Banking Crises in Transition Countries:

Fiscal Costs and Related Issues

Helena Tang, Edda Zoli and Irina Klytchnikova*

*Tang is a Lead Economist at the World Bank; Zoli is an Economist at the International Monetary Fund; and Klytchnikova is a consultant at the World Bank. The paper benefited from valuable comments from Patrick Honahan, Jo Ann Paulson and Stijn Claessens, although the authors alone are responsible for the contents. The findings, interpretations and conclusions expressed in this paper are entirely those of the authors and do not necessarily represent the view of the World Bank, the International Monetary Fund, their Executive Directors or the countries they represent.

Contents

Executive Summary

All transition countries have experienced banking crises or severe banking distress during the transition process. Key factors contributing to banking crises in these countries have been the large amounts of bad debt inherited from the previous socialist regimes, and the lack of familiarity of enterprises and banks with the functioning of market economies. Therefore, the resolution of banking crises in these countries can also be viewed as a challenge of transition, or as a challenge of banking sector development in the transition context.

While some transition countries have progressed more than others in developing and strengthening their banking systems, many have not completed the "transition" process. To this extent, new banking crises remain a risk. A pertinent question for policy makers therefore is how to resolve such crises in a way that would minimize the costs to the economy and the risks of such crises recurring in the future.

This paper reviews the experience of banking crises during 1990-98 in twelve transition countries: five countries from Central and Eastern Europe (*CEEs*) – *Bulgaria, the Czech Republic, Hungary, Macedonia* and *Poland*; the three *Baltic* states – *Estonia, Latvia* and *Lithuania*; and four countries from the Commonwealth of Independent States (*CIS*) – *Georgia, Kazakhstan, the Kyrgyz Republic* and *Ukraine*. These countries have experienced either episodes of obvious crisis such as bank runs, or episodes of severe banking distress involving a large share of non-performing loans in the banking sector. Both types of episodes are referred to in this paper as banking crisis episodes.

The paper reviews the crisis resolution strategies adopted by these twelve countries, and assesses which strategy minimized fiscal costs while at the same time strengthened the banking sector. A strengthened banking sector will be less prone to future crisis, which also helps minimize fiscal costs over the longer term.

The crisis resolution strategies pursued by the twelve transition countries fall into three broad categories: (a) extensive restructuring and recapitalization of banks, which was generally pursued by the *CEEs*; (b) large-scale liquidation of banks pursued by most *CIS* countries; and (c) a combination of bank liquidation and restructuring, which was generally pursued by the *Baltic* states.

The different strategies adopted by the authorities in these countries appear to depend on two key factors in the early years of transition. First is the macroeconomic condition at the beginning of transition, in particular the developments in inflation. Hyperinflation in the countries of the former Soviet Union (*FSU*) – the *CIS* and the *Baltics* – at the beginning of transition drastically reduced the real value of their inherited bad debts. By contrast, inflation never reached the same hyper levels in the *CEEs*, and the pre-transition bad loans remained a burden on the banking system. The second factor is the development of the banking system. There was a much larger increase in the number of banks in the *FSU* countries than in the *CEEs* in the early transition years. The new banks in the countries of *FSU* were generally of poorer quality, being small, undercapitalized and not engaged in much financial intermediation. As a result, banks could be closed in the *FSU* countries with limited economic and social impact. By contrast, in the *CEEs*, there was much less proliferation of low quality banks, and therefore much less of a need for liquidation of such banks. Furthermore, financial intermediation was also deeper in the *CEEs*, with some of the troubled banks being considered "too big to fail". Given their size, liquidation would have meant wiping out most of the banking system, imposing huge economic and political costs. For these reasons, the *FSU* countries pursued bank liquidation on a much larger scale than the *CEE* countries, while the latter generally restructured and recapitalized banks.

These initial conditions and related bank crisis resolution strategies largely determined the fiscal costs of banking crises, with the *CEEs* generally incurring higher costs than the *FSU* countries. In

addition, the amount of fiscal costs incurred also depended on the extent to which bank shareholders and depositors bore some of the costs. In the *FSU* countries, the fiscal costs of banking crises were generally lower because governments relied more on recapitalization by private shareholders and when this was not possible, liquidated banks without compensating depositors. Also, the restructuring operations undertaken by the *CEEs* suffered from several weaknesses (see later para. on lessons), which raised fiscal and quasi-fiscal costs.

For the transition countries covered by this study, the fiscal and quasi-fiscal costs of banking crises – including for bank restructuring and deposit compensation – ranged from 7 to 42 percent of GDP for the *CEEs*, 0.1 to 18 percent of GDP for the *CIS*, and from 2 to 3 percent in the *Baltics*. These fiscal costs do not adjust for savings associated with recoveries of bad loans absorbed by the government. However, the experience of the transition countries covered by the study was not very positive in this regard. Among the countries where loan recoveries accrued to the government, *Hungary* had the best results with loan recoveries amounting to 16 percent of total bad loans. *Poland* also had a similar recovery rate, although recoveries accrued to the banks themselves. In comparison, recovery rates of around 30 percent have been achieved elsewhere in the world.

All three country groups enjoyed positive results from the resolution of banking crises. The outcomes were generally better in the *CEEs* and the *Baltics* than in the *CIS*, particularly in regard to improving banking sector efficiency and raising the confidence in the banking sector. However, there needs to be further financial deepening in all three country groups, and especially so in the *CIS*. Although non-performing loans as a share of total loans have generally declined in these countries, they remained a concern in many of them, especially the *Czech Republic*, *Macedonia*, *Lithuania* and *Kazakhstan*.

To sum up, the *CEEs* incurred the most substantial fiscal costs, but ended up with sounder and more efficient banking systems, with many of the recapitalized banks being privatized to strategic foreign investors. By contrast, the approach pursued by the *CIS* was less fiscally costly, but they have been left with weak banking systems and low levels of intermediation. The *Baltics* appear to have struck a good balance, incurring modest fiscal costs, while improving the soundness and efficiency of their banking systems. *Estonia*, in particular, appeared to have done the best. At a total cost of 2 percent of GDP at end-1998, the crisis resolution strategy pursued by *Estonia* (combination of liquidation and restructuring, with the strategy differentiated according to the cause of the crisis) has resulted in substantial increase in financial intermediation, a large decline in non-performing loans (which stood at slightly over 1 percent of total loans in 1998), significant improvements in banking sector efficiency and higher confidence in the banking sector.

The lessons derived from the crisis resolution experience of these countries are consistent with the conventional wisdom on how to restructure banks to minimize the recurrence of banking crises, and hence to minimize fiscal costs. Specifically, the experience of the twelve transition countries suggest the following:

- the three elements of banking system restructuring – operational, financial and institutional – need to be undertaken in parallel for the successful resolution of banking crises;
- financial restructuring of banks should entail adequate recapitalization to deter the risk of moral hazard and repeated recapitalization;
- operational restructuring of banks needs to entail privatization to core investors; the experience in the transition countries indicates that privatization to reputable foreign banks could be a useful way to strengthen their banking systems;
- enterprise problems need to be addressed in parallel with bank restructuring because in many transition economies the former are the underlying causes of banking problems;

- differentiation of the crisis resolution strategy according to the cause of the crisis could help reduce fiscal costs; specifically, for the transition countries covered by the study, fiscal costs were reduced when: (i) governments only dealt with that portion of the bad debt inherited from the socialist period; (ii) small banks were allowed to fail when they did not affect financial intermediation very much (that is they held very little deposits) and when the social costs of such bank failure were low; and (iii) only banks that got into trouble because of external shocks were rescued while those that suffered from poor management were liquidated; and
- bank restructuring should be undertaken by the government and not the central bank because: (i) central bank financing is non-transparent and the costs will eventually fall on the budget; and (ii) central bank financing could lead to hyperinflation with severely negative economic consequences.

The experience of the transition countries under consideration also supports the established principle that for bad debt recovery to be successful, the bad debt collector (be it a central agency or a bank) needs to operate within an adequate legal environment (in particular effective collateral, foreclosure and bankruptcy laws) and be given appropriate incentives, and the enterprises in question need to be subject to hard budget constraints. This implies that if a centralized approach is adopted, then the bad debt collection agency should be private rather than state-owned. It also implies that a "good bank/bad bank" approach to bad debt collection might be preferable as it entails a finite time of operation of the "bad bank". Among the transition countries covered, the approach adopted by Poland – where banks themselves pursued the collection of bad debt – appears to have some merit. Although the Polish model was not very successful in restructuring enterprises (which was one of its objectives), it appeared to have more success in strengthening the institutional capacity of banks. Finally, however, it should be noted that successful bad debt recovery requires adequate capacity for the task. Given the relatively recent introduction of transition economies to commercial banking, the capacity of collecting bad debt which entails restructuring of enterprises will take some time to build up, more so for the countries from the *FSU* than the *CEEs*. Therefore, only modest results from bad debt recovery may be expected from these countries for some time.

1. Introduction

Over the last few decades, banking crises have occurred in both developed and developing countries around the world, and it has been no different with the transition countries. In fact, almost all the transition countries have suffered from significant banking problems[1]. This paper reviews the different approaches to resolving banking crises in the transition countries and their effects on the resulting fiscal costs.

The study covers the experience of banking crises during 1990-98 in twelve transition countries: five countries from Central and Eastern Europe (*CEEs*) – Bulgaria, the Czech Republic, Hungary, Macedonia and Poland; the three *Baltic* states – Estonia, Latvia and Lithuania; and four countries from the Commonwealth of Independent States (*CIS*) – Georgia, Kazakhstan, the Kyrgyz Republic, and Ukraine. These countries were selected because they had experienced banking crises or severe banking distress, and because they encompass a wide range of experiences. A number of countries, including Russia and Romania, were excluded because their crises were still unfolding at the time the research for the paper was initiated.

There are many ways of defining banking crises (see Frydl, 1999). This paper includes episodes of obvious crisis such as bank runs, as well as episodes of severe banking distress involving a large share of non-performing loans in the banking sector, both of which will be referred to as episodes of "banking crisis" in the rest of this paper. Analysis in this paper ends in 1998, and excludes the effects of the Russian financial crisis on the banking sectors in the sample countries.

Following this introduction, section 2 reviews the banking sector conditions in transition countries, the episodes of banking crises and their causes. A key factor that contributed to the eruption of banking problems in these countries was the large debt burden inherited from the previous socialist regimes. Another key factor that contributed to the eruption of banking problems in these countries was the lack of familiarity of both enterprises and banks with the functioning of a market economy. This may have been an inevitable cost of transition, as both banks and enterprises were learning to operate in a completely new environment. There has been a lot of learning by doing, and a lot of mistakes made along the way. Therefore, banking crises in transition countries could be viewed as an integral element of the transition challenge, or as an issue of banking sector development in the transition context.

While some transition countries have progressed more than others in developing and strengthening their banking systems, many have not completed the "transition" process. To this extent, new banking crises remain a risk. A pertinent question for policy makers therefore is how to resolve such crises in a way that would minimize the costs to the economy and the risks of such crises recurring in the future.

Banking crises are costly in two dimensions. First, they can undermine economic growth by disrupting credit intermediation. Second, banking crises can also impose large fiscal costs. This is because, unlike in the case of firm failures where shareholders are the residual loss-takers, when banks fail governments commonly assume part or all of the cost of the bank failure because of concerns over the stability of the financial system, or because of political or social reasons. To the extent that governments do not assume the entire cost of bank failure, the residual losses are assumed either by shareholders or depositors or both.

Given the poor data and poor accounting in transition countries, the costs borne by shareholders and depositors are difficult to ascertain. This paper will instead focus on the fiscal costs of banking

[1] See Appendix Table 1 on experience of banking crises in transition countries.

crises, which are the more readily observable portion of the total cost of banking crises[2]. Obviously, these fiscal costs are eventually borne by the public either through higher tax rates or higher inflation.

For the transition countries under consideration, the fiscal cost of resolving banking crisis was determined in large part by the authorities' strategy in restructuring the banking system, discussed in section 3. There are three elements in such a restructuring strategy: operational, institutional and financial. Successful resolution of banking crisis or systemic banking problems requires that all three elements be undertaken. When banking crises are successfully resolved, it means that the remaining banks in the system are strong and the risk of future banking crises is minimized, which also helps minimize fiscal costs.

Section 4 reviews the costs of banking crises incurred during the 1990s by the twelve transition countries. The section will review the distribution of these costs between shareholders, depositors and the government. The focus of the discussion will be on the latter – that is, the fiscal costs – for reasons just discussed. The fiscal costs of banking crises include the cost of government assistance to the banking sector, the quasi-fiscal cost assumed by the central bank in assisting the banking sector, plus the direct cost of compensating depositors. These costs could be alleviated by the recovery of bad loans, which is reviewed in section 5. Section 6 discusses the results of the resolution of banking crises, and section 7 summarizes the findings and draws some conclusions and lessons from the experiences of these transition countries.

2. Banking Crises in Transition Countries

This section reviews the banking conditions in the sample countries under consideration during the 1990s, the episodes of banking problems they experienced, and the factors that led to these banking crises

2.1 Banking Sector Conditions

While the banking systems differed for transition economies in the 1990s, all regimes had evolved from the Soviet model, under which a unique bank (monobank) was responsible both for monetary policy and commercial banking. Among the countries under consideration, Yugoslavia was ahead in separating out these two functions and creating a two-tier banking system during the 1960s. In the other *CEE* countries and the *Baltic* countries, the monobank structure was demolished only in the late 1980s, while the *CIS* countries introduced the two-tier system in the early 1990s. Generally, the elimination of the monobank system was followed by a rapid expansion of the banking sector with the entry of a large number of new banks.

Among the transition economies, the *CEEs* have more developed banking sectors than the *Baltics* or the *CIS*, as measured by credit to the private sector as a share of GDP, and by broad money as a share of GDP (Table 1). In the *CEEs*, the average ratio of private credit to GDP through the 1990s (for which data was available) was higher than in the other two groups of countries. In turn, the *Baltics* had, on average, higher shares of credit to the private sector than the *CIS* members since 1993.

There was a dramatic increase in the number of banks (in absolute terms and in terms of banks per population) in the early years of transition in the countries of the *FSU*, followed by a dramatic decline as a

[2] This paper will not address the issue of the cost of banking crises to economic growth, which is an almost intractable question.

Table 1. Banking Sector Development

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Credit to the Private Sector									
(Percent of GDP)									
Central and Eastern Europe									
Bulgaria		7.2	5.8	3.7	3.8	21.1	35.6	12.6	12.7
Czech Rep.				50.8	59.5	59.4	57.4	66.4	58.0
Hungary	46.2	38.7	33.1	28.1	26.1	22.5	22.0	24.0	
Macedonia				59.3	48.8	25.6	29.8	30.6	
Poland	3.1	11.1	11.4	12.2	11.2	12.0	14.9	17.1	
Average				30.8	29.9	28.1	31.9	30.1	
Baltics									
Estonia		18.0	7.5	11.2	14.1	14.8	18.0	25.8	25.3
Latvia				17.3	16.4	7.8	7.2	10.5	14.1
Lithuania				13.8	17.6	15.2	9.9	9.6	9.5
Average				14.1	16.0	12.6	11.7	15.3	16.3
CIS									
Georgia									
Kazakhstan				45.3	24.8	7.1	5.1	5.0	
Kyrgyz Rep.						12.5	9.0	3.4	5.3
Ukraine			2.6	1.4	4.6	1.5	1.4	2.4	
Average						7.0	5.2	3.6	
OECD/1	74.6	75.4	78.3	74.5	74.5	77.0	78.9	83.0	
M2									
(Percent of GDP)									
Central and Eastern Europe									
Bulgaria		71.9	74.7	77.6	78.0	64.9	71.2	33.6	29.3
Czech Rep.				69.6	73.1	80.5	75.4	71.2	68.3
Hungary	43.8	47.4	51.2	49.6	45.5	42.3			
Macedonia				72.9	13.6	13.5	13.0	15.2	
Poland	34.0	32.3	35.8	35.9	34.5	34.1	35.4	37.6	
Average				61.1	49.0	47.1			
Baltics									
Estonia		126.9	30.2	28.4	26.9	25.5	27.0	30.3	28.4
Latvia				31.6	34.2	23.4	23.0	27.4	25.4
Lithuania				23.1	25.8	23.3	15.8	19.0	19.5
Average				27.7	29.0	24.1	21.9	25.6	24.4
CIS									
Georgia									
Kazakhstan								10.2	
Kyrgyz Rep.						17.2	14.2	13.7	14.6
Ukraine			50.1	32.5	26.7	12.7	11.5	13.6	
Average						14.9	12.8		
OECD/2	79.6	77.5	82.1	71.0	83.8	84.5	87.4	88.4	

Source: International Monetary Fund, "International Financial Statistics."

/1 Data for high-income OECD countries except for Germany (1990) and Luxembourg (1993), for which data is not available.

/2 Data for high-income OECD countries except for Germany (1990), Sweden (all years) and UK (all years) for which data is not available.

result of bank crises and bank liquidation. On the other hand, the *CEE* countries did not experience as large an increase or decline (see section 3).

Most of the twelve countries experienced a decline in state ownership of the banking system during the 1990s, as reflected in the asset share of state banks (Table 2). For the *CEEs* (with the exception of Macedonia), this was the result of privatization of state banks following the resolution of banking problems and, in some cases, the entry of foreign banks[3]. For the *Baltic* countries (except for Lithuania), this was due to consolidation of state banks through liquidation or mergers, and large entry of foreign banks. For the *CIS* countries under consideration (except for Ukraine), this resulted from liquidation or downsizing of state banks.

The banking systems in transition economies were marked by extensive non-performing loans (Table 3)[4]. The incidence of such loans was larger than for many non-transition countries that went through banking crises. For instance, before the start of a banking crisis, the ratio of bad loans to total loans was 9.1 percent in Argentina (end-1980), 9.3 percent in Finland (end-1992), 10.6 percent in Mexico (September 1994) and 9.3 percent in Venezuela (end-1993) (Pazarbasioglu and Van der Vossen, 1997).

In some countries (*Bulgaria*, *Hungary*, *Poland*, *Georgia* and the *Kyrgyz Republic*), the share of bad credits was high in the early stages of the transition, declining subsequently as these countries underwent restructuring programs. In other cases (the *Czech Republic*, *Macedonia*, *Lithuania*, *Kazakhstan* and, to a less extent, *Latvia*), non-performing loans were consistently high. *Estonia* was the only country in the region where the share of non-performing loans had always been moderate.

2.2 Episodes of banking crises

Most of the twelve countries under consideration suffered from more than one crisis during the 1990s (Table 4). The problems experienced by the different countries were different in nature. Although it is not possible to draw rigid distinctions, two broad types of banking crisis episodes can be identified.

A number of crisis episodes arose from solvency problems in state-owned or formerly state-owned banks that were related to bad loans inherited from the Socialist system. These conditions of severe banking distress led to implementation of bank restructuring programs (*Bulgaria* in 1991-94; the *Czech Republic* in 1991-93; *Hungary* in 1992-1994).

In other cases, non-performing loans were not a legacy of the central planning system, but generally the result of unsound practices during the transition process. These episodes were associated with widespread insolvency in the banking sector (*Bulgaria* in 1996-97; *Hungary* in 1995-97; *Macedonia* in 1994; *Poland* in 1993-94; *Estonia* in 1992-4; *Latvia* in 1995; *Lithuania* in 1995-96; the *Czech Republic* in 1996-97; *Georgia* in 1995-97; *Kazakhstan* in 1994-96 and the *Kyrgyz Republic* in 1994-96) or with non-compliance with newly introduced banking regulations (*Georgia* in 1994 and *Ukraine* in 1995-98).

In some instances these banking crises involved also significant bank runs. This was the case of *Bulgaria* in 1995 and 1996-97; the *Czech Republic* in 1996-97; *Hungary* in 1997; *Macedonia* in 1994; *Estonia* in 1994; *Latvia* in 1995; *Lithuania* in 1995-96; *Georgia* in 1995-97 and *Kazakhstan* in 1996.

[3] Foreign banks in Table 2 are defined as banks with foreign ownership exceeding 50%, end-of-year.

[4] The definition and measurement of non-performing loans vary across countries and therefore the figures in Table 3 are not directly comparable. However, they are indicative of the magnitude of banking sector problems in individual countries.

