L. Summers (1993). 'Central bank independence and macroeconomic performance: some comparative evidence', *Journal of Money Credit and Banking*.
- Alexander, W., T. Balino, and C. Enoch (1995). 'The adoption of indirect instruments of monetary policy,' *Occasional Paper 126, IMF*.
- Axilrod, G. Caprilo, and M. Farahbaksh (1995). 'Transformation of markets and policy instruments for open market operations', mimeo, IMF.
- Balino, T. and C. Cottarelli (1994). *Frameworks for monetary stability*, IMF, Washington, D.C.
- Barro, R. and D. Gordon (1983). 'A positive theory of monetary policy in a natural rate model', *Journal of Political Economy*.
- Begg D. (1990). 'Alternative exchange rate regimes: exchange rate determination and the implications for labor market flexibility', *One Market, One Money*, EC Commission, Brussels.
- Begg, D. et al (1990). 'The East, the Deutschmark and EMU', in *Monitoring European Integration 1: The Impact of Eastern Europe*, CEPR, London.
- Begg, D. and R. Portes (1993a). 'Enterprise debt and economic transition: financial restructuring in Central and Eastern Europe', in C. Mayer and X. Vives (eds): *Capital markets and financial intermediation*, Cambridge University Press, Cambridge.
- Begg, D. and R. Portes (1993b). 'Enterprise debt and economic transition', *Economics of Transition*.
- Bélanger, G. et al (1995). 'The Czech Republic', *IMF Economic Reviews*, 1, 1995.
- Blanchard, O.J. and A. Berg (1994). 'Stabilization and transition: Poland 1990-91,' in O.J. Blanchard, K. Froot and J. Sachs (eds): *The Transition in Eastern Europe*, University of Chicago Press, Chicago and London.

- Blejer, M. and K.Y. Chu (ed) (1988). 'Measurement of fiscal impact: methodological issues' *Occasional Paper 59, IMF*.
- Blejer, M. and A. Gelb (1992). 'The contraction of Eastern Europe's Economies' in M. Blejer et al (eds): 'Eastern Europe in transition: from recession to growth?' *World Bank Discussion Paper 196*.
- Bonin, J. and M. Schaffer (1994). 'Banks, firms, bad debts and bankruptcy in Hungary: 1991-94', World Bank.
- Borish, M., M. Long and M. Noel (1995). 'Banking reform in transition economies,' *Finance and Development*.
- Bruno, M. (1993a). 'Stabilization in Eastern Europe', in M. Bruno: *Crisis, stabilization and economic reform: therapy by consensus*, Oxford University Press, Oxford.
- Bruno, M. (1993b). 'Stabilization and the macroeconomics of transition. How different is Eastern Europe?', *Economics of Transition*.
- Bruno, M. (1995). 'Does inflation really lower growth?', *Finance and Development*.
- Bruno, M. and W. Easterly (1995). 'Inflation crises and long-run growth', *NBER Working Paper 5209*.
- Calvo, G. (1991). 'The perils of sterilization,' *IMF Staff Papers*.
- Calvo, G., L. Leiderman and C. Reinhart (1995). 'Inflows of capital to developing countries in the 1990s: causes and effects,' *Economic Perspectives*.
- Calvo, G. and M. Kumar (1994). 'Money demand, bank credit and economic performance in former Socialist economies', *IMF Staff Papers*.
- Calvo, G. and M. Kumar (1995). 'Financial markets and intermediation,' *Occasional Paper 102, IMF*.
- Calvo, G., R. Sahay and C. Vegh (1996). 'Capital flows in Central and Eastern Europe: evidence and policy options', *IMF Working Paper WP/95/57*.
- Calvo, G. and C. Vegh (1991). 'Exchange rate based stabilization under imperfect credibility', *IMF Working Paper WP/91/77*.
- Calvo, G. and C. Vegh (1994). 'Inflation stabilization and nominal anchors', *Contemporary Economic Policy*.