Table 2. Structure of the Banking Sector

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria									
Number of banks	**67**	**75**	**79**	**41**	**40**	**41**	**42**	**28**	
o/w domestic					39	38	39	21	
foreign					1	3	3	7	
Asset share of state banks, %							**82.2**	**66.0**	
Banks (per mln people)	**7.7**	**8.7**	**9.3**	**4.8**	**4.7**	**4.9**	**5.0**	**3.4**	
Czech Rep.									
Number of banks				**45**	**55**	**55**	**53**	**50**	**45**
o/w domestic				33	43	43	40	36	32
Foreign				12	12	12	13	14	13
Asset share of state banks, %				**20.6**	**20.1**	**19.5**	**18.0**	**18.1**	**18.8**
Banks (per mln people)				**4.4**	**5.3**	**5.3**	**5.1**	**4.9**	**4.4**
Hungary									
Number of banks	**32**	**35**	**35**	**40**	**43**	**42**	**41**	**41**	**40**
o/w domestic	21	27	23	25	26	21	16	11	13
Foreign	11	8	12	15	17	21	25	30	27
Asset share of state banks, %	**85.5**	**81.2**	**75.3**	**74.4**	**74.9**	**62.8**	**52.0**	**16.3**	**10.8**
Banks (per mln people)	**3.1**	**3.4**	**3.4**	**3.9**	**4.2**	**4.1**	**4.0**	**4.0**	**4.0**
Macedonia									
Number of banks					**6**	**6**	**22**	**22**	**24**
o/w domestic					3	3	17	17	19
Foreign					3	3	5	5	5
Asset share of state banks, %							**0.0**	**0.0**	**0.7**
Banks (per mln people)					**3.1**	**3.1**	**11.1**	**11.0**	**11.9**
Poland									
Number of banks				**87**	**82**	**81**	**81**	**83**	**83**
o/w domestic				77	71	63	56	54	52
Foreign				10	11	18	25	29	31
Asset share of state banks, %				**86.2**	**80.4**	**71.1**	**69.8**	**51.6**	**48.0**
Banks/Population (per mln people)				**2.3**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
Baltics									
Estonia									
Number of banks				**21**	**22**	**18**	**15**	**12**	**6**
o/w domestic				20	21	14	12	9	4
foreign				1	1	4	3	3	2
Asset share of state banks, %				**25.7**	**28.1**	**9.7**	**6.6**	**0.0**	**7.8**
Banks (per mln people)				**13.9**	**14.7**	**12.1**	**10.2**	**8.2**	**4.2**

Table 2 (Cont.). Structure of the Banking Sector

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Latvia									
Number of banks		**14**	**50**	**62**	**56**	**42**	**35**	**32**	**27**
o/w domestic						31	21	17	12
Foreign						11	14	15	15
Asset share of state banks, %					**7.2**	**9.9**	**6.9**	**6.8**	**8.5**
Banks (per mln people)		**5.3**	**19.0**	**24.0**	**22.0**	**16.7**	**14.1**	**13.0**	**11.1**
Lithuania									
Number of banks				**26**	**22**	**12**	**12**	**11**	**10**
o/w domestic				26	22	12	9	7	5
foreign				0	0	0	3	4	5
Asset share of state banks, %				**53.6**	**48.0**	**62.5**	**54.9**	**48.8**	**45.3**
Banks (per mln people)				**7.0**	**5.9**	**3.2**	**3.2**	**3.0**	**2.7**
CIS									
Georgia									
Number of banks			**75**	**179**	**226**	**101**	**61**	**53**	**43**
o/w domestic					225	98	55	45	34
foreign					1	3	6	8	9
Asset share of state banks, %	**98.4**	**92.5**	**77.6**	**72.7**	**67.9**	**45.8**	**0.0**	**0.0**	**0.0**
Banks (per mln people)			**13.7**	**32.9**	**41.7**	**18.6**	**11.3**	**9.8**	**7.9**
Kazakhstan									
Number of banks	**30**	**72**	**155**	**204**	**184**	**130**	**101**	**82**	**71**
o/w domestic		71	154	199	176	122	92	60	51
foreign		1	1	5	8	8	9	22	20
Asset share of state banks, %		**19.3**	**4.6**	**n.a.**	**n.a.**	**24.3**	**28.4**	**45.4**	**23.0**
Banks (per mln people)	**1.8**	**4.4**	**9.4**	**12.4**	**11.3**	**8.1**	**6.3**	**5.2**	**4.5**
Kyrgyz Rep.									
Number of banks	**6**	**10**	**15**	**20**	**18**	**18**	**18**	**20**	**23**
o/w domestic	6	10	14	19	15	15	15	17	17
foreign	0	0	1	1	3	3	3	3	6
Asset share of state banks, %	**100.0**	**98.8**	**n.a.**	**n.a.**	**77.3**	**69.7**	**5.0**	**9.8**	**0.0**
Banks (per mln people)	**1.4**	**2.2**	**3.3**	**4.5**	**4.0**	**4.0**	**3.9**	**4.3**	**4.9**
Ukraine									
Number of banks			**133**	**211**	**228**	**230**	**229**	**227**	**n.a.**
o/w domestic					227	229	223	215	n.a.
foreign					1	1	6	12	n.a.
Asset share of state banks, %									
Banks (per mln people)				**2.5**	**4.1**	**4.4**	**4.5**	**4.5**	**4.5**

Source: EBRD Transition Report, 1999

Table 3. Soundness of the Banking Sector: Non-performing Loans
(Percent of total loans, end of period)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria	54				7	13	15	13	10
Czech Rep.		2 /1	19 /1	23 /1	37	33	30	27	29
Hungary				29	28	20	12	8	
Macedonia				80		44		36	
Poland		16	30	29	28	21	13	10	10
Baltics									
Estonia				7	3	3	2	1	1
Latvia				5	10	19	20	10	
Lithuania					27	17	32	28	
CIS									
Georgia					24	41	7	7	
Kazakhstan						33	41	25	27
Kyrgyz Rep.					92	72	26	8	
Ukraine /2					5	13	12	11	

/1 Estimates reported in Capek (1994). According to other estimates, non-performing loans were 50-66% of total loans in the early 1990s (OECD, 1996).
/2 Official data that probably underestimate the actual share of non-performing loans.
Source: EBRD Transition Report,1998; International Monetary Fund; Central Banks.

There were significant differences in the magnitude of crises. For those crises arising from non-performing loans inherited from the centralized system, estimates of bad loans as a share of total loans range from about 21 percent in *Hungary* to 50-66 percent in the *Czech Republic*. For those episodes of acute financial distress, not related to inherited bad debt, the ratio of bad loans in total loans varied from 40 percent (in *Georgia* in 1995) to more than 90 percent (in the *Kyrgyz Republic* in 1994). While quantitative information on the magnitude of bank runs is not available for those crises involving liquidity problems, it appears that on some occasions liquidity problems were widespread (as in *Bulgaria* in 1996-97 and in *Kazakhstan* in 1996), while in others they were limited to one or two banks (as in *Hungary* in 1997 and in *Bulgaria* in 1995).

With regard to the ownership structure of the financial institutions involved in banking crises, both state–owned and private banks incurred insolvency and liquidity problems. However, in government restructuring programs directed to clean up banks' portfolios from non-performing loans inherited from the Socialist period, mainly state-owned banks were involved.

Table 4: Episodes of Banking Crises

Country	Period	Nature of the crisis	Magnitude of the crisis	Private vs. public banks affected	Liquidity vs. Solvency problems
Bulgaria	1990s.	1991-1994: Clean up of banks' portfolios from bad loans inherited from the centralized system.	In 1990 non-performing loans were about 54 percent of total loans.	Former state owned banks.	Solvency.
		1995: Solvency and liquidity problems in two state-owned banks.		State-owned banks.	Solvency and liquidity.
		1996-1997: Widespread liquidity problems. Also currency crisis.	About one third of the total number of banks was found insolvent and closed.	Both state and private banks.	Solvency and liquidity.
Czech Rep.	1990s.	1991-1993: Consolidation Program I to clean the portfolios of former state-owned banks/organizations.	A clear evaluation of bad loans size at the beginning of the transition is impossible. Estimates of the share of bad credits vary from 2.4-19 percent to 50-66 percent.	Former state-owned banks and former trade organization.	Solvency.
		1996-1997: Consolidation Program II to clean the portfolios of small-medium banks and Stabilization Program to provide cash-flow relief to distressed banks.	Eighteen banks involved in the Consolidation Program (of which three were liquidated). Six banks involved in the Stabilization Program.	Mainly private banks.	Mainly solvency problems. Also some liquidity problems in 1996.
Hungary	1990s.	1992-1993: Loan Consolidation Program to clean up of banks' portfolios from inherited bad loans .	According to some estimates, in 1992 non-performing loans were 20.7 percent of total loans.	State-owned banks.	Solvency.
		1993-1994: Bank-led Restructuring and Loan Consolidation Program.	In 1993 non-performing loans were nearly 30 percent of total loans.	State-owned banks.	Solvency.
		1995: Solvency problems in a state-owned bank (Agrobank).		State-owned bank.	Solvency.
		1997: Run on the second largest retail bank (Postabank). Solvency crisis in a small private bank.		Private banks.	Liquidity and solvency.
Macedonia	1990s.	1994: Clean up of the portfolio of the largest bank from non-performing loans.	In 1993 non-performing assets were about 80 percent of total assets.	State-owned bank.	Solvency and liquidity.
		1997: Eight saving houses were closed.			Solvency

Table 4 (Cont.): Episodes of Banking Crises

Country	Period	Nature of the crisis	Magnitude of the crisis	Private vs. public banks affected	Liquidity vs. Solvency problems
Poland	1990s.	1991: Clean up of banks' portfolios from foreign exchange losses due to the 1989 devaluation.	Four banks had experienced significant foreign exchange losses.	State-owned banks.	Solvency.
		1993-1994: Enterprises and Banks Restructuring Program to clean the portfolios of state-owned banks.	In 1992 about 30 percent of total loans were non-performing.	State-owned banks.	Solvency.
		1991-1994: Solvency problems in two specialized banks.		State-owned banks.	Solvency.
		1994-1998: Solvency problems in agricultural cooperatives banks.	Two-hundred cooperatives qualified for bankruptcy and sixty were suspended.	Mostly state-owned cooperatives.	Solvency.
Estonia	1992, 1994.	1992: Four banks faced solvency problems.	Total bad assets: 40 percent of banking system assets.	Private banks.	Solvency.
		1994: The country second largest bank (Social Bank) faced liquidity problems and had weak loan portfolio. It was closed in 1995.	Withdrawal of over one-half of this bank deposits.	Private bank, with residual government ownership.	Liquidity and solvency.
Latvia	1993-1994, 1995	1993-1994: Restructuring operation in two banks.	In 1993 non-performing loans were about 5 percent of total banking system assets.	State-owned banks.	Solvency.
		1995: Closure of the largest private bank (Baltija); three small and medium sized banks declared insolvent. Fifteen bank licenses revoked.	Total compromised assets were 40 percent of banking system assets.	Private banks.	Solvency problems, that produced deposit withdrawals.
Lithuania	1995-1996.	Insolvency in four banks (including the two largest). Widespread solvency problems in the whole banking system.	In 1996 non-performing loans were 32 percent of banking assets.	Private and state-owned banks.	Solvency problems, that produced deposit withdrawals.

Table 4 (Cont.): Episodes of Banking Crises

Country	Period	Nature of the crisis	Magnitude of the crisis	Private vs. public banks affected	Liquidity vs. Solvency problems
Georgia	1994, 1995-1997.	1994: Insolvency of five state-owned banks. Many small private banks did not conform with regulations.	Bad loans in 1995 reached 40 percent of total loans.	State owned and private banks.	Solvency.
		1995-1997: Solvency and liquidity problem in a bank (Agrobank).	Insolvent bank's assets were 7 percent of total banking system assets.	Private.	Liquidity and solvency.
Kazakhstan	1994, 1996	1994-95: Restructuring program to clean-up banks' portfolios.	In 1994 about 50-55 percent of commercial loans were either doubtful or loss.	State-owned and private banks.	Solvency.
		1996: Four large banks experienced solvency and liquidity problems.	N/A	State owned and private banks.	Solvency and liquidity.
Kyrgyz Rep.	1994-1996	Clean up of banks' portfolios from bad loans (FINSAC).	In 1994 approximately 92.2 percent of banking loans were non-performing. Also the four largest banks were insolvent.	Former state-owned banks.	Solvency.
Ukraine	1995, 1996-1998.	1995: Central Bank intervened in approximately twenty banks.	N/A	State owned and private banks.	Solvency.
		1996-1998: more than 50 banks were liquidated.	According to some estimates, in 1998 bad assets were still 40 percent of total assets.	State owned and private banks.	Solvency.

2.3 Causes of Banking Crises

Several factors contributed to the eruption of banking crises in the transition countries. The most important are summarized below.

The transition process. The transition process led to vulnerability of the banking sector in various ways. First, a large number of commercial banks in the transition economies were carved out from former state banks. As a result, they inherited loans extended under the central planning system to state-owned enterprises which had not been subject to hard budget constraints under the previous regime and did not have the habit of repaying debts. In addition, the transition process – removal of enterprise subsidies and internal and external liberalization – also cut enterprises profitability in many sectors of the economy and reduced their ability to repay loans. Finally, both enterprises and the newly commercialized banks lacked experience doing business with a profit-oriented approach.

External shocks. Transition countries in Europe and Central Asia suffered from the collapse of the Council for Mutual Economic Assistance (CMEA) foreign trade system which had isolated the conditions of foreign trade in socialist countries from those prevailing in the world's hard currency trade. Starting in 1991, foreign trade of the former socialist countries was conducted on a hard currency basis. No payments union among former CMEA countries was established, and trading relationships among these countries collapsed.

In addition, some countries were hit by idiosyncratic external shocks. For instance, certain banks located in some countries of the former Soviet Union (for example in *Estonia* and in the *Kyrgyz Republic*) lost access to part of their assets held in Russia after the collapse of the Soviet empire. In *Latvia* and *Lithuania*, banks profitability was sharply reduced by the decline of trade financing opportunities resulting from price liberalization in Russia.[5]

Macroeconomic conditions. The transition process and external shocks led to severe output contraction in all countries at the onset of transition). These downturns precipitated banking crises in many countries.

Table 5. Growth

	1990	1991	1992	1993	1994	1995	1996	1997	1998
(GDP annual percent change)									
Central and Eastern Europe									
Bulgaria	-9.1	-11.7	-7.3	-1.5	1.8	2.1	-10.9	-6.9	4.0
Czech Rep.	-0.4	-14.2	-3.3	0.6	2.7	5.9	4.1	1.0	-2.2
Hungary	-3.5	-11.9	-3.1	-0.6	2.9	1.5	1.3	4.6	5.0
Macedonia	-9.9	-12.1	-21.1	-9.4	-2.7	-1.6	0.9	1.5	5.0
Poland	-11.6	-7.0	2.6	3.8	5.2	7.0	6.1	6.9	4.8
Average	-6.9	-11.4	-6.4	-1.4	2.0	3.0	0.3	1.4	3.3
Baltics									
Estonia	-8.1	-7.9	-21.6	-8.2	-1.8	4.3	4.0	11.4	4.0
Latvia	2.9	-11.1	-35.2	-16.1	2.1	0.3	2.8	6.5	3.8
Lithuania	-5.0	-6.0	-19.6	-17.1	-11.2	2.3	5.1	6.1	4.4
Average	-3.4	-8.3	-25.5	-13.8	-3.6	2.3	4.0	8.0	4.1
CIS									
Georgia	-12.4	-20.6	-44.8	-25.4	-11.4	2.4	10.5	11.0	4.0
Kazakhstan	-0.4	-11.0	-5.3	-10.6	-12.6	-8.2	0.5	2.1	-2.5
Kyrgyz Rep.	3.2	-7.9	-13.9	-15.5	-20.1	-5.4	5.6	9.9	2.0
Ukraine	-3.4	-10.6	-17.0	-14.2	-22.9	-12.2	-10.0	-3.0	-1.7
Average	-3.3	-12.5	-20.3	-16.4	-16.8	-5.9	1.7	5.0	0.5

Source: International Monetary Fund "World Economic Outlook" (1998, 1999), EBRD "Transition Report" (1997, 1998).

The implementation of macroeconomic stabilization policies also made some countries more susceptible to crises. In fact, tight monetary policies, introduced as part of stabilization programs, forced up nominal interest rate and reduced inflation, thus raising real interest rates and affecting the borrowers' ability to service their debt. This occurred in *Estonia* in 1992 following the introduction of the currency board; *Latvia* after 1993; the *Czech Republic* in 1996; and *Macedonia* in 1992.

[5] Latvian and Lithuanian banks were instrumental in financing East/West trade. In particular, special financing opportunities arose in 1993/94, when commodities prices in Russia were well below world market prices.

As an interesting aside, there was no obvious correlation between the kind of exchange rate regime arrangement and the occurrence of banking crises or systemic banking distress in the sample countries. Banking crises erupted under flexible exchange rate regimes in *Bulgaria*, *Georgia*, *Kazakhstan* and *Latvia*; managed floats in the *Kyrgyz Republic* and *Macedonia*; an adjustable peg in *Hungary*; crawling pegs in *Poland* and the *Czech Republic*; and a currency board arrangement in *Estonia* and *Lithuania*.

Of the twelve countries, *Bulgaria* was the only one that suffered a currency crisis in conjunction with its banking crisis, leading to a large devaluation in 1996-97 and subsequent adoption of a currency board[6]. In this regard, the experience of the transition economies is different from that of the experience in Latin America and East Asia, where banking crises commonly coincided with currency crises (Kaminski and Reinhart, 1999).

Deficiencies in supervision and in the legal framework. In the early 1990s the legal framework regulating the banking system was extremely poor in most transition countries. Adequate supervisory systems and prudential regulations were not in place. In addition, central bank and banking laws were weak, being deficient in regards to loan collection and bankruptcy, conflict of interest between banks and their shareholders, and rules on collateral.

Poor internal governance. Fraud, corruption practices, insider lending, and inadequate disclosure contributed to weaken the banking system in most transition countries. For example, bad loan portfolios were generated by management misconduct and insider lending in two banks in *Estonia* (these were liquidated respectively in 1992 and 1994), in the largest bank in *Latvia* (liquidated in 1995), and in the second largest bank in *Hungary* (which suffered from substantial liquidity problems in 1997).

In addition, extensive use of directed credit and on-lending under government instruction was behind the weak bank portfolios in *Georgia*, *Kazakhstan*, *Kyrgyz Republic*, and *Ukraine* and, to a lesser extent, also in *Lithuania*. Repetitive banks bailout from the government in the *Czech Republic*, *Hungary*, *Bulgaria* and *Lithuania* created moral hazard leading to risky lending, thus intensifying these countries' banking sector solvency problems.

3. Institutional, Operational and Financial restructuring of banks in transition countries

The eruption of banking crises or severe banking distress in the transition countries led the government to restructure the banking system. This section discusses the experiences of these countries in the three key areas of restructuring: institutional, operational and financial. All three kinds of restructuring need to be pursued in tandem for the successful resolution of banking crises.

3.1 Institutional Restructuring

Institutional restructuring addresses the environment within which banks operate. Key elements to be addressed include: the legal framework, prudential regulations, accounting standards and banking supervision.

On the legal side, effective collateral and bankruptcy laws are particularly important for supporting banking operations and loan recoveries. Prudential regulations are aimed at limiting bank *credit risk exposure* and at creating a *cushion against potential losses* (Talley et al, 1998). The limits on large credit exposure and enterprise share ownership are especially important for banking systems in transition economies given the prevalence of cross-ownership between banks and enterprises and lending to owners.

[6] The Czech Republic experienced a currency crisis in 1997, although this was not connected to its banking crisis.

Minimum capital, capital adequacy, loan classifications, loan loss provisioning and *liquidity requirements* are aimed at creating a cushion against potential losses. Effective implementation of these requirements require internationally acceptable accounting standards, which are essential for monitoring the banking system, regulating bank performance, and for the implementation of effective banking supervision.

As mentioned earlier, the sample countries began transition with a weak institutional framework for the banking system. Liberal licensing policies and lax prudential regulations resulted in a rapid increase in the number of new banks in the system, most notably in the *CIS* and *Baltic* countries (see section 3.2). Many of the new banks were small, undercapitalized and non-viable. In the face of these developments, some countries began to strengthen the institutional framework for their banking sectors by tightening licensing policies and introducing or raising minimum capital and capital adequacy requirements. In some cases, the introduction of accounting standards, loan classification and provisioning requirements revealed the scope of non-performing loans in the banking systems. This led to financial and/or operational restructuring, with banks that could not comply with the requirements being either recapitalized, merged with other banks, or liquidated.

The cases of *Hungary* and *Poland* illustrate this sequence of developments. Both countries pursued liberal licensing policies in the early years of transition that led to the entry of new banks, many of which ran up large losses and were undercapitalized. In response to these developments, both countries began to strengthen the institutional frameworks for banking. In 1991, *Hungary* introduced new accounting standards (the Accounting Act), the Bankruptcy Act, and the Banking Act (which addressed loan qualification, regulations on provisions, large exposure and related party lending). In 1992, *Poland* revised the Banking Law giving the central bank authority to enforce provisioning requirements, capital adequacy and exposure limits. The new standards and laws made it clear that a major financial and operational restructuring program for banks was necessary in both countries, which they subsequently undertook.

In most of the countries under consideration, the eruption of banking crises led to the strengthening of the institutional framework (Table 6). Prudential regulations were introduced or, if they were already in place, tightened in the aftermath of banking crises or bank restructuring programs. Licensing requirements were tightened in *Estonia* (1994), *Latvia* (1995) and *Lithuania* (1995-96) following the banking crises in these countries, which led to the consolidation of the banking sector through bank liquidation. In some other countries, such as *Georgia* (1995) and *Kazakhstan* (1994), institutional restructuring followed the introduction of restructuring programs in the banking sectors. In many countries there was a second wave of prudential regulation tightening in the latter part of the 1990s; for some countries this was to comply with European Union (EU) regulations.

Prudential regulations are generally tighter in the *CEEs* and the *Baltics* than in the *CIS*. The *Baltics* and *CEEs* have in place a minimum capital requirement of at least (and in some cases exceeding) ECU 5 million as required by the EU regulations, whereas this requirement is lower in all the *CIS* countries under consideration. All the *CEEs* and *Baltic* countries have a capital adequacy requirement (CAR) of at least 8 percent (the *Basle* requirement), and in some countries even higher. Two of the *CIS* countries under consideration (*Georgia* and the *Kyrgyz Republic*) have a 12 percent CAR (information on CARs is not available for *Kazakhstan* and *Ukraine*). The actual CARs in most transition economies in this study are fairly high, exceeding the required level: 15.5% in *Poland* (1998), 18.3% in *Hungary* (1997), 12% in the *Czech Republic* (1998)[7] (Table 17).

[7] Even though the actual CAR in the Czech Republic (12% in 1998) is well above the 8% required by BIS, the IMF does not consider it a comfortable level, when compared to other Central European countries (IMF, 1999).

Table 6: Key Elements of the Banking Institutional Framework 1/

	Date crisis (distress) peaked	*Date of introduction of prudential regulations and supervision (date of further tightening)* 2/	*Date BIS CAR* 3/ *(8%) entered in force (date of increase)*	*Date IAS in force* 4/	*Current minimum capital requirement* 5/	*1998 EBRD Ranking of extensiveness (effectiveness) of financial laws and regulations* 6/
Bulgaria	1996-1997	1997 (1998)	1993 (1998:10%; 1999:12%)	1998	USD 5.9 mln	4 (4-)
Czech Republic	1991-1993 1996-1997	1995 (1998)	1996	NA	USD 16.8 mln	3 (3-)
Hungary	1992 1995-1996	1993 (1996)	1992	1996	From USD 100,000 to 9.8 mln	4 (4)
FYR Macedonia	1994-1996	NA (1998)	1993	1996	From USD 4.2 mln to 12.6 mln	3 (3-)
Poland	1992-1993	1993-1994 (1998)	1993a/	1994	ECU 5 mln	4 (3)
Latvia	1995-96	1996 (1999)	1994 (1999:10%)	1992	ECU 5 mln	3 (3)
Lithuania	1995-96	1997 (1999)	1996 (1997:10%)	1997	ECU 5 mln	3- (2+)
Estonia	1992; 1994	1997	1994 (1997:10%)	1995	ECU 5 mln	3 (3)
Georgia	1995-1997		1996 (1999:12%)	Propose d date 12/2000	USD 2.8 mln (for new banks)	2 (2)
Kazakhstan	1994-1996	NA	NA	1997	From USD 0.5 mln to USD 3 mln	2 (2)
Kyrgyz Republic	1994-1996	1996 (1999)	1995 (1999:12%)	1997	From USD 850,000 to 1.4 mln	3- (2)
Ukraine	1995; 1996-1998	1996 (1998)	NA	1998	ECU 1 mln	2+ (2)

Notes:

a/ In 1999 CAR was raised for some banks. For banks that were operating prior to 1993, CAR remained at 8%, and for newer banks it was raised to 15% during the first year of operations, and to 12% in subsequent years of operation.

1/ For detailed explanation of the regulations and their comparison with the BIS and EU standards see Appendix Table 2.

2/ This refers to the dates of the introduction or tightening of one or more of the following prudential regulations (for details see Appendix Table 2): capital adequacy requirement, large credit exposure limit, liquidity requirement, open foreign exchange exposure limit, loan classification and provisioning requirements, limits on equity holdings in non-financial enterprises, and limits on connected lending.

3/ This is the Capital Adequacy Ratio standard set by the Bank for International Settlements.

4/ IAS is International Accounting Standard. Source: EBRD Transition Reports.

5/ Expressed in USD equivalent of local currency at end-1998 market exchange rate, or in ECU if requirement is expressed in ECU and not in local currency. Where there is only a single number, it refers to minimum capital requirements for banks only. Where there is a range of numbers, they refer to minimum capital requirements for either different types of financial institutions or ownership – for details see Appendix Table 2.

6/ The EBRD rankings are on a scale from 1 to 4.

However, the extensiveness of prudential regulations does not guarantee compliance. A 1998 EBRD survey found that transition economies had a better record for the extensiveness of financial laws and

regulations for the banking sector than for their enforcement[8]. The same survey found that the *CIS* countries were rated lower in both extensiveness and effectiveness than the *CEEs* and the *Baltics*. Among the *CEEs*, *Hungary*, *Poland* and *Bulgaria* were rated higher in both counts than the *Czech Republic* and *Macedonia*. *Estonia* was rated the highest among the Baltic countries.

The issue of effectiveness of financial sector legal framework is closely related to the quality of banking supervision. As in the case of strengthening prudential regulations and introduction of international accounting standards (IAS), improvements in the quality of banking supervision took place in the aftermath of banking crises or after the initiation of financial sector reforms to address banking distress. However, the lack of financial resources and technical expertise have made the implementation of effective banking supervision problematic. Countries that are most advanced in terms of legal reform in the financial sector (*Hungary* and *Poland*) are planning to introduce banking supervision on a consolidated basis, which is important to prevent excessive credit risk exposure and inadequate capitalization in the financial institutions not covered by the regulations.

In sum, a strong institutional framework is a key element for a sound banking sector. The strengthening of the institutional framework in the aftermath of banking crises in the sample countries have helped produce positive results of bank crisis resolution in all of them (see section 6 for results of crisis resolution). By the same token, the greater extensiveness and effectiveness of financial laws and regulations in the *CEEs* and the *Baltics* compared with the *CIS* are accompanied by stronger banking systems in the first two country groups compared with the last one.

3.2 Operational Restructuring

Operational restructuring of banks is aimed at improving their corporate governance. It deals with the flow problems in banks caused by non-performing loans and high operating costs. Operational restructuring can take two forms: bank closure and liquidation; or bank restructuring, which could entail change of management or privatization.

The experience of the twelve countries under consideration was that **the *CEE* countries generally restructured banks rather than close them**, whereas **the *CIS* countries tended to favor the liquidation approach. The *Baltic* countries pursued a combination of liquidations and restructuring.**

The strategy adopted by the authorities for resolving banking crises seem to depend, in part, on two factors: (i) the development of the banking sector, including the degree of financial penetration; and (ii) macroeconomic conditions. The impact of these factors on the operational restructuring strategy pursued in the different country groups is discussed next.

The *CIS* and the *Baltics*. At the onset of transition, the banking systems in the *CIS* and the *Baltics* were developed mainly through liberal entry of new banks in combination with the spontaneous breakup and privatization of state banks, and in some cases liquidation of old banks. This approach was not always a deliberate choice, but happened spontaneously when the former Soviet Union collapsed. The result was an explosion of the number of new banks that entered the system (in absolute terms and in

[8] EBRD Transition Report, 1998. Academic and practicing lawyers and other experts familiar with the financial laws and regulations of the region were surveyed. The survey questions were based in part on the core principles developed by the Basle Committee, including questions on: banking regulations and supervision; minimum financial requirements (capital adequacy standards) and criteria for banking operations; use of internationally acceptable accounting standards; and ability of banking regulators to engage in enforcement and corrective action.

terms of banks per population) (Table 2).[9] Some of the new banks were engaged mostly in financing existing inefficient enterprises (the so-called "pocket" banks). Many of them were small and undercapitalized, and did not even meet the lax licensing requirements inherited from the former Soviet Union (FSU). These banks obviously did not have proper governance, nor did they engage in much deposit mobilization. Therefore, although many new banks were established, financial intermediation in those economies did not increase.

Given the low "value-added" provided by these new banks, the authorities were able to respond to banking crises by closing the insolvent institutions. Indeed, the low level of financial intermediation in these countries also meant that a large number of banks could be closed without generating widespread effects on the economy. At the same time, the authorities did not have to tackle the problem of a large amount of inherited bad debt in the state-owned banks because hyper inflation (reaching 4 to 5 digits)[10] had greatly reduced the real value of this bad debt (although depositors bore the costs through erosion of the real value of their deposits). Therefore, resolution of banking problems in these countries did not entail significant restructuring or recapitalization of state-owned banks, nor sizeable fiscal costs (section 4). Furthermore, high fiscal deficits in the CIS countries may also have diminished their appetite for incurring fiscal costs to bail out the banking system.

A large number of banks were closed in the *CIS* countries. In *Kazakhstan*, where the numerous small banks accounted for only a very small share of household deposits, the number of domestic banks was reduced from 204 to 71 between 1993 and 1998. In *Georgia*, where about 80 percent of the new private banks had no more than three to five customer accounts, the number of domestic banks was reduced from 226 to 43 between 1994 and 1998 (Table 2). *Ukraine* is the only country in this group where there was not much banking consolidation. In none of these countries did substantial consolidation of the banking sector lead to sector-wide systemic risks, high costs, or social problems. Among the *CIS*, the *Kyrgyz Republic* stood out in that even major banks, including state-owned banks such as the Savings Bank, were liquidated.

All three *Baltic states* also experienced a major consolidation in the number of banks through the 1990s, although in some instances there was restructuring and recapitalization. In *Estonia*, the number of banks fell from 22 to 6 between 1994 and 1998; in *Latvia* from 62 to 27 between 1993 and 1998; and in Lithuania from 26 to 10 over the same period. Most of the liquidated banks were small. For example, thirteen of the Lithuanian banks that were liquidated accounted for only 3 percent of the deposits. However, there were a few exceptions. For instance, in *Latvia*, the largest commercial bank was closed in 1995, and in *Lithuania*, the country's largest bank was liquidated in 1997.

The *CEE* countries. In the *CEEs*, the development of the banking system since transition differed from that in the *CIS* countries and the *Baltics* in focusing on the rehabilitation and transformation of existing state-owned financial institutions which were then recapitalized to prepare them for privatization. Although the *CEEs* did allow the entry of new banks to introduce competition into the system, entry was more limited than in the *CIS* and the *Baltics* (as can been seen in the smaller number of banks per population in Table 2). Moreover, these new entrants included foreign banks, which were generally sounder than the new domestic private banks[11]. Since the entry of new banks was more limited and the quality of the new banks was better in the *CEEs* than in the other two country groups, there was not as much a need for liquidation of these banks.

[9] Another indicator, number of bank branches per population (rather than banks per population), may have been better, but such information is not available.

[10] Appendix Table 3 presents inflation figures for the twelve countries.

[11] For instance, Citibank, an obviously reputable foreign bank, entered Hungary in 1985.

Furthermore, in contrast to the *CIS* and the *Baltic* countries where non-performing loans were generally accumulated during the transition process, the main cause of banking unsoundness in the *CEEs* was the large amount of inherited bad debt that had not been wiped out by hyper inflation. Since the newly-commercialized banks were not viewed as responsible for these bad loans, the *CEE* authorities chose to restructure and recapitalize these banks despite the high costs (section 4). Interestingly and contrary to what one would expect, despite their higher level of government indebtedness at the onset of banking crises, the *CEEs* did not pursue a less costly approach to crisis resolution than the other two country groups.

In addition, financial intermediation was deeper in the *CEEs*, and some of the troubled banks were considered "too big to fail". Given their size, liquidation would have meant wiping out most of the banking system, imposing huge economic and political costs. As a consequence, in the *CEEs* (with the exception of *Bulgaria*), resolution of the banking crises did not result in any significant downsizing of the number of banks in the banking system. Indeed, *Bulgaria* was the only country among the *CEEs* that experienced a significant reduction in the number of banks, while in *Hungary* and *Macedonia* the number of banks in the system actually increased through the 1990s.

a. Privatization and Foreign Entry

In some of the transition countries, operational restructuring involved privatization of banks, including to foreign investors. The experience appears to be that privatization was the best way to achieve the goal of operational restructuring, which is to improve the corporate governance of banks.

The countries' experience shows that if privatization resulted in dispersed ownership or cross-ownership by enterprises or even the government, it did not improve corporate governance. This was the case for all the banks in the *Czech Republic* after voucher privatization at the beginning of transition, the state banks in *Georgia*, *Postabank* in *Hungary*, and still the case in many of the banks in *Macedonia*. Privatization to a core investor which is a reputable bank appears to have been the best approach for bringing about independent governance to the banking sector. Independent governance for banks means that the banks are free of the control of governments and clients, can exercise hard budget constraints and develop capability to manage financial risks (Bonin et al, 1999). A core investor could also bring very useful and valuable banking skills to the incumbent bank.

In a region where experience in commercial banking was limited and capital insufficient, privatization to a strategic foreign and reputable investor appears to have been a useful approach for strengthening the domestic banking sector (Bonin et al, 1999; Bonin and Wachtel, 1999). Entry of foreign banks helped to modernize the domestic banking sector through introduction of modern banking practices, as well as product and service innovation. It also introduced competition into the banking sector, which is essential for improving the efficiency of financial intermediation[12]. Moreover, for those countries which had already allowed in de novo foreign banks, such as *Hungary*, privatizing state-owned banks to foreign strategic investors helped these incumbent banks better compete with the new foreign entrants.

Two main factors determine the size of the foreign bank presence in a particular country. The first is the policy environment. The *CEEs* and the *Baltic* countries were much more open to foreign entry into their banking systems than the *CIS* countries. In fact, the *CEE* countries under consideration (with the exception of *Macedonia*) had actively attracted foreign banks for bank privatization. The foreign banks that invested in these countries tended also to be sound and reputable. The second factor is the

[12] An econometric study done by Claessens and others (1998) found that foreign entry increased competition in the banking sector in 80 countries for the period 1988-95.

attractiveness of local conditions, including the presence of a vibrant private sector and a sound legal framework that is enforced. In this regard, the *CEEs* and the *Baltics* were also more attractive than the *CIS*. It is therefore not surprising to find greater foreign presence in the banking sectors in the *CEEs* and the *Baltics* than in the *CIS* countries.

Among the countries under consideration, foreign bank activities are most extensive in the *Baltic* countries, especially in *Latvia* and *Estonia*, while *Lithuania* had begun to acquire a larger foreign bank presence. In *Estonia*, foreign banks (from Finland, Germany and Sweden) have played an increasingly important role in the system since 1994. Swedish banks owned majority shares in the two largest domestic banks which accounted for 85 percent of total banking sector assets as of mid-March 1999. In *Latvia* at end-1998, of the 27 banks in the country, 2 were state-owned and 15 were foreign-owned. Subsidiaries of Estonian, Finnish, German and Russian banks as well as a branch of a French bank operated in *Latvia*. By end-1998, majority foreign-owned banks were responsible for almost 85 percent of total bank assets. Among the *Baltic* countries, the presence of foreign banks is the lowest in *Lithuania* although this has recently increased. The two large domestic banks which account for 42 percent of total banking system assets are majority-owned by foreign investors.

There has also been an increasing presence of foreign banks in the *CEEs*. Among the *CEE* countries, *Hungary* has been at the forefront in attracting foreign banks for bank privatization. Since the first foreign bank was established in 1979, foreign presence in the Hungarian banking sector has risen substantially. Currently, the share of private sector in total bank equity exceeds 80 percent, and foreign intermediaries own 60 percent of the banks[13]. *Bulgaria* has recently been actively pursuing the privatization of its state-owned banks to foreign strategic investors and, to date, around 80 percent of the assets in the banking system are owned by foreign banks. The *Czech Republic* has been stepping up the privatization of its state-owned banks to strategic foreign investors recently. Three of the big five state-owned banks are already privatized to strategic foreign investors (from Japan, the U.S. and Belgium, respectively) and preparations are underway for the privatization of the remaining two, the completion of which will bring foreign-owned banks' market share to about 90 percent of total assets in the system. After an initial period of liberal entry for foreign banks, *Poland* is now lagging behind in terms of foreign banking presence, with majority-owned foreign banks accounting for only 35 percent of the country's total banking assets. The foreign presence in *Macedonia*'s banking system is even smaller, comprising in 1998 of only one branch of a Russian bank.

Foreign participation in the *CIS* countries remains very limited, and foreign banks that are present tend to be Russian. *Georgia* has some foreign presence in its banking sector. In the *Kyrgyz Republic*, there are banks that have foreign participation. In *Kazakhstan*, there are 10 foreign banks in 1997, but these banks are limited to own no more than 25 percent of a domestic bank's stock (Kalyuzhnova and Tridimas, 1998). In *Ukraine*, only thirty of the 190 banks in 1998 boast foreign (largely Russian) capital holdings.

In sum, of the twelve countries under consideration, those which have the larger foreign banking presence also happen to have the stronger banking systems (in particular Estonia and Hungary). This gives some credence to the proposition that privatization to foreign investors could be an important element of bank operational restructuring.

3.3 Financial Restructuring

Financial restructuring deals with the stock problems in banks, that is the problem of negative net worth. Financial restructuring generally employs one or more of the following instruments: (i) injection

[13] Hungary Country Economic Memorandum (1999).

of new capital; (ii) reduction of bank liabilities; (iii) transfer of non-performing loans to a special agency and (iv) improvement in the management of non-performing loans (Hoelscher, 1998). The last two instruments are related to the recovery of bad loans, which is discussed in section 5.

Tables 7 and 8 summarize the main methods of financial restructuring by the government and the central bank in the transition countries under consideration. Financial restructuring by the government included recapitalization of banks through the issuance of public debt. Generally, the transferred bonds were swapped for non-performing loans[14]. In some cases, instead, the issuance was unrequited. Occasionally, governments directly improved banks' net worth through the transfer of cash or property assets, the reduction of bank liabilities, repurchase agreements and the provisions of public guarantees on outstanding loans. Finally, in a few occasions, governments intervened in enterprises to facilitate debt servicing or repayment. Only in *Ukraine* did the government not embark on any form of intervention in support of the banking sector. Financial restructuring by the central bank involved provision of short and long terms loans, and refinancing of troubled banks' assets.

In the *CEEs*, financial restructuring of the problem banks usually involved injection of new capital, after which the banks were to be privatized. This was the case in *Hungary*, *Poland*, the *Czech Republic* and *Bulgaria*. In the *CIS* countries, financial restructuring was limited to the cleaning of balance sheets (removing bad loans from the books), which basically shrank the size of the banks' balance sheets, accompanied by reduction of liabilities and capital (with depositors and bank shareholders bearing the loss in most instances). The experience of the *Baltics* was mixed; there was injection of new capital into the banks in *Estonia* and *Lithuania*, but not in *Latvia*. The fiscal costs were obviously higher where there was injection of new capital.

4. Costs of Banking Crises

The cost of a banking crisis can be measured by the shortfall in banks' capital – that is, the difference between their assets and the sum of their liabilities and the regulatory minimum level of capital. In transition countries, depositors had initially bore some of the cost of banking crises arising from inherited bad debt through the hyper or very high inflation at the onset of transition. The remainder of the inherited costs, as well as new costs incurred post-transition, were distributed between the government, bank shareholders, and depositors.

In the *CEEs*, governments assumed part of the costs by recapitalizing banks with government bonds. For instance, in *Hungary*, the recapitalization bonds ranged from 13 to 100 percent of the book value of non-performing loans. In *Poland*, this figure ranged from 74 to 90 percent, and in *Macedonia*, it was 38 percent[15]. To the extent that the recapitalization bonds did not fully recapitalize the banks, the remainder of the costs was assumed by bank shareholders.