- Carlin, W. and P. Richthofen (1995). 'Finance, economic development and the transition: the East German case', *Economics of Transition*.
- Dewatripont, M. and E. Maskin (1994). 'Centralization of credit and long term investment', in J. Roemer and P. Bardham (eds): *Market socialism - the current debate* Oxford University Press, New York.
- Dewatripont, M. and G. Roland (1992). 'Economic reform and dynamic political constraints' *Review of Economic Studies*.
- Dewatripont, M. and G. Roland (1993). 'Design of reform packages under uncertainty', CEPR Discussion Paper 860.
- Dhar, S. and M. Selowsky (1994). 'Dealing with the bad debt problem in transition economies', *Finance and Development*.
- Dornbusch, R. (1976). 'Expectations and exchange rate dynamics', *Journal of Political Economy*.
- Dornbusch, R. (1987). 'Exchange rates and prices', *American Economic Review*.
- Dornbusch R. and S. Fischer (1993). 'Moderate inflation', *World Bank Economic Review*.
- Dornbusch R. and A. Werner (1994). 'Stabilization and no growth', *Brookings Papers on Economic Activity*.
- Easterly, W. (1996). 'When are stabilizations expansionary', *Economic Policy*.
- Easterly, W. and P. Vieira da Cunha (1994). 'Financing the storm: macroeconomic crisis in Russia', *Economics of Transition*.
- EBRD (1994). *Transition Report*, EBRD, London.
- EBRD (1995). *Transition Report*, EBRD, London.
- Eichengreen, B. (1993). 'A payments mechanism for the Former Soviet Union: is the EPU a relevant precedent?', *Economic Policy*.
- Eichengreen, B., and R. Portes (1995). *Crisis? What crisis? Orderly workouts for sovereign debtors*, CEPR, London.
- Eichengreen, B., A. Rose, and C. Wyplosz (1995). 'Exchange market mayhem: the antecedents and aftermaths of speculative attacks', *Economic Policy*.

- Faini, R., G. Galli, and C. Ciannini (1993). 'Finance and development: the case of Southern Italy', in A. Giovannini (ed): *Finance and development: issues and experience*, Cambridge University Press, Cambridge.
- Fan, Q. and M. Schaffer (1994). 'Government financial transfers and enterprise adjustments in Russia, with comparisons with Central and Eastern Europe', *Economics of Transition*.
- Fernandez, R. and D. Rodrik (1991). 'Resistance to reform: status quo bias in the presence of individual-specific uncertainty', *American Economic Review*.
- Fischer, S. (1986). 'Exchange rate versus monetary targets in disinflation', in S. Fischer (ed): *Indexation, inflation and economic policy*, MIT Press, Cambridge, Mass.
- Fischer, S. (1994). 'Comment on Dornbusch and Werner', *Brookings Papers on Economic Activity*.
- Fischer, S., R. Sahay and C. Vegh (1996a). 'Economies in transition: the beginnings of growth', *American Economic Review*, Papers and Proceedings.
- Fischer, S., R. Sahay and C. Vegh (1996b). 'Stabilization and growth in transition economies: the early experience', *Journal of Economic Perspectives*.
- Flemming, J. (1994). 'Fiscal rectitude and financial discipline: a misconception', *Economics of Transition*.
- Frankel, J. and C. Okongwu (1995). 'Liberalized portfolio capital inflows in emerging markets: sterilization, expectations, and the incompleteness of interest rate convergence', *NBER Working Paper 5156*.
- Gray, C. and A. Holle (1996). 'Bank-led restructuring in Poland: living up to is promises?', mimeo, World Bank.
- Griffiths, M. and T. Pujol (1996). 'Moderate inflation in Poland: a real story' *IMF Working Paper* (forthcoming).
- Grilli, V., D. Masciandaro, and G. Tabellini (1991). 'Political and monetary institutions and public financial policies in the industrial world', *Economic Policy*.
- Hansson, A. and J. Sachs (1994). 'Monetary instruments and credible stabilization: a comparison of experience in the Baltics', mimeo, Stockholm Institute of East European Economics.