[14] See also Appendix Table 4 for the technical aspects of government bonds for bank restructuring and deposit compensation.

[15] See Appendix Table 5 for derivation of the numbers for Hungary and Poland. In Macedonia in 1994, bad loans, with total nominal value of 13 bln denars, were transferred from the Stopanska Bank (65% of total banking assets in 1994) to the state-owned BRA (ratio=0.38).

Table 7. Methods of Financial Restructuring and Government Assistance to the Banking Sector

Method	Country and date
1. Capital injection	
A. Bond trasfer	
A.1 Exchange for bad loans	Bulgaria (1991-94, 1995, 1996-97); Czech Republic (1991-92); Hungary (1992-93); Macedonia (1994); Estonia (1992); Lithuania (1996); Kyrgyz Republic (1996-97)
A.2 Unrequited	Czech Republic (1991-92); Hungary (1993-94); Poland (1991, 1993-94); Latvia (1994); Estonia (1993); Kazakhstan (1996-97)
B. Cash transfer	Czech Republic (1991-92, 1993-96); Lithuania (1996)
C. Transfer of property assets	Lithuania (1996)
2. Reduction of bank liabilities	
A. Write-off of bank liabilities to the government (in exchange for bank assets)	Georgia (1998)
B. Assumption of bank liabilities	Estonia (1995)
3. Repurchase agreement	Czech Republic (1993, 1996-97)
4. Provision of guarantees on outstanding Loans	Czech Republic (1991, 1993, 1996) Hungary (1991) Lithuania (1997)
5. Short/medium term loan	
Placement of deposits	Lithuania (1995)
6. Actions on enterprises to allow servicing/repayment of bank debt	
A. Assumption of enterprise debt	Georgia (1998) (directed credits extended under government instruction). Kazakhstan (1994-95) (directed credits extended under government instruction and payments of government guarantees) /1.
B. Equity conversion of government claims on enterprises.	Hungary (1992)
C. Rescheduling or writing-off of government claims on enterprises.	Hungary (1992)
7. No action	Ukraine

/1 In exchange the government received an equity position in the enterprises.

Table 8. Methods of Central Bank Assistance to the Banking Sector.

Method	Country and date
Liquidity support	Bulgaria (1991-1994, 1995,1996-97); Czech Republic (1996); Macedonia (1995); Poland (1993); Estonia (1992-1994); Latvia (1995); Lithuania (1995); Kazakhstan (1994-95, 1996); Kyrgyz Republic (1994); Ukraine.
Loan to asset management agencies	Czech Republic (early 1990s, 1997); Macedonia (1994)
Capitalization of asset managment agency, through bond issue	Macedonia (1996)
Transfer of assets (in exchange for bad loans).	Estonia (1997)
Long term loan to banks	Poland (1993)
Rescheduling of loans to banks	Kazakhstan (1997); Kyrgyz Republic (1994)
Writing off of central bank shares in banks to cover their losses	Estonia (1995)

In the *CIS* and *Baltic States*, the governments generally adopted a lower cost approach, relying on recapitalization by private shareholders. To the extent that this was not possible, the banks were liquidated with minimal compensation for depositors. This was the case in *Georgia*, *Kazakhstan*, *Estonia*, *Latvia*, and to a smaller extent in *Ukraine*[16]. With the exception of *Lithuania*, recapitalization with state funds in the *CIS* and *Baltic* countries generally occurred only for the inherited portion of bad loans, and even then not for the entire amount.

In most of the countries covered, there is no information on the shortfall in banks' capital, that is, the entire cost of the banking crisis. The only portion of the cost that is observable is that borne by the government – that is, the fiscal cost – which will be reviewed in the rest of this section (4.1 to 4.3). The fiscal cost includes the cost to the government of recapitalizing banks (including with recapitalization bonds, as discussed above) and compensating depositors. It also includes, in some cases, the quasi-fiscal costs incurred by the central bank. These fiscal costs are reduced when governments recover bad loans (section 5).

4.1 Cost of Bank Restructuring for the Government

The cost of bank restructuring for the government includes the bonds issued for bank recapitalization (both unrequited and in return for non-performing loans); cash and property transfers; called government guarantees; bank's or enterprise's liabilities assumed by the government; and transfers to the central bank connected with banking sector restructuring (Table 9). There are also additional costs, not quantifiable, which arise from revenues losses due to lower bank profits. Cumulatively over the period 1991-98, the costs of government assistance to the banking sector ranged from 5 to 27 percent of GDP in the *CEEs*, 0.1 to 18 percent in the *CIS*, and 1 to 3 percent in the *Baltics*.

[16] In Ukraine the consolidation of the banking sector has begun only recently under the banking sector reform program that began in 1996. Some small, marginal banks were liquidated. For details see Report of the President for Proposed Financial Sector Adjustment Loan for Ukraine, February 24, 1998.

Table 9: Cost of Bank Restructuring for the Government (1991-98)
(percent of GDP)

	1991	1992	1993	1994	1995	1996	1997	1998	Total[1/]
Bulgaria									
Bond issued	0.0	2.1	10.9	23.1	0.3	0.0	0.5	0.0	**26.5**
Interest payments on bonds	0.0	1.3	1.3	2.9	2.9	10.7	0.8	0.4	
Total									**26.5**
Czech Republic [2/]									
Bond issued	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**3.4**
Cash transfers	0.0	0.0	0.9	0.7	0.3	0.0	N/A	N/A	**1.5**
Purchase of bad loans	10.9	1.8	2.7	0.3	0.0	0.1	0.7	1.0	**15.7**
Total									**20.6**
Hungary									
Bond issued	0.0	2.7	3.6	2.1	0.1	0.1	0.0	1.6	**12.4**
Interest payments on bonds	0.0	0.0	0.0	1.2	1.7	1.5	1.0	0.5	
Guarantees called less recovered	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	**0.5**
Total									**12.9**
Macedonia									
Bond issued	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	**5.1**
Interest payments on bonds	0.0	0.0	0.0	0.0	0.4	0.4	0.2	N/A	
Total									**5.1**
Poland									
Bonds issued	7.1	0.0	1.3	0.8	0.0	0.0	0.0	0.0	**8.2**
o/w placed in Central Bank	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.3**
Interest payments on bonds	0.3	0.4	0.5	0.7	0.6	0.4	0.3	0.2	
o/w to Central Bank	0.1	0.1	0.1	0.1	0.1	0.04	0.03	0.02	
Total									**8.2**
Estonia									
Bonds issued	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	**1.0**
Interest payments on bonds	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	
Purchase of bad loans	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	**0.0**
Recapitalization of Central Bank[3/]	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	**0.3**
Total									**1.4**
Latvia									
Bonds issued	0.0	0.0	1.6	1.9	0.0	0.0	0.0	0.0	**2.5**
Interest payments on bonds	0.0	0.0	0.3	0.4	0.04	0.03	0.03	0.03	
Total									**2.5**
Lithuania									
Bonds issued	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.5	**1.6**
Interest payments on bonds	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
Cash	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	**0.0**
Property transfer	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	**0.0**
Called guarantee on interbank loan	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	**0.1**
Total									**1.7**

Table 9 (cont.). Cost of Bank Restructuring for the Government (1991-98)
(percent of GDP)

	1991	1992	1993	1994	1995	1996	1997	1998	Total[1/]
Georgia									
Bank liabilities to government written-off	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	**0.1**
Assumption of enterprise debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	**0.0**
Total									**0.1**
Kazakhstan									
Assumption of enterprise debt	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	**17.6**
Recapitalization of banks	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	**0.8**
Total									**18.4**
Kyrgyz Republic									
Bonds issued	0.0	0.0	0.0	0.0	0.1	4.3	0.7	0.0	**4.4**
o/w placed in Central Bank	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	**3.3**
Interest payments	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	
o/w to Central Bank	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	
Total									**4.4**
Ukraine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**

1/ Total Cost is the net present value (NPV) at end-1998 of the annual costs during 1991-98. The NPV is calculated using the relevant interest rate for each cost item.
2/ Assistance to the banking sector provided by the National Property Fund and various asset management companies, financed by the government, the Central Bank and the National Property Fund.
3/ Portion related to central bank losses on loans to troubled banks.

To understand how these costs were generated, it is useful to draw some distinctions between the different country groups, as follows.

a. *Bulgaria, Czech Republic, Hungary* and *Poland*

In the *CEEs* (with the exception of *Macedonia*), banks were restructured to deal with inherited bad loans, done commonly through recapitalization of troubled banks with government bonds often in exchange for bad loans. In general, the cost of this assistance was extremely high[17], for two reasons. First, the amount of non-performing loans inherited from the Socialist system was large. For example, in *Bulgaria* it was nearly 54 percent of total loans and in the *Czech Republic* approximately 50-66 percent. Second, the costs were high because the restructuring operations undertaken by the government in most of these countries suffered from several weaknesses which raised fiscal costs, as discussed below.

The financial restructuring programs did not provide adequate recapitalization from the start. Undercapitalized banks face distorted incentives in granting new credit, which created moral hazard resulting in excessive risk taking (Begg and Portes, 1993). This led to recurrent banking crises and successive rounds of recapitalization, raising fiscal costs even further. For example, in *Hungary*, the first plan (the Loan Consolidation Program, LCP) introduced by the government in 1992-93 to deal with outstanding non-performing loans was too small, given the size of the problem. This necessitated a second round of recapitalization in 1993-94 (the Bank-led Restructuring and Loan Consolidation

[17] For *Poland* a large portion of the fiscal cost is due to the fact that the government in 1991 decided to capitalize banks that suffered from foreign exchange losses after the 1989 devaluation. The Treasury issued nearly $ 5.5 bln in dollar denominated bonds (corresponding to 7.3 percent of GDP) for this purpose.

Program). Equally, in *Bulgaria*, the 1991-1994 operation to clean up banks' portfolios from bad credits did not provide adequate capitalization[18]. Further recapitalization was necessary after the eruption of the banking crisis in 1996-97.

Financial restructuring was not coupled with operational and institutional restructuring. This led to renewed banking crisis, requiring further recapitalization and raising fiscal costs. *Hungary* is a well-known case in point. Not only did the 1992-93 LCP not provide adequate capitalization (see above point), it was also not accompanied by operational restructuring of banks, and the bad loan problem deteriorated after a temporary improvement[19], necessitating another round of recapitalization. This was also the case in *Bulgaria*, where the recapitalization of banks in the first part of the 1990s was not accompanied by operational restructuring, with the result that banks continued to roll over outstanding credits to state-owned enterprises while capitalizing interests, leading to the eruption of the large-scale banking crisis in 1996 and 1997. The *Czech Republic* is another example illustrating how financial assistance not contingent on comprehensive restructuring could be very costly.

Bank restructuring was not coupled with enterprise restructuring. In most *CEEs*, adequate enterprise restructuring was missing. As a consequence, banks continued to lend to bankrupt enterprises, which further worsened their financial positions. As discussed above, in *Bulgaria* this problem resulted in a more severe banking crisis. Equally, in the *Czech Republic*, bank recapitalization was not accompanied by a full restructuring of enterprises. *Poland* was an exception for undertaking a parallel bank and enterprise restructuring program, the Enterprise and Bank Restructuring Program (for details see section 5). While the enterprise restructuring part of the program had mixed results (Gray and Holle, 1996b), the outcome for the banking sector was more successful.

Repetitive bailouts induced moral hazard behavior. In some *CEE* countries (*Bulgaria*, the *Czech Republic* and *Hungary*), repetitive bank bailouts because of the reasons just discussed further encouraged moral hazard in lending decisions and induced excessive risk taking. In addition, in *Hungary* the government established from the beginning its reputation as a soft bargainer, by first moving the date for loans eligible for bailouts from 1987 to 1992 and by renegotiating the terms of the securities it issued for bank recapitalization.

No clear lines between old and new loans were established. The purpose of the government recapitalization operations undertaken in the early years of the transition was to clean banks' balance sheets of inherited bad debt. However, in some cases the authorities also provided support to non-performing loans extended after the collapse of the socialist system. In *Hungary*, for example, the government included in the bond/debt swap operation bad loans created during 1992, after the establishment of a market-based banking system.

[18] The government recapitalized banks by placing dollar and local currency denominated bonds in their balance sheet. However, the interest yields on local currency bonds were below market and below banks' cost of funds. Besides, these bonds had a minimum selling price and, so were largely illiquid. As result, the holders of large amount of these bonds suffered from liquidity problems and required further government intervention.

[19] There was a temporary improvement in banks' portfolio as bad loans were taken off the books of the banks. The value of bad loans fell from 187bn. forint to 85bn. forint (both figures for the last quarter of 1992), but rose again immediately after the program to reach 186bn. forint in the fourth quarter of 1993 (see Bonin and Schaffer, 1995). Bonin and Schaffer attributed this rise in bad loans to the ex-post recognition of bad loans by banks to reduce their tax burden, rather than the result of new bad lending by banks. Regardless of the reason, the bad loan problem worsened.

b. *Macedonia*

The *Macedonia* banking sector was highly concentrated. As a result, the government decided to provide assistance to those banks that were considered "too large to fail". The largest bank (Stopanska Banka) which accounted for 65 percent of banking sector assets was recapitalized.

c. *Baltic Countries*

In the *Baltics*, the authorities differentiated their approach according to the source of problems and the size of the troubled banks. Some banks were liquidated, while others were recapitalized. *Estonia* liquidated banks which got into trouble because of management problems, while those which suffered external shocks were merged and recapitalized. *Lithuania* liquidated private banks and restructured and recapitalized state banks. *Latvia* widely liquidated problem banks.

The fiscal cost of banking restructuring for the government was not very large in *Estonia* (around 1.4 percent of GDP for the period 1991-98) because the government decided to bail out only two banks that faced solvency problems after they lost access to part of their assets, held in Moscow[20]. The other banks were liquidated. The cost incurred by the government in connection with banking sector problems includes a transfer to the central bank, extended in 1996, that enabled the monetary institution to cover the loss suffered in 1994, partly as a result of banking sector crises (section 4.2).

In *Latvia*, treasury bills were issued in 1993 and 1994 in conjunction with the restructuring of two state-owned banks. Nevertheless, when a full fledged crisis erupted in 1995 after the publication of the banks' audited reports for 1994, the government did not intervene to recapitalize troubled banks and several banks, including the largest private banks, were liquidated. As a result, the fiscal costs of bank restructuring for the Latvian government were also not very high (around 2.5 percent of GDP for the period 1991-98).

In *Lithuania*, the banking sector was highly concentrated, leading the government to intervene in support of the banks that were considered "too big to fail", while smaller private ones were closed. Capital injection by the government was directed mainly to three state banks that together accounted for nearly 50 percent of deposits and 50 percent of banking sector assets. Altogether, the costs to the Lithuanian government for bank restructuring was around 1.7 percent of GDP. The *Lithuanian* case illustrates the point that financial restructuring without operational restructuring is a waste of resources, as one of the recapitalized banks (Innovation Bank) required substantial continuous aid from the state budget and still had to be liquidated at the end.

d. *Georgia*, *Kazakhstan* the *Kyrgyz Republic* and *Ukraine*

In the *CIS* countries, government intervention was largely motivated by the decision to compensate banks for the directed credits extended under government instruction and for the unrepaid loans carrying government guarantees.

During the early years of the transition, the *CIS* governments intervened quite extensively in the credit markets. Specifically, in *Georgia*, *Kazakhstan*, the *Kyrgyz Republic* and *Ukraine* large amounts of credit were extended directly, under government instruction or under government guarantees (IMF, 1996). The quality of these loans was generally very poor. Because of this and other reasons (discussed in section 2.3), non-performing loans became a serious problem. In response, the governments of

[20] The two banks (Northern Estonian Bank and Union Baltic Bank) were merged. The newly created bank was recapitalized and finally privatized in 1997.

Georgia, *Kazakhstan*, the *Kyrgyz Republic* provided financial assistance to compensate for non-performing loans that were granted under government pressure or guarantee. In *Ukraine*, however, the government did not offer any financial compensation. In all the *CIS* countries, there was large-scale liquidation of private banks, and in some instances even of state-owned banks.

In *Kazakhstan*, government support was mostly related to compensation for directed or publicly guaranteed credits. During 1994-95 a large share of the banks' bad debt (largely constituted by loans extended under government instruction or carrying government guarantees) was transferred to three newly created asset management institutions. However, this operation did not involve significant injection of capital, nor operational nor institutional restructuring of the banks. In 1996-1998 the four largest banks incurred further financial difficulties. In response, the fiscal authorities decided to bailout and merge recapitalize two of them. The cost of recapitalization was small (around 0.8 percent of GDP). The *Kazakhstan* case illustrates how bank restructuring without adequate capitalization and not accompanied by operational and institutional restructuring cannot resolve banking sector problems and may require successive government interventions.

In *Georgia*, government assistance was mainly limited to the repayment of directed credits, which was very small (around 0.1 percent of GDP). Resolution of problems in the state banks basically entailed downsizing and mergers, while private banks were liquidated. In the *Kyrgyz Republic*, the treasury issued interest bearing bonds during 1995-97 and placed them in troubled banks, in exchange for non-performing loans. The costs to the Kyrgyz government for bank restructuring were around 4.4 percent of GDP. There was liquidation of both private and state banks. The state banks that were not liquidated were substantially downsized and restructured through private rather than government recapitalization. There was also no major operational restructuring of these banks either.

Differently from the other three *CIS* countries, in *Ukraine* the fiscal authorities did not compensate the banking sector for loans extended under government pressure. In addition, often they did not honor explicit or implicit state guarantees on bank credits. At least until 1998, no formal government financed recapitalization has occurred. Even the simple repayment of guaranteed bad debt would have constituted a significant financial rescue of the banking sector.

4.2 Cost of Bank Restructuring for the Central Bank

As a principle, the costs of banking crises should be borne by the government and not by the central bank (Daniel, 1997). Central banks should only be engaged in liquidity support. However, it is difficult for the authorities to ascertain at the time of a crisis whether it is a solvency or a liquidity crisis. As a result, sometimes the central bank intervenes on the belief that it is facing a liquidity crisis, when the crisis is actually generated by widespread insolvency.

In some cases the central bank assumes a leading role in the bank restructuring process, in addition to its core monetary policy functions. This causes several difficulties. Specifically, direct ownership in banks and medium-term lending by the central bank generates conflicts of interest, in particular when the central bank has a supervisory role. Moreover, active central bank intervention in the banking sector can impose substantial costs on the monetary institution that, ultimately, will be borne by the government budget[21].

In most of the countries under consideration, the central bank granted only liquidity support, while in some countries, it intervened extensively, providing both short and long term loans and refinancing

[21] See Dziobek and Pazarbasioglu (1997) for an analysis of the different types of central bank instruments to support the banking sector and their costs and incentives.

troubled banks' assets. The costs of central bank interventions in these countries mainly consist of provisions and losses on credit extended to distressed banks (Table 10). Overall, for the twelve countries, the direct costs of banking problems arising from government assistance far outweighs the costs arising from central bank assistance.

With regards to the actions taken by the central bank and to the cost suffered by the monetary institution, some distinctions among the different groups of countries can be drawn.[22] (a) In *Bulgaria*, the *Czech Republic*, *Estonia* and the *Kyrgyz Republic*, the monetary authorities intervened extensively in the banking sector and the cost to the central bank was sizable, ranging from 1 percent of GDP to 12 percent of GDP. (b) In *Hungary*, *Poland*, *Macedonia*, *Latvia*, *Lithuania* and *Georgia*, central bank intervention was limited and related costs were low (less than 1 percent of GDP).

a. Problems arising from extensive central bank involvement in bank restructuring

The experience of *Bulgaria*, the *Czech Republic*, *Estonia* and the *Kyrgyz Republic* shows how central bank involvement in banking sector restructuring can lead to a number of problems.

First, losses incurred by the central bank are ultimately borne by the government budget. In the *Czech Republic* the government, through several agencies[23], bore most of the cost of bank restructuring. The central bank bore the cost of the "Consolidation Program II", launched at the end of 1995, that focused on small and medium sized banks, newly created in the early years of the transition. However, the government had to issue a guarantee (for an amount equivalent to 1.2 percent of the 1998 GDP) to the Czech Republic National Bank to cover losses from this program. As the central bank intends to take advantage of the guarantee[24], part of the cost of central bank assistance to the banking sector will eventually fall on the government budget. In addition, in the early 1990s, the central bank of the *Czech Republic* extended a credit to the asset management company *Konsolidacni Banka*.[25] As *Konsolidacni Banka*'s obligations are guaranteed by the state, the government budget will ultimately bear the residual cost.

In *Estonia* the central bank intervened extensively to support the banking sector during the 1992 and the 1994 crises despite the presence of a currency board. Partly as a result of this assistance, the monetary authority suffered losses in 1994. To cover the loss, in 1996 the government recapitalized the central bank to the amount of 0.3 percent of GDP (Table 9).[26]

In the *Kyrgyz Republic* the central bank extended sizable loans to the bank specialized in directed credit to the agricultural sector (Agromprombank) in the early 1990s. When this insolvent bank was eventually liquidated, the outstanding loans of the National Bank (equivalent to nearly 4.3 percent of the 1996 GDP) represented a loss. Consequently, in 1996 the government replaced this amount in the central bank balance sheet by a long term, interest bearing, bond.

---

[22] Information on Georgia, Kazakhstan and Ukraine on methods and cost of central bank intervention is extremely scanty, and therefore not discussed here.

[23] The privatization agency (National Property Fund) and two asset management companies (*Konsolidacni Banka* and *Ceska Insaksni*).

[24] See Czech Republic National Bank, Annual Report, 1998, p. 4.

[25] At the end of 1998 the outstanding credit amounted to nearly 2.4 percent of GDP. A small part of this loan (0.7 percent) has been provisioned.

[26] The central bank dealt with the 1992 crisis differently from the 1994 crises. In 1992 the monetary authority acted quickly to close the troubled banks and rescued only those credit institutions whose problems were generated by exogenous events (two banks, facing solvency problems after losing access to part of their assets in Moscow, were merged and recapitalized with the support from the government and the central bank). By contrast, in 1994 the central bank tried to rescue a large insolvent bank and bail out creditors.

A further drawback of direct central bank involvement in bank restructuring is the loss of transparency. This is particularly evident in the case of the *Czech Republic*, where the financing mechanisms among the government budget, the asset management companies, the privatization agency and the central bank are quite complex and opaque[27]. In these circumstances, it is very difficult to identify the potential fiscal risks and the actual costs of banking sector problems.

Central bank support to the banking sector can also generate significant inflationary pressures. For instance, in *Bulgaria*, during the period 1995-97, and especially during the 1996 crisis, the central bank largely refinanced distressed banks' assets and extended massive loans to banks (and to the government). This produced hyperinflation in early 1997, which was associated with a decline in GDP. Only after the introduction of the currency board did the Bulgarian National Bank stop such practices.

Table 10. Cost of Bank Restructuring to the Central Bank (1991-1998)

Percent of GDP

	1991	1992	1993	1994	1995	1996	1997	1998	Total [1/]
Bulgaria									
Provisions for losses on credit extended to banks	NA	NA	NA	NA	2.8	6.6	2.3	0.004	
Recoveries (-)	NA	NA	NA	NA	NA	NA	0.05	0.1	
Total									**11.8**
Czech Republic									
Cost of Consolidation Program (provisions and losses)	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.9	
Provision on credit to asset management agency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	
Total									**4.8**
Hungary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Macedonia									
Bonds issued for capitalization of asset management company	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	**0.7**
Interest payments	NA	NA	NA	NA	NA	NA	NA	NA	
Total									**0.7**
Poland									
Total cost of central bank intervention	NA	NA	NA	NA	NA	NA	NA	NA	**0.5** [2/]

[27] On this aspect, see *Czech Republic: Towards EU Accession*, 1999, the World Bank, Chapters 3 and 7.

Table 10 (Cont.) Cost of Bank Restructuring for the Central Bank (1991-1998)

Percent of GDP

	1991	1992	1993	1994	1995	1996	1997	1998	Total [1/]
Estonia									
Loss on assets purchased from troubled banks	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	**0.2**
Provisions on loans unrequited by the liquidated banks	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	**0.4**
Writing off of CB shares in banks to cover their losses	0.0	0.0	0.0	0.0	0.02	0.04	0.0	0.0	**0.05**
Transfer of assets	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	**0.2**
Recoveries (-)	0.0	0.0	0.0	0.0	0.0	0.002	0.005	0.02	**0.03**
Total									**0.8**
Latvia									
Provisions for losses on credit extended to banks	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	**0.1**
Lithuania									
Losses on credit extended to banks	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	**0.2**
Georgia	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
Kazakhstan	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
Kyrgyz Republic									
Losses on credit extended to banks	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	**8.9**
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	**NA**

1/ Total Cost is the net present value (NPV) at end-1998 of the annual costs during 1991-98. The NPV is calculated using the relevant interest rate for each cost item.

2/ Kawalec (1999), p.29

Central bank involvement can also give rise to conflict of interest and moral hazard. For example, in the *Czech Republic* the "Consolidation Program II" has been carried out through a subsidiary of the central bank (*Ceska Financni*). This agency not only buys non-performing assets at a negotiated price, but also engages in direct equity investments in troubled banks. As a result, the central bank is now in the position of supervising banks in which it has a direct economic interest.

Last, continuous assistance to insolvent banks provides perverse incentives and fails to address the underlying problems. The experience of *Bulgaria* clearly shows how repetitive liquidity injections and refinancing credits do not solve undercapitalized and insolvent banks' problems. In 1994-1995 two state owned banks (Mineral Bank and Economic Bank), accounting for nearly 20 percent of banking system assets, displayed sustained liquidity problems. The central bank provided almost daily cash infusion to meet depositors' demands and assure settlements in the interbank system. However, it did not address the underlying reasons for the problems which were: loans extended without sufficient attention to

borrowers' credit-worthiness; inadequate loan-loss provisioning; and inadequate capitalization. At the end of 1994 these two banks accounted for nearly 90 percent of central bank refinancing. Nevertheless, only in 1995 was action taken to improve their level of capitalization and only in 1996 were they placed under conservatorship.

b. Experience with more minor central bank intervention

In *Hungary* and *Georgia*, the central bank did not have any significant role in bank restructuring. In *Latvia* the central bank bore minor losses on credits extended to banks whose licenses were revoked. In *Lithuania* the central bank response to the 1995 crisis was limited by the currency board arrangement. The monetary authority used its excess foreign exchange reserves to provide liquidity loans to the distressed banks (part of which were not recovered). However, the central bank refrained from extending financial assistance to recapitalize failing banks. In *Macedonia* the central bank bore the cost of the capitalization of the bank rehabilitation agency.

In *Poland*, while the government bore the cost of recapitalizing state-owned enterprises, the central bank bore the cost of the rehabilitation or liquidation of several small private banks. In some cases the distressed institutions were taken over by the central bank and sold after restructuring. In others, the troubled banks were taken over by other banks with central bank support (for example, long-term soft financing from the monetary authority). Nevertheless, the total cost of central bank intervention was not very high.[28]

4.3 Cost of Depositor Compensation for the Government

The third component of the fiscal costs of banking crises is the direct cost incurred by the government to compensate depositors. While adding this component provides a full picture of the fiscal costs involved, it should be borne in mind that this component alone does not represent the full protection to depositors in these countries. In fact, virtually all the fiscal costs assumed by the authorities for bank restructuring are for protecting depositors.

Governments compensate depositors to avert a loss in confidence in the banking system (if the scale of the problem is large), or for social protection reasons. Many countries have deposit insurance schemes which lay out the framework for compensating depositors in the case of a crisis.

Deposit Insurance Schemes. The experience of the sample countries was that the *CEEs* and the *Baltics* introduced deposit insurance schemes (DIS) after the emergence of banking problems or banking crises, while among the *CIS* countries *Ukraine* was the only one that introduced a DIS after the banking crisis. No DIS has yet been introduced in *Georgia*, *Kazakhstan* or the *Kyrgyz Republic* (Table 11).

The introduction of an explicit deposit insurance scheme after a banking crisis is a common occurrence around the world[29], with the objective of restoring depositor confidence. In transition economies, however, the objective was primarily to limit governments' liabilities, which were extensive under the previous centrally-planned regimes when all deposits were implicitly guaranteed by the state.

Macedonia introduced a DIS to limit the commitments of the authorities following the freezing of household foreign currency deposits (amounted to over 20 percent of GDP) when the counterpart assets were lost following the breakup of former Yugoslavia. *Bulgaria*, on the other hand, introduced an ad-hoc

[28] According to some estimates (Kawalek, 1999), the total cost could have been about 0.5 percent of GDP.

[29] Cull (1998) found that the probability of adopting explicit deposit insurance increases by 25 to 30 percent for countries that experienced systemic banking crises within the preceding five years.

DIS in 1996 in the middle of a banking crisis in an effort to stem a collapse in public confidence in the banking system (a formal DIS was introduced later in 1999). However, the ad-hoc DIS did not restore public confidence, and the financial situation in the country did not stabilize until early 1997 when the currency board was introduced. This illustrates the point made by some authors that deposit insurance schemes should only be introduced after the banking system has been recapitalized and restructured, but not while it is still weak[30].

Depositor Compensation. For most of the countries under consideration, depositors were compensated – although not fully in all cases – when banks were liquidated. This meant that most depositors bore some of the costs of banking crises. This addresses the moral hazard problem, which arises if depositors are automatically bailed out by the government, because neither the bank nor the depositors would have the incentive to exercise caution in lending (in the case of the former) or in deciding in where to place their deposits (in the case of the latter) in the future. However, in many of the countries under consideration, the underlying rationale for sharing losses with depositors probably had less to do with moral hazard and more to do with fiscal constraints, especially in the *CIS* countries. Table 12 provides a summary of the deposit compensation experiences in these countries, and Table 13 the fiscal costs of compensating depositors.

In the *CEEs*, compensation for depositors follows the framework of the DIS in these countries, which in all cases provide for only partial coverage. The DIS coverage as a ratio of GDP per capita is usually not too high (ranging from a little less than 1 in the case of *Hungary* to 2.7 in the case of *Macedonia*), which is positive from the viewpoint of minimizing moral hazard, and compensation is usually partial[31].

For the *Baltics*, depositor compensation in many instances occurred prior to the introduction of DIS. Even without the presence of a DIS to limit the extent of compensation, depositor compensation in those instances was still only partial. In *Latvia*, for instance, the government had promised partial compensation to be spread over a few years, but it appears that after the first year, the government stopped fulfilling its promise. *Lithuania* adopted a mix of different approaches to depositor compensation, including conversion of deposits to equity and the issuance of non-interest paying government bonds, all of which imply less than full compensation for the depositors.

The *CIS countries* engaged in minimal depositor compensation. The governments in *Georgia* and *Kazakhsatan* were not involved in depositor compensation at all. In fact, depositors in these two countries were compensated partially from the assets of the private banks which were liquidated. The *Kyrgyz Republic* was an exception among the group of *CIS* countries under consideration in that the government budget was used to compensate depositors, although compensation was only partial, with priority given to compensation for small depositors.

[30] Garcia (1999). Cull (1998) also found that adopting explicit insurance to counteract instability in the financial sector does not appear to solve the problem, as the typical reaction to this type of decision has been negative, at least with regard to financial depth in the three years' after the program's inception.

[31] The IMF recommends a ratio of between 1 and 2 for DIS coverage/GDP per capita, see Garcia (1999). Garcia also has an extensive discussion on the issue of the level of DIS coverage in relation to moral hazard.

Table 11: Deposit Insurance Schemes (DIS)

	DIS	**Crisis Date**	**Date DIS became effective**	**1998 Coverage (in LCU)**	**Source of Funding for the DIS**	**1998 Maximum Coverage, in LCU***	**DIS coverage as a ratio of GDP per capita (1998)**
Bulgaria	yes	91 -'94 '95 '96-'97	1999	Deposits up to BLG 2 mln (95% coverage); between BLG 2 mln and 5 mln (80%)	Initiation fees paid by banks; annual premiums contributed by banks levied on deposit holdings and other sources from banks; DIF may borrow	4,300,000	1.61
Czech Republic	yes	91-'93 '96 -'97	1994	Deposits up to CZK 400,000 (90% coverage)	Bank premiums, equal to 0.5% of insured deposits	360,000	2.09
Estonia	yes	92; '94	1998	Deposits up to EEK 20,000 (90% coverage)	Bank premiums, equal to 0.5% of total deposits; the fund is authorized to borrow from commercial banks, the latter borrowings may be covered by government guarantee up to EEK 700 cumulative ceiling	18,000	0.35
Hungary	yes	'95-'96	1993	Deposits up to HUF 1 million	One-off fee at time of joining (0.4 percent of bank's capital), regular premium payments and if necessary extraordinary annual contributions paid by members; no budgetary source.	1,000,000	0.99
Georgian Republic	no						n/a
Kazakhstan	no						n/a
Kyrgyz Republic	no						n/a
Latvia	yes	93 - '94; '95	1998	Deposits up to LVL 500; insurance ceiling will rise to LVL 13,000 by 2008	500		0.35
Lithuania	yes	95 - '96	1997	DIS coverage was to be increased over time: from Lt 25,000 in 1998 to Lt 65,000 in 2000; in 2000 the first Lt 25,000 (100% coverage), next Lt 20,000 (90%), and the top Lt 20,000 (70%). Higher co-insurance for foreign exchange deposits.	Government and premiums on deposit base paid by banks equal to 1.5% (in 1997) of deposit holdings	25,000	2.20
Macedonia	yes	94 - '96	1997	Coverage of 75% of household denar and foreign currency deposits up to DM10,000	Founding capital paid by banks and annual premiums contributed by banks (2.5%-5%)	232,875	2.65
Poland	yes	92 - '94	1995	Full coverage for amounts not exceeding Ecu 1,000; 90% for the next Ecu 4,000; plans to increase coverage to EU limits (Ecu 8,000 in 1999; Ecu 11,000 in 2000; Ecu 15,000 in 2001; Ecu 17,500 in 2002; Ecu 20,000 thereafter)	The fund is jointly owned by the NBP, the Treasury, and the commercial banks. Bank premiums are 0.4% of deposit holdings.	18,874	1.40
Ukraine	yes	95; '96 - '98	1998	Coverage per depositor can not exceed HRN 500	500		0.24

Table 12: Depositor Compensation

Bulgaria	**1996**: ad hoc deposit insurance scheme was established during the crisis; household deposits and half of enterprise deposits were fully guaranteed; government securities were issued to cover cost of deposit protection.
Czech Republic	The CNB was obliged to compensate clients in Ceska Banka (closed in December 1995 and now being liquidated) to the amount of CZK 4 million.
Hungary	**1995**: Agrobank suffered a bank run; deposits were fully covered by the deposit insurance fund (not financed by the budget). **1997**: Realbank was put under liquidation; depositors were paid fully by deposit insurance fund (not financed by the budget).
Macedonia	**1995:** The government assumed the obligation for the repayment of households foreign currency deposits that were lost after the dissolution of the former Socialist Republic of Yugoslavia. **March 1997**: large savings house TAT collapsed; over 20,000 clients lost their deposits; every affected household was to receive monthly compensation of 13500 denars for six months (ratio of coverage to GDP per capita around 1) after the enactment of the law on deposit insurance.
Poland	**1995 to 1997**: losses to depositors were paid out of Deposit Insurance Fund which is jointly owned by the NBP, the Treasury and the commercial banks.
Estonia	**1992**: Tartu Commercial Bank was liquidated; depositors were partially paid. **1994**: Social Bank was liquidated; deposits were transferred to the North Estonian Bank (explicit Central Bank guarantee on deposits).
Latvia	**1995**: Baltija Bank collapsed; the government promised to compensate depositors for LVL 500 ($1000) per depositor (LVL 200 in 1995 and LVL 100 over next 3 years) but apparently extended compensation only in 1995. Ratio of coverage to GDP per capita was only 0.6 (very low).
Lithuania	**May 1996**: depositors of Litimpex Bank had their deposits converted to equity. **Sept 1996**: depositors of Vakaru and Aura Bank were compensated in cash through the emergency deposit law on retroactive compensation. **1997 and 1998**: depositors of Innovation Bank which had its license revoked (summer 1997) received minimal cash compensation (Lt.4000 in 1997 and Lt.4000 in 1998 per person) and non-interest-bearing government bonds (5 year maturity) payable in 3 annual installments beginning in 1999; legal entities received non-tradable, non-interest bearing notes for entire claims (10 year maturity), payable in 5 annual installments beginning no earlier than 2002; certain public organizations, embassies, charities, etc received cash during 1998; other creditors received their pari-passu share of residual funds left from collection of Innovation Bank's assets; government deposits were written off. **1997**: depositors of Tauro Bank were compensated out of DIS fund. **1998**: State Commercial Bank was liquidated; deposits were transferred to Savings Bank.
Georgia	**1994**: self-liquidation of small private banks; depositors compensated by these banks themselves because these banks had very few customer accounts.
Kazakhstan	Depositors were reimbursed from sale of assets of a liquidated private bank (Kramds Bank). Depositors suffered some losses but losses were not large since most deposits were held in the People's Bank (savings bank).
Kyrgyz Republic	**1995**: small commercial banks were liquidated. NBK compensated small depositors in Adil Bank (up to 1000 Soms). **1996**: Elbank was liquidated in February 1996. Payment of small depositors (up to 3000 soms) was undertaken immediately (they made up 78 percent of deposit base). Payment of deposits from 3000 to 5000 soms started in April 1996; 5000 to 10000 soms in May 1996. The government promised to return deposits above 10000 soms after small claims were paid out. Deposits of lower priority for compensation were changed into bonds. **1997**: Agroprombank was liquidated. Depositors were compensated in cash from state budget.
Ukraine	No information on deposit compensation.

Table 13. Deposit Compensation Cost for the Government

	1991	1992	1993	1994	1995	1996	1997	1998	Total [1/]
Bulgaria									
Bonds issued	0.0	0.0	0.0	0.0	0.0	3.3	1.3	0.04	**3.3**
Interest payments	0.0	0.0	0.0	0.0	0.0	1.4	0.2	0.1	
Total									**3.3**
Macedonia									
Cash	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	**0.2**
Increase in government debt [2/]	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0	**24.3**
Total									**24.5**
Poland									
	From 1995 to 1998 the Deposit Protection Fund paid $ 51.4 Mln to depositors, which corresponds to less than 0.01 percent of GDP per year. The Fund is partly financed by the budget.								
Latvia									
Cash	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	**0.04**
Lithuania									
Cash compensation and write-off of government deposits	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	**0.3**
Bonds issued	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	**0.9**
Interest payments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Deposit compensation from Deposit Insurance Fund paid by the government	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	**0.1**
Total									**1.3**
Kyrgyz Republic									
Cash	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	**0.5**

1/ Total Cost is the net present value (NPV) at end-1998 of the annual costs during 1991-98. The NPV is calculated using the relevant interest rate for each cost item.
2/ The government assumed the obligation for the repayment of households foreign currency deposits that were lost after the dissolution of the former Socialist Republic of Yugoslavia.

4.4 Total fiscal and quasi-fiscal costs of banking crises

Table 14 gives the total fiscal and quasi-fiscal costs of banking crises in the twelve transition countries. These include the costs to the government and the central bank for restructuring banks, and the costs to the government for compensating depositors.[32] The bulk of these costs comes from bank restructuring costs incurred by the government, which are typically several times the size of direct payments to depositors or the costs incurred by the central bank.

The *CEEs* incurred by far the largest costs, which ranged from around 7 percent of GDP for *Poland* to 42 percent of GDP for *Bulgaria* cumulatively over the period 1991-98. The costs incurred by the *CIS*

[32] See Appendix Table 6 on consolidated fiscal costs.

and the *Baltics* were more moderate; in the *CIS* they ranged from a mere 0.1 percent of GDP for *Georgia* to 18 percent for *Kazakhstan*, and in the *Baltics* they ranged from around 2 percent of GDP in *Estonia* to 3 percent in *Lithuania*.

Table 14: Total Costs of Banking Crises, 1991-98 (percent of GDP)

CEEs	
Bulgaria	41.6
Czech Republic	25.4
Hungary	12.9
Macedonia	30.3
Poland	7.4
Baltics	
Estonia	1.9
Latvia	2.7
Lithuania	3.1
CIS	
Georgia	0.1
Kazakhstan	18.4
Kyrgyz Republic	10.6

The **much higher fiscal and quasi-fiscal costs incurred by the CEEs than the Baltics and the CIS** can be explained by three factors. First, the different restructuring strategies followed by the three country groups entailed different fiscal costs. The *CEE* authorities pursued intensive restructuring and recapitalization of banks involving injection of new capital, and incurred large costs as a result. On the other hand, the *Baltic* and *CIS* governments rarely restructured or injected new capital into banks, and incurred lower fiscal costs as a result. Second, there was more loss-sharing with depositors and bank shareholders in the *Baltics* and the *CIS* than in the *CEEs* through two channels. The much higher inflation in the *FSU* countries than the *CEE* countries implies larger cost-sharing by depositors in the *FSU* countries. Also, when the *FSU* countries liquidated banks, the bank shareholders and depositors bore much of the costs. Third, the restructuring operations undertaken by the *CEEs* suffered from several weaknesses (as discussed in section 4.1), which raised fiscal and quasi-fiscal costs.