- Helpman, E., L. Leiderman, and G. Bufman (1994). 'A new breed of exchange rate bands: Chile, Israel, and Mexico', *Economic Policy*.
- Halpern, L. and C. Wyplosz (1995). 'Equilibrium exchange rates in transition', *CEPR Working Paper 1145*.
- Havrylyshyn, O., M. Miller and W. Perraudin (1994). 'Deficits, inflation and the political economy of Ukraine', *Economic Policy*.
- Hrncir, M. and J. Klacek (1995). 'Interenterprise indebtedness and performance of the banking system', presented at ACE workshop, Budapest.
- Ize, A. (1996). 'Capital inflows in the Baltic countries, Russia, and other countries of the former Soviet Union', *IMF Working Paper WP/96/22*.
- Lacko, M. (1995). 'Hungarian hidden economy in international comparison', mimeo, Institute of Economics, Budapest.
- Leiderman, L. and G. Bufman (1995). 'Searching for nominal anchors in shock-prone economies in the 1990s: inflation targets and nominal exchange rate bands,' presented at International Forum on Latin American Perspectives, Paris, November.
- Leiderman, L. and L. Svensson (eds) (1995). *Inflation targets*, CEPR London.
- Lockwood, B. and A. Philippopoulos (1994). 'Insider power, unemployment dynamics and multiple inflation equilibria,' *Economica*.
- Lockwood, B., M. Miller and L. Zhang (1995). 'Designing monetary policy when unemployment persists,' Working Paper, University of Exeter, U.K.
- Marrese, M. (1994). 'Banking sector reform in Central and Eastern Europe', in *East-Central European Economies in Transition*, Joint Economic Committee, Congress of the United States, US Government Printing Office, Washington DC, November 1994.
- Mathieson, D. and R. Haas (1995). 'Establishing monetary control in financial systems with insolvent institutions', *IMF Staff Papers*.
- Mitchell, J. (1993). 'Creditor passivity and bankruptcy: implications for reform', in C. Mayer and X. Vives (eds): *Capital markets and financial intermediation*, Cambridge University Press, Cambridge.
- Obstfeld, M. (1995). 'International currency experience: new lessons and lessons relearned', *Brookings Papers on Economic Activity*, 1:1995.

- Obstfeld, M. (1982). 'Can we sterilize?: theory and evidence', *American Economic Review, Papers and Proceedings*.
- OECD (1994). *OECD Economic Surveys: Poland 1994*.
- OECD (1995). *OECD Economic Surveys: Hungary 1995*.
- Perotti, E. (1994). 'A taxonomy of post socialist financial systems: decentralized enforcement and the creation of inside money', *Economics of Transition*.
- Perotti, E. (1995). 'Inertial credit and arrears in transition', mimeo, University of Amsterdam.
- Portes, R. (1994). 'Transformation traps', *Economic Journal*.
- Rodrik, D. (1994). 'Making sense of the soviet trade shock in Eastern Europe: a framework and some estimates', in O.J. Blanchard, K. Froot and J. Sachs (eds): *The Transition in Eastern Europe*, University of Chicago Press, Chicago and London.
- Roland, G. (1994) 'The role of political constraints in transition economies', *Economics of Transition*.
- Rostowski, J. (1994). 'Interenterprise arrears in post communist economies', IMF Working Paper WP/94/43.
- Saal, M. and L. Zamalloa (1995). 'Use of central bank credit auctions in economies in transition', *IMF Staff Papers*.
- Sachs, J., A. Tornell and A. Velasco (1996). 'The collapse of the Mexican peso: what have we learned?', *Economic Policy*.
- Sahay, R. and C. Vegh (1995). 'Inflation and stabilization in transition economies: a comparison with market economies', *IMF Working Paper WP/95/8*.
- Schadler, S. et al (1993). 'Recent experiences with surges in capital inflows,' *Occasional Paper 108, IMF*.
- Schadler, S. (ed). (1995). 'IMF Conditionality: experience under stand-by and extended arrangements; background papers', *Occasional Paper 129, IMF*.
- Svensson, L. (1994). 'Fixed exchange rates as a means to price stability: what have we learned?', *European Economic Review*.

- Svensson, L. (1995a). 'Optimal inflation targets, conservative central banks and linear inflation contracts,' Institute for International Economic Studies, Stockholm
- Svensson, L. (1995b). 'Price level targeting versus inflation targeting,' mimeo, Institute for International Economic Studies, Stockholm.
- Tanzi, V., M. Blejer, and M. Teijero (1987). 'Inflation and the measurement of fiscal deficits', *IMF Staff Papers*.
- Timmermans, T. (1995). 'Competitiveness of the Belgian banking sector', presented at Czech National Bank seminar, Prague, 15-16 May 1995.
- Tuma, Z. (1994). 'Economic restructuring and corporate insolvency procedures in the Czech economy', presented at OECD conference, Vienna, Sept 29-30 1994.
- van Wijnbergen, S. (1993a). 'Enterprise reform in Eastern Europe', *Economics of Transition*.
- van Wijnbergen, S. (1993b) 'Financial aspects of enterprise reform', *Economics of Transition*.