The higher fiscal costs incurred by the *CEEs* are reflected in the higher levels of fiscal expenditures incurred due to banking crises compared with the general government deficits in those countries (Table 15). These fiscal expenditures did not always appear in the central government budget, and did not necessarily contribute to the government deficit; nonetheless, they represent a cost to the public sector[33].

The fiscal costs raised the government's debt burdens, more so in the *CEEs* than the *CIS*. For the countries under consideration for which data is available, government debt was raised from a low of 5 percent (in the case of the *Kyrgyz Republic*) to a high of 11 percent in the case of *Bulgaria* (Chart 1).[34]

[33] In the Czech Republic, for example, the deficit recorded in the budget does not include the quasi-fiscal activities undertaken by asset management companies involved in the restructuring of the banking sector. If these off-budget operations were taken into account, the fiscal deficit would be much higher (see *Czech Republic: Toward EU Accession*, 1999, the World Bank).

[34] See Appendix Table 7 for data on government debt incurred due to banking crises.

Chart 1: Contribution of Recapitalization and Depositor Compensation Bonds to Total Domestic Central Government Debt (1998)

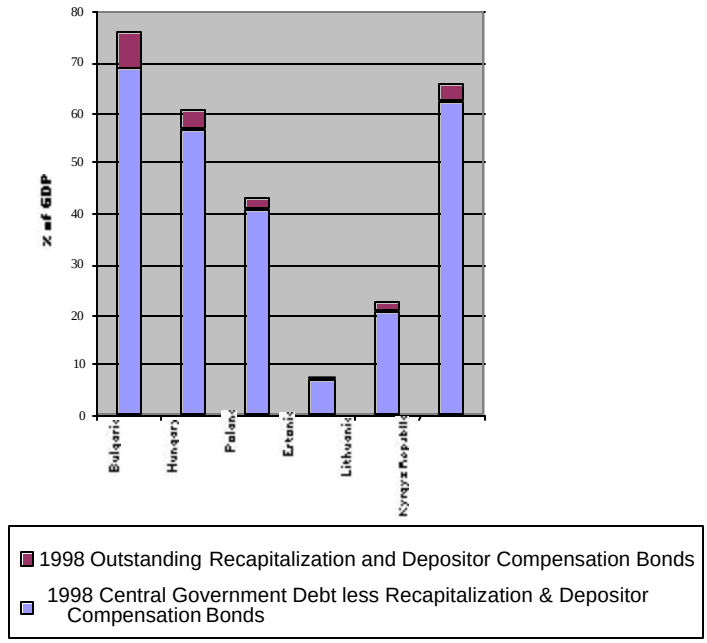

Table 15. Fiscal Expenditures Due to Banking Crisis[1/] and Fiscal Deficit

	1991	1992	1993	1994	1995	1996	1997	1998	Total
Bulgaria									
Fiscal Expenditures, % of GDP	0.0	1.3	1.3	2.9	2.9	12.1	1.0	0.5	**22.0**
General Govt. Deficit (Surplus), % of GDP	4.5	4.9	12.1	4.6	5.2	15.4	(2.1)	(0.9)	
Hungary									
Fiscal Expenditures, % of GDP	0.0	0.1	0.0	1.2	1.9	1.5	1.2	0.5	**6.4**
General Govt. Deficit (Surplus), % of GDP	3.8	7.8	9.2	8.6	6.2	3.1	4.8	4.8	
Macedonia									
Fiscal Expenditures, % of GDP	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.0	**1.2**
General Govt. Deficit (Surplus), % of GDP		8.7	12.1	2.9	0.7	0.3	0.4	1.6	
Poland[2/]									
Fiscal Expenditures, % of GDP	0.3	0.4	0.5	0.7	0.6	0.4	0.3	0.2	**3.4**
General Govt. Deficit (Surplus), % of GDP	3.6	6.1	3.1	3.3	3.3	3.4	2.7	2.4	
Estonia									
Fiscal Expenditures, % of GDP	0.0	0.0	0.2	0.1	0.1	0.5	0.1	0.1	**0.8**
General Govt. Deficit (Surplus), % of GDP	(5.0)	0.2	0.7	(1.4)	1.3	1.9	(2.2)	0.3	
Latvia									
Fiscal Expenditures, % of GDP	0.0	0.0	0.3	0.4	0.1	0.0	0.0	0.0	**0.9**
General Govt. Deficit (Surplus), % of GDP		0.8	(0.6)	4.0	3.5	1.8	(0.3)	0.8	
Lithuania[3/]									
Fiscal Expenditures, % of GDP	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	**0.7**
General Govt. Deficit (Surplus), % of GDP	(2.6)	(0.5)	3.3	5.5	4.5	4.5	1.8	5.8	
Kyrgyz Republic									
Fiscal Expenditures, % of GDP	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.3	**1.1**
General Govt. Deficit (Surplus), % of GDP	(4.6)	17.4	14.4	11.6	17.3	9.5	9.0	8.1	

Notes:

The Czech Republic, Georgia and Kazakhstan have been omitted from this table because of the difficulty in ascertaining precisely which of the government costs listed in Table 9 were actually fiscal expenditures.

1/ Fiscal Expenditures include expenditures of the government resulting from bank recapitalization and deposit compensation, such as interest payment on bonds and other expenditures (see Tables 9 and 13 for details).

2/ Excludes compensation paid to depositors from Deposit Insurance Fund (this is only partly financed by the budget; from 1995 to 1998 DPF paid $51.4 Mln to depositors. This corresponds to less than 0.01 percent of GDP per year, see Table 13).

3/ Includes government deposits which were written off.

5. Bad Debt Recovery

The above estimates for the costs of banking crises do not allow for possible cost recoveries on bad debt, which would mitigate some of these costs for the authorities. The choice of the bad debt recovery strategy by a country could have implications on its success in recovering bad loans and therefore on the fiscal costs it incurs from banking crises.

There are three basic approaches to bad debt recovery: centralized, decentralized, and "good bank/bad bank". Under the centralized approach, non-performing loans are removed from banks and are transferred to an asset management company (AMC) or a bank liquidation agency, which then pursues recovery of the bad loans. The AMC could be state-owned or private, although in most countries it is the state-owned. Under the decentralized approach, non-performing loans remain on the bank's books, and work-out units are usually created within the banks to pursue the recovery of these non-performing loans. By design, banks act as the "agents of change" and pursue enterprise restructuring or liquidation[35]. The "good bank/bad bank" is a variation of the decentralized approach, whereby a "bad bank" which is spun off from the original troubled bank takes over its non-performing assets and pursues their recovery. The remaining "good bank" may be privatized or merged with a healthier bank.

5.1 Implications of the Choice of Debt Recovery Strategy on Fiscal Costs

The centralized and decentralized approaches to bad debt recovery each has direct and indirect costs and benefits. These have implications on the fiscal costs of resolving banking crises.

Under the centralized approach, the direct fiscal costs of a state-owned AMC are its operational costs. There could be indirect costs as well if there is absence of political will to enforce hard budget constraints on enterprises, which could lead to recurrence of non-performing loan problems and further fiscal costs. This is especially the case with state-owned AMCs, as their mere existence creates moral hazard for continuing bad performance of banks, since banks know that they could always transfer future bad loans to the AMCs. Direct fiscal benefits come from the recovered loans that are channeled to the state directly or indirectly.

Under the decentralized approach, the indirect fiscal costs are the forgone revenues which the government would have received from a state-owned AMC. The extent to which such recoveries do not accrue to the government depends on the profit-sharing arrangement between the banks and the government. The arrangement could entail either the entire amount or a share of the recoveries to be channeled back to the budget. The trade-off here is that revenues retained by the banks provide incentives for the banks to collect.

An indirect benefit under either approaches is that the loan work-out activities could help in the *operational restructuring of banks* (Dziobek and Pazarbasioglu, 1997). This could minimize the risk of a recurrence of banking sector distress, and hence the long-term fiscal costs of banking crises. Another indirect benefit under either approaches is the *restructuring or liquidation of enterprises* which is an important element of bad debt collection. This helps improve the corporate governance of enterprises, which could also reduce the possibility of future enterprise and hence banking problems.

5.2 Country Experiences

International experience shows that a centralized approach is chosen over a decentralized one when the following issues are important: (i) quick removal of bad loans from the balance sheet of distressed banks to facilitate bank privatization; (ii) there is a close "symbiotic" relationship between banks and enterprises that needs to be cut and persistent bank lending to loss-making firms that needs to be stopped; and (iii) enabling a centralized agency to pursue enterprise restructuring after gaining control over enterprises[36].

[35] Van Wijnbergen (1998) points out that banks should be the 'agents of change' in the restructuring of enterprises due to the informational advantage they have over publicly owned centralized collection agencies.
[36] Fries and Lane (1994).

Of the twelve countries under consideration, eight adopted the centralized approach, nine the decentralized approach, and six both approaches (either sequentially or simultaneously for different bad loan categories). The "good bank/bad bank" approach was followed by two countries. Table 16 below presents the strategies adopted for bad asset recovery by the countries in this study.

Table 16. Approaches to Bad Asset Recovery

	Centralized	Decentralized
Bulgaria		As a condition of recapitalization through government bonds, banks were required to create **work-out units** to pursue bad debt collections.
Czech Republic	**Konsolidacny Banka** (1991-present): created to restructure inherited debts on books of commercial banks; later also received non-performing loans from commercial banks; **Ceska Inkasni** (1993-present): created to take over debt obligations of foreign trade companies to facilitate privatization of Ceskoslovensko Obhodni Banka, foreign trade bank from pre-transition period; **Ceska Financni** (1996-present): established as subsidiary of central bank to finance the 1996 Stabilization Program which has the objective of preventing liquidity crises in small banks.	Currently considering adopting the so-called London approach to loan recovery which entails **out-of-court settlements between the banks and debtor enterprises.** This approach consists of a set of rules for reaching out-of court settlements between the banks and debtor enterprises[37]. The London rules may enable the reaching of conciliation agreements with government mediation without recourse to enterprise liquidation proceedings on a broad-scale. By following the London rules, KoB management also hopes to avoid excessive enterprise bankruptcies for political and social considerations.
Hungary	The **Credit Consolidation Fund** was created at the Hungarian Industrial Development Bank (**MBFB Rt**) in 1992 to manage bad assets. Only 1/3 of the total assets that were carved out from banks was transferred to the Fund at MBFB Rt, with the rest remaining on commercial banks' books subject to contracts with the Ministry of Finance.	(1) Decentralized work-out units were created at banks as part of the **1992 Loan Consolidation Program**; (2) The 'good **bank/bad bank'** approach was used in the case of Magyar Hitel Banka (MHB); bad assets of MHB were transferred to its newly established subsidiary, Risk Kft (July 1995), which was to be wound up in three years while the good bank was successfully privatized.
Macedonia	**Bank Rehabilitation Agency (BRA)** (1994-present) exchanged bonds for the equity of enterprises held by commercial banks. BRA accumulated dispersed enterprise shareholdings formerly held by banks to obtain control over enterprises and pursue their restructuring.	
Poland		**Enterprise and Bank Restructuring Program**: as a condition for participating in EBRP recapitalization, banks were obliged to create work-out units and actively pursue collection through several instruments.
Estonia		**Work-out units** were created at commercial banks. In addition, the '**good bank/bad approach** ' was pursued when good assets from the Social bank were transferred to the Northern Estonia Bank and the remainder of Social Bank was turned into a loan recovery agency in March 1995 to pursue collections of bad loan until it declared bankruptcy in August 1996.
Latvia	*No information was available to the authors about bad asset recovery activities.*	
Lithuania	**Turto Bankas** (1996-present) was created as an asset management company out of the shell of a liquidated bank (Aurabankas).	
Georgia	Non-performing loans of liquidated banks were transferred to the **bank recovery unit of the central bank.**	A **pilot work-out unit** was established (with World Bank assistance) in a former state-owned commercial bank. Work-out units were not established on a large-scale because of the small scale of non-performing loans.

[37] The London approach was first introduced by the Bank of England in 1989; a modified version of this approach was subsequently used in Thailand and Korea. For details see Mark Stone (1998).

Table 16 (cont.). Approaches to Bad Asset Recovery

	Centralized	Decentralized
Kazakhstan	**Rehabilitation Agency** (1994-present**)** took over loans of largest insolvent debtors (mostly mining and metallurgical enterprises); **Agricultural Support Fund** (1994-present) took over agricultural credits; **Exim Bank** (1994-present) took over most of the outstanding trade-related loans that carried government guarantees.	In 1998 the government gave a mandate to a special enterprise restructuring agency to provide **creditor-led restructuring** if the farm or enterprise is viable and has developed a restructuring plan.
Kyrgyz Republic	**DEBRA (Debt Restructuring Agency)** (1996-present) was established with the mandate to perform receivership function for liquidated banks. **Kyrgyz Agricultural Finance Corporation** (1997-present) was launched to take over bad debts of the agricultural sector.	The government encouraged commercial banks to create work-out units for pursuing collection of loans to small and medium enterprises. No information was available to the authors on the performance of these work-out units.
Ukraine	**Bank Recovery Unit** (BRU) was created at the Bank Supervision Department of the central bank in late 1996 to identify private banks for restructuring or liquidation. No information was available to the authors about the scope and outcome of bank/assets restructuring activities of the BRU.	Work-out units were created at three large former state owned banks to pursue loan recovery.

Appropriate incentives are important for the collection of bad debts regardless of the approach adopted for bad debt recovery. Similarly, effective collateral, foreclosure and bankruptcy laws are necessary for enabling either debt collection agencies or banks to take control of insolvent enterprises and proceed with their restructuring or liquidation. Finally, the presence of political will to impose hard budget constraints on enterprises is also necessary to ensure that insolvent enterprises are either liquidated or have no access to new financing. The following discusses the bad debt recovery experiences of the countries under consideration in light of these factors.

a. Centralized Approach

The countries under consideration set up three types of centralized agencies for bad debt recovery: asset management companies, bank liquidation agencies and special divisions within a central bank to manage bank liquidation and/or asset recovery. AMCs were created in the *Czech Republic* (where it was referred to as an "asset hospital"), and in *Lithuania*, *Kazakhstan* and *Macedonia*. In Hungary, a separate division of the development bank performed the asset recovery function. The *Kyrgyz Republic*, *Georgia* and *Ukraine* all set up bank recovery units in their central banks.

Asset Management Companies in all the countries covered in the study, and in the transition economies in general, are typically state-owned[38]. This has some negative implications in light of the above-mentioned factors that are important for successful bad debt recovery.

(i) It is generally more difficult to structure incentives for active loan recovery by a state-owned centralized agency. By contrast, under the decentralized approach, banks are provided the incentives to recover bad loans as they retain at least some (and sometimes all) of the recovered debt.

The experience of the *Czech Republic* illustrates the importance of having appropriate incentives for loan recovery. The *Czech* government has introduced perverse incentives for bad debt recovery in two

[38] In international practice AMCs are also typically state owned, although there are some examples of privately owned AMCs. One such example is the Japanese Cooperative Credit Purchasing Company, which was "established by Japanese banks to buy non-performing loans from individual banks at market price." Source: Andrew Sheng (1996).

ways. In the first place, it has either explicitly or implicitly guaranteed repurchase of bad loans at full accounting value from the three loan recovery agencies through a web of complex funding arrangements. In addition, while the ownership of non-performing loans was transferred to two of the debt recovery agencies, *Ceska Financni* and *Ceska Inkasni*, the assets themselves remained on the balance sheets of the commercial banks which were required to pursue work-out activities. Without ownership of the non-performing loans, the commercial banks did not really have any incentive to pursue their recoveries.

(ii) There is a potential disincentive for a state-owned AMC to be successful in collecting bad debt as that would bring the AMC closer to its date of dissolution. The risk of creating a self-perpetuating AMC could in principle be addressed by limiting the length of time during which an AMC will operate. However, the authors found no examples of AMCs among the countries considered which have a predetermined limited operations time. The international experience in this regard has not been much better either, as most AMCs around the world have been self-perpetuating. Another problem with a self-perpetuating AMC is that its mere existence creates moral hazard for continuing banking problems as banks now have a dumping ground for future bad loans.

(iii) Some AMCs also take on other functions, which could lead to undesirable consequences especially if the AMCs are state-owned. The *Czech* case provides a very good example. *Konsolidacny Banka* (*KoB*), one of the three state-owned bad debt recovery agencies in the *Czech Republic*, is also a development bank which has commercial banking and deposit-taking functions. The high share of bad assets in *KoB* creates tremendous moral hazard for it to undertake risky activities, which could lead to further fiscal costs.

(iv) A state-owned debt recovery agency is likely to succumb to political pressure and delay enterprise restructuring or liquidation. In other words, it is less likely that hard budget constraints would be imposed on enterprises if the AMC is state-owned. In both the *Czech Republic* and *Macedonia*, for example, soft budget constraints have inhibited enterprise restructuring, resulting in low rates of bad loan recoveries. In *Macedonia*, the Bank Rehabilitation Agency (BRA), created to intervene in failing banks and to sell or liquidate them, was also envisioned to promote enterprise restructuring. However, enterprises whose ownership were transferred to the BRA continued to make losses, with some even setting up subsidiaries to borrow under different names (Paulson, 1999).

(v) Public officials at an AMC are unlikely to be familiar with the clients of the banks, which inhibits successful bad debt recovery.

The AMCs in the countries considered had modest results in recovering bad debt. The recovery rates (defined as loans recovered as a share of the total value of bad loans) were 3 to 5 percent in the *Czech Republic*, around 5 percent in *Lithuania* and 16 percent in *Hungary*[39]. By contrast, in other parts of the world recovery rates were over 30 percent[40].

A bank liquidation agency or a special division within a central bank has the mandate to take receivership of distressed banks and to liquidate them. The quality of assets that are transferred to such an agency is likely to be higher than the quality of bad debts that are carved out and placed in an "asset hospital", as assets placed in the former include performing loans as well as non-performing ones. Of the twelve countries under consideration, the only country which has a bank liquidation agency for which data on asset recovery is available is the *Kyrgyz Republic*, where the recovery rate was around 10 percent.

[39] See Appendix 8 on Asset Management Companies and Bad Debt Recoveries.
[40] Klingebiel (2000) found that in the U.S. and Ghana, recovery rates were around 32 percent.

In some instances more than one agency was created to proceed with different types of loans. Agricultural credits in particular presents a special challenge in transition economies because of the difficulty of reforming the rural sector. Among the countries covered in this study, those with a relatively large agricultural sector have adopted a separate strategy to deal with the recovery of agricultural credits. This was the case in *Kazakhstan*, the *Kyrgyz Republic* and *Lithuania*, where special agencies were created for collecting agricultural credits. In *Poland* loans to the agricultural sector also did not easily lend themselves to the bank-led decentralized work out procedures which were used for all the other loans[41]. Sometimes a separate agency was also created to deal with the loans that were extended by foreign trade banks because of the special nature of trade-related claims. This approach was followed in the *Czech Republic* and in the *Kyrgyz Republic*.

The experience of the *Czech Republic* illustrates the potential problems with multiple loan recovery agencies. The three *Czech* bad debt recovery agencies have overlapping functions and non-transparent financing mechanisms, which multiplied operating costs. The government is now proposing to consolidate the three agencies into one.

b. Decentralized Approach

The decentralized approach allows for the simultaneous treatment of banking sector distress and its underlying problems in the real sector. This could be particularly useful in transition economies where banking problems are usually caused by problems in the enterprises.

Among the countries under consideration, *Poland* and *Bulgaria* pursued the decentralized approach solely. *Hungary* adopted this approach after the centralized approach did not produce good results. The *Czech Republic* is considering modifying its centralized approach which has not produced satisfactory results to one that is more decentralized, entailing out-of-court settlements between banks and enterprises. In *Georgia*, the *Kyrgyz Republic*, *Kazakhstan* and *Ukraine*, the decentralized approach is adopted in conjunction with a centralized one, with work-out units being created at banks for pursuing the recovery of loans. *Estonia* pursued the decentralized approach through work-out units created at commercial banks in addition to the "good bank/bad bank approach".

Under the decentralized approach, bad asset recovery would only be successful if bank management is willing and able to pursue debtor enterprises. However, in transition economies in general, creditors are generally unwilling to pursue their debtors for a variety of reasons (the so-called "creditor passivity" in the literature), which undermines the bankruptcy constraint and slows down the process of resource reallocation and restructuring. Three reasons have been identified for creditor passivity: (i) the persistence of soft budget constraints for banks and enterprises; (ii) the pervasiveness of connected lending; and (iii) the oligopolistic structure of the banking system (Hoshi and others, 1999).

The *persistence of soft budget constraints*, especially for state banks, may undermine their incentives to pursue debtors, and strong *interdependence between creditors and debtors* may create a disincentive for bank management to pursue their debtors. This was the case in *Bulgaria*, where the decentralized bank-led bad asset work out process did not succeed largely because of the pervasiveness of connected lending.

The *oligopolistic structure* of the banking system may allow a few large banks to retain high margins in spite of the high share of non-performing loans, and create a disincentive to acknowledge bad

[41] Out of all the banks that were covered by the Enterprise and Bank Restructuring Program in Poland, the only bank that remains problematic is BGZ (Bank Gospodarki Zywnosciowej), the bank that supports agricultural cooperatives.

debt and pursue debtors. This was a common feature of the majority of the banking systems in transition economies at the early stages of transformation to market economy.

The capacity of banks to deal with non-performing loans is also an important factor in the success of the decentralized approach. In some countries, banks did not have the capacity to become the 'agents of change' in the real sector. It is especially true for most of the countries of the former Soviet Union. For example, having analyzed the banking sector in the *Baltics*, Fink and others (1998) concluded that distressed banks which had difficulties managing themselves would probably not be able to improve corporate governance in enterprises.

In addition to these factors, a decentralized approach to bad loan recovery also needs to be part of a *broad design that takes into account economic incentives and the legal framework* for it to be successful. A decentralized approach that was part of a broad design was adopted in *Poland*[42], and in *Hungary* during the 1993-94 Bank Restructuring and Loan Consolidation Program. On the other hand, *Hungary* (during the 1992 Loan Consolidation Program), *Bulgaria*, *Estonia*, *Czech Republic* and *Kazakhstan* (for debts to small and medium enterprises), *Georgia* (which created a pilot work-out unit) and *Ukraine* (which set up work-out units in three large state banks) did not follow this comprehensive approach.

In light of these factors, the decentralized approach to bad debt recovery has not been very successful for the countries under consideration. *Poland* is perhaps an exception, with recoveries for a sample of banks averaging around 17 percent (Johnson, 1999). *Kazakhstan* appears to have achieved some measure of success, with the integrated approach for bank loan and enterprise restructuring yielding positive results[43]. On the other hand, *Hungary* and *Bulgaria* were not very successful, and there is no information on how *Estonia*, *Georgia* and *Ukraine* fared with their work-out units, while it is too early to tell for the *Czech Republic*.

The relative success of *Poland*, which is a pioneer of the decentralized approach in the region, compared with the lack of success of *Hungary* which pursued a similar approach, highlights the importance of incentives and the legal framework in the collection of bad loans. Both countries required banks to create work-out units and pursue financial restructuring of their portfolios through a conciliation process with the enterprises. Comparison of the *Polish* and *Hungarian* experiences with the negotiation of these agreements provides useful insights about the *implications of government participation in the negotiation of agreements between banks and enterprises*. In *Poland*, the government's withdrawal from the out-of-court conciliation and the imposition of strict conditionality on new bank lending together sent a signal to banks that they could not rely on the government for additional support for dealing with problem debtors. By contrast, in *Hungary* the government's participation in the negotiation of such agreements tended to soften the budget constraint on banks and enterprises (Baer and Gray, 1995).

c. 'Good bank/bad bank' approach

Under this approach, a subsidiary "bad bank" is spun off from the original bank, allowing quick financial restructuring of the balance sheet of the remaining "good bank". The "bad bank" pursues collection of bad assets and is self-liquidated within a limited period of time. Of the countries under consideration, *Hungary* in 1995 and *Estonia* in 1996 pursued this approach. In Estonia, the "bad bank" that was spun out of the Social Bank (which was itself liquidated) was turned into a loan recovery agency

[42] Several authors have undertaken detailed analysis of the incentive structure and evaluation of Poland's Enterprise and Bank Restructuring Program. See van Wijnbergen (1998); Belka (1994; 1998); Baer and Gray (1995) and Gray and Holle (1996).

[43] Kazakhstan, Implementation Completion Report for Financial Sector Adjustment Loan, June 18, 1998.

and operated for only a short period of time. In *Hungary*, the bad bank "Risk Kft" that was spun out from the *Magyar Hitel Banka* was designed to be wound up in three years while the good bank was successfully privatized. The ability to quickly relieve a bank of its non-performing loans, and yet avoid the creation of a potentially ineffective state-owned AMC, is often seen as the main advantage of the 'good bank/bad bank' approach.

5.3 Results of Bad Debt Recovery

None of the three approaches used for bad debt recovery by these countries has been very successful. Based on available data, results of bad debt recovery were not very different under the centralized and the decentralized approaches, with bad debt recoveries ranging from 3 to 16 percent under the former, and up to 17 percent (in Poland) for the latter[44]. While the bad debt recoveries under the centralized approach accrue to the government and alleviate the fiscal cost of banking crises in those countries, they accrue to the banks in the case of Poland and therefore do not help alleviate the fiscal costs. However, in Poland's case, the work-out activities have helped build institutional capacity in the banks, which strengthens the banking sector and should help in minimizing recurrence of banking crises and incurrence of further fiscal costs.

The bad debt recovery rates are low compared with those elsewhere in the world, which is not entirely surprising since much of the bad debt in the transition economies have been inherited from the previous regimes, and owed by enterprises which have either collapsed or have not been restructured and continue to have problems. In addition, the poor results were also due to insufficient political will to impose hard budget constraints; lack of an effective legal framework to support debt collection and bankruptcy; and the inability to eliminate connected lending.

6. The Results of Crises Resolution

All three country groups experienced positive results from the resolution of banking crises, with the outcomes being generally better for the *CEEs* and the *Baltics* than the *CIS* countries. Further improvements are necessary, however, in several areas for all country groups. First, non-performing loans continue to be a major source of concern, especially in the *Czech Republic*, *Macedonia*, *Lithuania* and *Kazakhstan*. Second, financial intermediation is low, particularly in the *CIS* countries, but also in the *CEEs* and the *Baltics*. Third, banking sector efficiency needs to be improved in the *CIS*, and also in the *Czech Republic* and *Hungary*. Fourth, confidence in the banking sector is still extremely weak in the *CIS*.

The generally better performance of the *CEEs* and the *Baltics* may have been the outcome of the crisis resolution strategy adopted by the countries, although the results must also have been affected by the overall economic situations in these countries. The generally better economic environment in the *CEEs* and the *Baltics*, and the earlier growth recovery (Table 5), in all likelihood contributed to the recovery and better performance of the banking sector in these countries.

The next sections review the results of crises resolution in the twelve countries in terms of financial intermediation, banking sector soundness, banking sector efficiency, and confidence in the banking sector.

a. Financial Intermediation

Two measures of financial intermediation – credit to the private sector as a share of GDP and broad money as a share of GDP (Table 1) – show that there has not been much increase in financial depth as a

[44] No data was available on the recovery rates in Hungary and Estonia under the "good bank/bad bank" approach.

result of bank crisis resolution in the twelve countries under consideration. If anything, there has been a decrease in financial depth in most of the countries. Financial intermediation in all three country groups remains considerably lower than in OECD countries, with financial intermediation in the CIS being the lowest.

b. Banking Sector Soundness

Two measures of banking sector soundness – the ratio of non-performing loans to total loans (Table 3) and the capital to asset ratio (Table 17) – indicate that the results of bank crisis resolution in the twelve transition countries were generally positive, although improvements are still necessary.

With respect to the ratio of non-performing loans to total loans, all the *CEE* countries showed large improvements during the 1990s, ranging from a 20 percent reduction in the case of the *Czech Republic* to an over 70 percent reduction in the case of *Hungary*. For the *Baltic* countries, this ratio fell sharply in *Latvia* and *Estonia*, but in *Lithuania* the initial improvements were subsequently reversed somewhat. Among the *CIS* countries, all showed improvements except for *Ukraine*, where the ratio actually worsened which is not surprising since there was no bank restructuring in *Ukraine*. Despite the generally positive trend, however, the bad loan problem remains critical in most countries. In fact, at the end of the 1990s, the share of nonperforming loans was close to or higher than 10 percent in all the sample countries except for Estonia, and was significantly higher than 10 percent in the *Czech Republic*, *Macedonia*, *Lithuania* and *Kazakhstan*.

Data on the capital adequacy ratio suggest that the level of capitalization is satisfactory in those countries for which data is available. Even in countries where the authorities did not undertake major injections of capital, as in the *Baltics*, the restructuring and downsizing operations have produced better capitalized banking systems. Among the *CEEs*, *Bulgaria* had the highest capital adequacy ratio in 1998 of around 37 percent due to revaluation gains.

c. Banking Sector Efficiency

The effects of bank crisis resolution on banking sector efficiency were mixed. One measure, interest rate spreads[45], indicates that the banking sector has become more efficient in the *CEEs* and *Baltics*, while it remains far from efficient in the *CIS* countries. Another measure – central bank credit to commercial banks as a share of GDP[46] – indicate that there were improvements in this area for all three country groups.

In the *CEEs* and the *Baltics*, interest rate spreads have, by and large, been declining in the latter part of the 1990s, suggesting increasing banking sector efficiency during that period. In 1998, the average interest rate spreads of the two country groups were around 8 percent, which was still twice the level in the OECD countries. By contrast, in the four *CIS* countries, interest margins were extremely high, averaging 33 percent in 1998, reflecting the lack of competition and inefficiency in their banking systems.

For all three country groups, central bank credit to banks as a share of GDP generally declined through the 1990s, reflecting a decrease in the reliance of the banking system on the central bank, and suggesting an increase in efficiency. By 1998, this ratio had fallen to around 1 percent or smaller in the

[45] See Appendix Table 9 for data on interest rate spreads for the twelve countries and for OECD countries.
[46] See Appendix Table 10 for data on central bank credit to banks as a share of GDP for the twelve countries and for OECD countries.

Baltics and the *CIS*, as compared to around 2 in OECD countries. By contrast, two *CEE* countries – the *Czech Republic* and *Hungary* – had significantly higher shares of 4 to 5 percent.

Table 17. Capital Adequacy Ratio
(End of Period)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria					8.6	4.6	17.6	26.7	37.3
Czech Rep.						10.2	9.8	9.5	12.0
Hungary						16.9	17.6	18.3	
Poland				16.5	20.8	18.5	17.5	16.9	15.0
Average						12.5	15.6	17.9	
Baltics									
Estonia					13.4	13.7	12.1	13.5	16.9
Latvia					14.0	20.0	23.0	21.0	17.4
Lithuania							10.5	10.8	23.8
Average							15.2	15.1	19.4
CEE									
Georgia						4.0			
Kazakhstan [1/]						3.0	19.0	23.0	30.0
Kyrgyz Rep.						5.0			
Ukraine					1.0	4.0			
Average						4.0			

Source: EBRD (1998) "Transition Report", International Monetary Fund, Central Banks.
1/ Data for 1996-1998 are taken from IMF (1999) "IMF Staff Country Report, pp. 69-70." The IMF noted that these figures should be used with care.

d. Confidence in the Banking Sector

The experience of the twelve countries was generally positive with respect to confidence in the banking sector in the aftermath of bank crisis resolution as measured by the currency to deposit ratio[47] and the ratio of M1 to M2 (Chart 5)[48].

Virtually all twelve countries experienced a decline in the confidence in the banking sector during banking crises, as measured by the currency to deposit ratio. Confidence did not recover in all the countries after the crises. Among the *CEEs*, there was recovery in confidence (that is, the ratio fell) only in *Macedonia* and *Poland*, while in the *CIS* countries, there was recovery only in *Georgia*. On the other hand, in all three *Baltics* states, and in particular in *Estonia*, confidence in the banking sector rose after crisis resolution. In 1998, confidence in the banking sector as measured by the currency to deposit ratio was similar in the *CEEs* and the *Baltics*, where the ratio was between 90 to 95 percent in these countries, compared with around 30 percent in OECD countries. The confidence in the banking sector was much lower in the *CIS*, where the ratio was over 400 percent.

Data on the ratio of M1 to M2 shows a generally positive experience for all the countries. With the exception of *Macedonia*, all the countries showed a decline in the ratio in the aftermath of bank crisis resolution, reflecting an increase in confidence in the banking sector.

[47] See Appendix Table 11 for data on currency deposit ratios for the twelve countries and for OECD countries.
[48] See Appendix Table 12 for data on M1/M2 for the twelve countries and for OECD countries.

7. Summary, Conclusions and Policy Lessons

a. Summary

The experience of banking crises in transition economies differs from that in many other parts of the world in part because of the very different initial conditions facing these countries. One initial condition that is unique to the transition economies is the large debt stock inherited from previous communist regimes, owed by enterprises that did not have the custom of repaying. Another initial condition unique to the transition economies was the lack of experience on the part of both enterprises and banks in operating under market conditions. Also, the transition process brought along severe growth contraction throughout the transition world, which helped precipitate banking crises in these countries. Given these initial conditions, banking crises in transition countries could be more broadly viewed as a challenge of transition, or a challenge of banking sector development in the transition context.

Broadly speaking, the bank crisis resolution strategy pursued by the countries under consideration could be differentiated according to three country groups. The *CEEs* generally pursued restructuring of banks coupled with injection of capital; the *CIS* pursued large-scale liquidation of banks; while the *Baltics* pursued a combination of bank liquidation and restructuring with injection of capital in some instances.

The different strategies adopted by the authorities in these countries appear to depend on two main factors – initial macroeconomic conditions and development of the banking sector. On the macroeconomic side, the key factor was inflation. Hyper inflation in the countries of the *FSU* (*CIS* and the *Baltic* countries) at the beginning of transition had drastically reduced the real value of the bad debt in the banking system. By contrast, while some *CEEs* began transition with high inflation, inflation in these countries was far lower than in the *FSU*, which means that the *CEEs* were saddled with a much larger stock of bad debt that the authorities needed to tackle.

Banking sector development also had implications for the bank crisis resolution strategy adopted by the different country groups. While both the *FSU* and *CEEs* pursued liberal licensing policies initially, entry of new banks was on a much larger scale in the *FSU* than in the *CEEs*. Furthermore, while in the *CEEs* new banks were allowed to enter to foster competition in the banking sector, in the *FSU* many new banks emerged to finance inefficient state-owned enterprises. As a result, that there was a much greater proliferation of banks of poor quality in the *FSU* compared to the *CEEs*. Also, financial intermediation was much deeper in the *CEEs* (with some banks considered "too big to fail") than in the *FSU* countries, which meant that liquidation of banks in the *FSU* would not have much economic or social impact, whereas it could in the *CEEs*. Because of these reasons, countries in the *CEEs* did not undertake bank liquidation on the large-scale that the *FSU* did.

These initial conditions and bank crisis resolution strategies had a direct impact on the fiscal costs of banking crises. Further, the amount of fiscal costs incurred also depended on the extent to which bank shareholders and depositors bore some of the costs. The *CIS* and *Baltic States*, the fiscal costs were generally lower because they relied more on recapitalization by private shareholders than by the government. There was also minimal compensation for depositors in the event of bank liquidation in the *CIS* and the *Baltics*. Also, the restructuring operations undertaken by the *CEEs* suffered from several weaknesses, which raised fiscal and quasi-fiscal costs.

Taking together the costs of bank restructuring and depositor compensation incurred by the government and the central bank, the total fiscal costs of banking crises were by far the highest in the *CEEs*, where they ranged from 7 to over 40 percent of GDP, compared with a range of 0.1 to 18 percent of GDP for the *CIS*, and from 2 to 3 percent for the *Baltics*. The bulk of these costs were incurred by the

government for bank restructuring, which were typically several times the costs of direct payments to depositors or the costs incurred by the central bank.

The higher fiscal costs incurred by the *CEEs* are reflected in the higher levels of fiscal outlays arising from banking crises compared with the general government deficits in these countries. The resolution of banking crises also raised central government indebtedness more in the *CEEs* than in the *CIS*, by around 5 percent in the case of the *Kyrgyz Republic* to around 11 percent in the case of *Bulgaria*.

While these upfront costs of banking crises (that is costs of bank restructuring and direct depositor compensation) could in principle be offset by recoveries of bad loans, the experience of the sample countries was not very positive in this respect. For those countries for which data is available, bad debt recoveries were low and did not contribute much to reducing fiscal costs. Among the countries where loan recoveries accrued to the government, *Hungary* had the best results with loan recoveries amounting to 16 percent of total bad loans. *Poland* also had a similar recovery rate, although bad debt recoveries accrued to the banks themselves. In comparison, recovery rates of around 30 percent have been achieved around the world. The low recovery rate in the transition countries is not surprising since much of the bad debt was owed by enterprises which had either collapsed or not been restructured and not capable of repaying.

All three country groups enjoyed positive results from the resolution of banking crises, although the outcomes were generally better in the *CEEs* and the *Baltics* than in the *CIS*, particularly in regard to improving banking sector efficiency and raising the confidence in the banking sector. There needs to be further financial deepening in all three country groups, and especially so in the *CIS*. Finally, although non-performing loans as a share of total loans has declined, they remain a concern in several countries in all three country groups.

b. Conclusions and Policy Lessons

All transition countries have suffered from banking crises. Governments have a range of options of how to respond, from doing nothing and allowing banks to fail, to absorbing the entire cost of the banking crisis which is not only fiscally expensive but run the risk of moral hazard in the case of private banks.

The incurrence of at least some fiscal costs may have been inevitable for the transition countries because of the need to deal with the inherited bad debt. Because of the moral hazard created by undercapitalization, these banks needed to be recapitalized before sound commercial banking could take place. The *CEEs* broadly adopted the approach of rehabilitating and injecting capital into banks. Although they incurred quite substantial fiscal costs in the process, the result was a sounder and more efficient banking system, in particular because many of the recapitalized banks have since been privatized to strategic foreign investors.

An alternative approach would have been to close all the old banks and allow new banks to enter. This approach was broadly adopted by the *CIS* countries, but these countries encountered difficulties in attracting reputable and sound banks to do business in their high risk environments. The outcome was that in the *CIS* countries, the new banks that entered into the system were generally small, undercapitalized and unsound, and had to be liquidated soon after entry, leaving the *CIS* countries with weak banking systems and low levels of financial intermediation.

In contrast to the *CEEs* and the *CIS*, the *Baltics* appeared to have struck a good balance in terms of incurring some, but not too substantial, fiscal costs, while at the same time achieving some success in resolving banking crises. In particular, *Estonia* appears to have done the best in terms of resolving its

banking crises while minimizing cost. At a total cost of 2 percent of GDP as of end-1998, the crisis resolution has resulted in a substantial increase in financial intermediation, a large decline in non-performing loans (which stood at slightly over 1 percent of total loans in 1998), significant improvements in banking sector efficiency and higher confidence in the banking sector.

The experience of the twelve transition countries also highlights the following lessons – consistent with conventional wisdom – on the approach to bank restructuring which minimizes the recurrence of banking crises and hence minimize fiscal costs. *First*, the three elements of banking system restructuring – operational, financial and institutional – need to be undertaken in parallel for the successful resolution of banking crises. *Second*, financial restructuring of banks should entail adequate recapitalization to deter moral hazard. *Third*, operational restructuring of banks needs to entail privatization to core investors. The experience in the transition countries indicates that privatization to reputable foreign banks could be a useful way to strengthen their banking systems. *Fourth*, enterprise problems need to be addressed in parallel with bank restructuring because in many transition economies enterprise problems are the underlying causes of banking problems. *Fifth*, differentiation of the crisis resolution strategy according to the cause of the crisis could help reduce fiscal costs. Specifically, fiscal costs were reduced when: (i) governments only dealt with that portion of the bad debt inherited from the socialist period; (ii) small banks were allowed to fail when they did not affect financial intermediation very much (that is they held very little deposits) and when the social costs of such bank failure were low; and (iii) only banks that got into trouble because of external shocks were rescued while those that suffered from poor management were liquidated. *Sixth*, bank restructuring should be undertaken by the government and not the central bank because: (i) central bank financing is non-transparent and the costs will eventually fall on the budget; and (ii) central bank financing could lead to hyperinflation with severely negative economic consequences.

The experience of the transition countries under consideration also supports the established principle that for bad debt recovery to be successful, the bad debt collector (be it a central agency or a bank) needs to operate within an adequate legal environment (in particular effective collateral, foreclosure and bankruptcy laws) and be given appropriate incentives, and the enterprises in question need to be subject to hard budget constraints. This implies that if a centralized approach is adopted, then the bad debt collection agency should be private rather than state-owned. It also implies that a "good bank/bad bank" approach to bad debt collection might be preferable as it entails a finite time of operation of the "bad bank".

The approach adopted by Poland, where the banks themselves pursue the collection of bad debts, appears to have some merit. Since the recovered debts accrue to the banks, they have the incentive to collect. Bad debt collection by banks also helped them build institutional capacity, which should strengthen the banking system and help minimize the recurrence of banking crisis. Another key incentive provided for bad debt collection in the Polish model was the complete withdrawal of government participation in the negotiation of agreements between the banks and the enterprises. This addresses the "soft budget constraint" factor that tends to undermine bad debt collection efforts by creditors in other transition economies. The Polish banks were also supported by an adequate legal framework. Other transition countries covered in this study which also adopted a similar decentralized approach to bad debt collection were not very successful because either an adequate legal framework or appropriate incentives or both were absent.

Finally, it is important to note that successful bad debt recovery requires adequate capacity for the task. Given the relatively recent introduction of transition economies to commercial banking, the capacity of collecting bad debt which entails restructuring of enterprises will take some time to build up, more so for the countries from the *FSU* than the *CEEs*. Therefore, only modest results from bad debt recovery may be expected from these countries for some time.

References

Alexander, William E., Jeffrey M. Davis, Liam P. Ebrill, and Carl-Johan Lindgren, 1997, *Systemic Bank Restructuring and Macroeconomic Policy* (Washington: International Monetary Fund).

Anderson, Ronald W., Eric Berglof, Kalman Mizsei, et al., 1996, *Banking Sector Development in Central and Eastern Europe. Forum Report on the Economic Policy Initiative No. 1* (Warsaw, Prague, Budapest, Kosice, New York: Institute for EastWest Studies).

Anderson, Ronald W., and Chantal Kegels, 1998, *Transition Banking. Financial Development of Central and Eastern Europe* (Oxford: Clarendon Press).

Baer, Herbert L., and Gerard Caprio, Jr., 1995, "Bank Recapitalization: If and When," The World Bank Development Economics (DEC) Policy Review Note No. 2 (Washington: World Bank).

Baer, Herbert L., and Cheryl W. Gray, 1995, "Debt as a Control Device in Transitional Economies. The Experiences of Hungary and Poland," The World Bank Policy Research Working Paper No.1480 (Washington: World Bank, June).

Balcerowicz, Leszek, Cheryl Gray, and Iraj Hoshi, 1998, *Enterprise Exit Processes in Transition Economies* (Budapest: Central European University Press).

Balyozov, Zdravko, 1999, "The Bulgarian Financial Crisis of 1996-97", Bulgarian National Bank Discussion Papers, DP/7/1999.

Bank for International Settlements, 1998, *Handbook on Central Banks of Central & Eastern Europe* (Basle: Bank for International Settlements, August).

Bank of Lithuania, 1995, 1996, 1997, 1998, *Annual Report* (Vilnius: Bank of Lithunia).

Begg, David, and Richard Portes, 1993, "Enterprise Debt and Economic Transformation: Financial Restructuring in Central and Eastern Europe," in *Capital Markets and Financial Intermediation*, eds. Colin Mayer and Xavier Vives (Cambridge: Cambridge University Press).

Belka, Marek, 1994, "Financial Restructuring of Banks and Enterprises in Poland," *Moct-Most,* No. 3, pp. 71-84.

Belka, Marek and Anna Krajewska, "The Polish Bank and Enterprise Restructuring Programme: Expectations and Reality", in Balcerowicz et al (1998).

Berengaut Julian, et al., 1998, "The Baltic Countries. From Economic Stabilization to EU Accession," IMF Occasional Paper No. 173 (Washington: International Monetary Fund).

Blejer, Mario, and Marko Skreb, eds., 1999, *Financial Sector Transformation. Lessons from the Economies in Transition* (New York and Cambridge: Cambridge University Press).

Bonin, John P., Kalman Mizsei, Istvan Szekely, and Paul Wachtel, 1999, *Banking in Transition Economies. Developing Market Oriented Banking Sectors in Eastern Europe* (Cheltenham, UK and Northhampton, MA, USA: Edward Elgar Publishing Ltd).

Bonin, John P., and Mark E. Schaffer, 1995, "Banks, Firms, Bad Debts and Bankruptcy in Hungary 1991-94," Centre for Economic Performance Discussion Paper No. 234 (London: Centre for Economic Performance of the London School of Economics, April).

Bonin, John P., and Paul Wachtel, 1999, "Lessons from Bank Privatization in Central Europe," Paper prepared for the World Bank and Federal Reserve Bank of Dallas Conference on Privatization of Banks (Washington, March 15-16).

Borish, Michael S., Millard F. Long, and Michel Noël, 1995, "Restructuring Banks and Enterprises. Recent Lessons from Transition Countries," World Bank Discussion Paper No. 279 (Washington: World Bank).

Borish, Michael S., Wei Ding and Michel Noël, 1996, "On the Road to EU Accession. Financial Sector Development in Central Europe", World Bank Discussion Paper No. 345 (Washington: World Bank).

Borish, Michael S., Wei Ding, and Michael Noël, 1997, "Restructuring the State-Owned Banking Sector: A Comparative Assessment of Approaches in Central Europe," *Moct-Most*, Vol. 7, No. 1, pp.49-77.

Brock, Philip, 1998, "Financial Safety Nets and Incentive Structures in Latin America," World Bank Policy Research Working Paper No. 1993 (Washington: World Bank, October).

Bulgarian Ministry of Finance, *Government Debt Management,* various issues.

Bulgarian National Bank, *Annual Report*, various issues.

Bulgarian National Bank, *Bulgarian National Bank Review*, various issues.

Bulgarian National Bank, *Monthly Bulletin*, various issues.

Capek, Ales, 1994, "The Bad Debts Problem in the Czech Economy", *Moct-Most*, No. 3, pp. 59-70.

Caprio, Jr., Gerard, and Daniela Klingebiel, 1996a, "Bank Insolvency: Bad Luck, Bad Policy, or Bad Banking?" Paper present at the World Bank Annual Bank Conference on Development Economics Paper (Washington, April 25-26).

Caprio, Jr., Gerard, and Daniela Klingebiel, 1996b, "Bank Insolvencies. Cross-Country Experience," World Bank Policy Research Working Paper No. 1620 (Washington: World Bank, July).

Caprio, Jr., Gerard, David Folkerts-Landau, and Timothy D. Lane, eds., 1994, *Building Sound Finance in Emerging Market Economies* (Washington: International Monetary Fund).

Claessens, Stign, Asli Demirguc-Kunt and Harry Huizinga, 1998, "How Does Foreign Entry Affect the Domestic Banking Market," World Bank Policy Research Working Paper No. 1918 (Washington: World Bank, June).

Coricelli, Fabrizio, 1999, "Financial Market Development and Financial Liberalization in Economies in Transition: Tales of Failure and Success," Paper presented at the World Bank Workshop "Financial Liberalization: How Far? How Fast?" (Washington, March 18-19).

Cull, Robert, 1998, "How Deposit Insurance Affects Financial Depth. (A Cross-Country Analysis)," The World Bank Policy Research Working Paper No. 1875 (Washington: World Bank, January).

Czech National Bank, *Annual Report*, various issues (Prague: Czech National Bank).

Czech National Bank, 1998, "Building Stable Market-Oriented Financial Systems in Central and Eastern European and CIS Countries" (Prague: Czech National Bank).

Daniel, James A., 1997, "Fiscal Aspects of Bank Restructuring," IMF Working Paper No. 97/52 (Washington: International Monetary Fund, April).

Daniel, James A., Jeffrey M. Davis, and Andrew M. Wolfe 1997, "Fiscal Accounting of Bank Restructuring", IMF Paper on Policy Analysis and Assessment No. 97/5 (Washington: International Monetary Fund, May).

de Castello Branco, Marta, Alfred Kammer, and L. Effie Psalida, 1996, "Financial Sector Reform and Banking Crises in the Baltic Countries," IMF Working Paper No. 96/134 (Washington: International Monetary Fund, December).

Demirguc-Kunt, Asli, and Enrica Detragiache, 1997, "The Determinants of Banking Crises: Evidence from Developing and Developed Countries," IMF Working Paper No. 97/106 (Washington: International Monetary Fund, September).

Demirguc-Kunt, Asli, and Enrica Detragiache, 1998, "Financial Liberalization and Financial Fragility," Paper presented at the World Bank Annual Bank Conference on Development Economics (Washington, April 20 –21).

Drees, Burkhard, and Ceyla Pazarbasioglu, 1998, "The Nordic Banking Crises: Pitfalls in Financial Liberalization?" IMF Occasional Paper No. 161 (Washington: International Monetary Fund, April).

Dziobek, Claudia, and Ceyla Pazarbasioglu, 1997, "Lessons from Systemic Bank Restructuring: A Survey of 24 Countries," IMF Working Paper No. 97/161 (Washington: International Monetary Fund, December).

Economist Intelligence Unit, "Country Profile. Kazakhstan," various issues.

Economist Intelligence Unit, "Country Report. Kazakhstan," various issues.

Economist Intelligence Unit, "Country Profile. Ukraine," various issues.

Economist Intelligence Unit, "Country Report. Ukraine," various issues.

Eesti Pank (Bank of Estonia), *Annual Report*, various issue, http://www.ee/epbe/.

Eesti Pank (Bank of Estonia), *Bulletin*, various issues, http://www.ee/epbe/.

Eesti Pank (Bank of Estonia), *Newsletters*, various issues, http://www.ee/epbe/.

Eesti Pank (Bank of Estonia), *Quaterly Review*, various issues.

European Bank for Reconstruction and Development, 1997, 1998, 1999, *Transition Reports* (London: EBRD).

Fink, Gerhard, Peter Haiss, and Nobuko Inagawa, 1998, "Financial Markets in the Baltic States: Fit for the EU?" *Journal of International Development,* Vol. 10, July-August, pp. 659-679.

Fleming, Alex, Lily Chu, and Marie-Renee Bakker, 1996, "The Baltics — Banking Crises Observed," World Bank Policy Research Working Paper No. 1647 (Washington: World Bank, September).

Fleming, Alex and Samuel Talley, 1996, "The Latvian Banking Crisis – Lessons Learned", World Bank Policy Research Working Paper No. 1590 (Washington: World Bank, April).

Folkerts-Landau, David, Carl-Johan Lindgren, et al., 1998, *Toward a Framework for Financial Stability*, World Economic and Financial Surveys (Washington: International Monetary Fund).

Fries, Steven M., and Timothy D. Lane, 1994, "Financial and Enterprise Restructuring in Emerging Market Economies," in *Building Sound Finance in Emerging Market Economies,* ed. by Gerard Caprio, Jr., David Folkerts-Landau, and Timothy D. Lane (Washington: International Monetary Fund).

Frydl, Edward, 1999, "The Length and Cost of Banking Crises," IMF Working Paper No. 99/30 (Washington: International Monetary Fund, March).

Garcia, Gillian G. H., 1999, "Deposit Insurance: A Survey of Actual and Best Practices," IMF Working Paper No. 99/54 (Wasington: International Monetary Fund, April).

Gaspar, Pal, 1997, "Exchange-Rate Policies in Economies in Transition," *Russian and East European Finance and Trade,* May-June, pp. 6-28.

Glaessner, Thomas, and Ignacio Mas, 1995, "Incentives and the Resolution of Bank Distress," *The World Bank Research Observer,* Vol. 10, No.1, February, pp. 53-73.

Gray, Cheryl W., and Arnold Holle, 1996a, "Bank-led Restructuring in Poland. Bankruptcy and its Alternatives," World Bank Policy Research Department Paper No.1651 (Washington: World Bank, September).

Gray, Cheryl W., and Arnold Holle, 1996b, "Bank-led Restructuring in Poland. An Empirical Look at the Bank Conciliation Process," World Bank Policy Research Working Paper No. 1650 (Washington: World Bank, September).

Gray, Cheryl W., and Arnold Holle, 1998, "Classical Exit Processes in Poland: Court Conciliation, Bankruptcy, and State Enterprise Liquidation," in *Enterprise Exit Processes in Transition Economies. Downsizing, Workouts, and Liquidation,* ed. by Leszek Balcerowicz, Cheryl W. Gray, and Iraj Hoshi (Budapest: Central European University Press).

Gray, Cheryl W., Sabine Schlorke, and Miklos Szanyi, 1995, "Hungary's Bankruptcy Experience, 1992-93," The World Bank Policy Research Working Paper No. 1510 (Washington: World Bank, September).

Hoelscher, David S., June 1998, "Banking System Restructuring in Kazakhstan," IMF Working Paper No. 98/96 (Washington: International Monetary Fund, June).

Hoshi, Iraj, Jan Mladek, and Alison Sinclair, 1998, "Bankruptcy and Owner-Led Liquidation in the Czech Republic," in *Enterprise Exit Processes in Transition Economies,* eds. Leszek Balcerowicz, Cheryl Gray, and Iraj Hoshi (Budapest: Central European University Press).

Hungarian State Banking Supervision, 1998, *Annual Report* (Budapest: Hungary).

International Monetary Fund, 1999, *International Financial Statistics* (Washington).

International Monetary Fund, 1996, *World Economic Outlook* (Washington).

Johnson, Gordon, "State-owned Enterprise Insolvency: Treatment of Financial Distress", draft, the World Bank, September 1999.

Jones, Colin, 1993, "Banking and Financial Sectors in East and Central Europe," Financial Times Management Report (London: Financial Times Business Information).

Jovanovski, Zoran, 1998, "Deposit Insurance in the Republic of Macedonia" (Skopje: National Bank of the Republic of Macedonia, September).

Kalyuzhnova, Yelena, and George Tridimas, 1998, "Dilemmas of Financial Development in Kazakhstan," *Journal of International Development.* Vol. 10, No. 5, July-August, pp. 681-693.

Kawalec, Stefan, 1999, "Banking Sector Systemic Risk in Selected Central European Countries", Mimeo.

Keuschnigg, Mirela, 1997, "Banking in Central and Eastern Europe," *Moct-Most,* No.3, pp.7-35.

Klingebiel, Daniela, 2000, "The Use of Asset Management Companies in the Resolution of Banking Crises: Cross-Country Experience", The World Bank Policy Research Working Paper No. 2284 (Washington: World Bank, February).

Koford, Kenneth, and Adrian Tschoegl, 1999, "Problems of Bank Lending in Bulgaria: Information Asymmetry and Institutional Learning," *Moct-Most*, Vol. 9, No. 2, pp.123-152.

Lindgren, Carl-Johan, Gillian Garcia, and Matthew I. Saal, 1996, *Bank Soundness and Macroeconomic Policy* (Washington: International Monetary Fund).

Mayer, Colin, and Xavier Vives, eds., 1993, *Capital Markets and Financial Intermediation* (Cambridge: Cambridge University Press).

Mishkin, Frederic S., 1996, "Understanding Financial Crises: A Developing Country Perspective," Paper presented at the World Bank Annual Bank Conference on Development Economics (Washington, April 25-26).

Miurin, Paolo, and Andrea Sommariva, 1993, "The Financial Reforms in Central and Eastern European Countries and China," *Journal of Banking and Finance*, Vol.17, pp. 883-911.

Mondschean, Thomas S., and Timothy P. Opiela, 1997, "Banking Reform in a Transition Economy: the Case of Poland," *Economic Perspectives,* Vol. XXI, No. 2, March/April, pp.16-31.

Mondschean, Thomas S., and Timothy P. Opiela, 1998, "Bank Time Deposit Rates and Market Discipline in Poland: The Impact of State Ownership and Deposit Insurance Reform," Working Paper Series of the Research Department of the Federal Reserve Bank of Chicago, Paper No. WP-98-13 (Chicago: Federal Reserve Bank of Chicago, November).

Montes-Negret, Fernando, and Luca Papi, 1996, "Poland. Country Assistance Review. Enterprise and Financial Sector Adjustment Loan," World Bank Project Document (unpublished, June).

Montes-Negret, Fernando, and Luca Papi, 1997, "The Polish Experience with Bank and Enterprise Restructuring," World Bank Policy Research Working Paper No. 1705 (Washington: World Bank, January).

Moody's Investor Service, 1998, "Banking System Outlook. Kazakhstan," October.

Mullineux, Andrew, and Christopher Green, eds., 1999, *Economic Performance and Financial Sector Reform in Central and Eastern Europe. Capital Flows, Bank and Enterprise Restructuring* (Cheltenham, UK and Northhampton, MA, USA: Edward Elgar Publishing Ltd).

National Bank of Hungary, 1995, 1996, 1997, 1998, 1999, *Annual Reports* (Budapest: National Bank of Hungary).

National Bank of Kazakhstan, 1997, 1999, *Annual Report*.

Organization for Economic Cooperation and Development, 1997, "1996-1997 Bulgaria," OECD Economic Surveys (Paris: OECD).

Organization for Economic Cooperation and Development, 1994, "1993-1994 Czech Republic," OECD Economic Surveys (Paris: OECD).

Organization for Economic Cooperation and Development, 1996, "1995-1996 Czech Republic," OECD Economic Surveys (Paris: OECD).

Organization for Economic Cooperation and Development, 1999, "1998-1999 Hungary," OECD Economic Surveys (Paris: OECD).

Organization for Economic Cooperation and Development, 1997, "1996-1997 Poland," OECD Economic Surveys (Paris: OECD).

Oxford Analytica Brief, 1999, "Kyrgyz Republic: Banking Regulation," June 30.

Paulson, Jo Ann, and Wang Jun, 1999, "International Lessons on AMCs and Implications for China," World Bank Analytical Paper (unpublished, August).

Pazarbasioglu, Ceyla, and Jan Willem van der Vossen, 1997, "Main Issues and Challenges in Designing Bank Restructuring Strategies," in *Central Bank Reform in the Transition Economies,* ed. by Vasudevan Sundararajan, Arne B. Petersen, and Gabriel Sensenbrenner (Washington: International Monetary Fund).

Polackova Brixi, Hana, Anita Papp, and Allen Schick, 1999, "Hungary: Fiscal Risks and the Quality of Fiscal Adjustment," World Bank Analytical Paper (unpublished, July).

Saunders, Anthony, and Andrea Sommariva, 1993, "Banking Sector and Restructuring in Eastern Europe," *Journal of Banking and Finance,* Vol.17, pp.931-957.

Schnitzer, Monika, 1998, "Bank Competition and Enterprise Restructuring in Transition Economies," Centre for Economic Policy Research Discussion Paper No. 2045 (London: CEPR, December).

Sheng, Andrew, 1996, "Bank Restructuring Techniques," in *Bank Restructuring. Lessons from the 1980s,* ed. by Andrew Sheng (Washington: World Bank).

Steinherr, Albert, 1993, "An Innovatory Package for Financial Sector Reforms in Eastern European Countries," *Journal of Banking and Finance,* Vol.17, No.5, September, pp.1033-1057.

Standart & Poor's, 1997, "Financial System Stress and Sovereign Credit Risk", *Sovereign Ratings Service*, December, pp. 1-9.

Stiglitz, Joseph, 1993, "Financial Systems for Eastern Europe's Emerging Democracies," International Center for Economic Growth Occasional Paper No. 38 (San Francisco: International Center for Economic Growth).

Stone, Mark R., 1998, "Corporate Debt Restructuring in East Asia: Some Lessons from International Experience," IMF Paper on Policy Analysis and Assessment (Washington: International Monetary Fund, October).

Sundararajan, V., and J. T. Balino, eds., 1991, *Banking Crises: Cases and Issues* (Washington: International Monetary Fund).

Talley, Samuel, Marcelo M. Giugale, and Rossana Polastri, 1998, "Capital Inflow Reversals, Banking Stability, and Prudential Regulation in Central and Eastern Europe," World Bank Policy Research Working Paper No. 2023 (Washington: World Bank, December).

Turto Bankas, 1997, 1998, *Annual Reports* (Vilnius: Turto Bankas).

van Brabant, Josef M., 1994 "Transforming Bank and Enterprise Balance Sheets in Eastern Europe", Moct-Most, No.3, pp. 7-36.

van Wijnbergen, Sweder, 1998a, "Bank Restructuring and Enterprise Reform," EBRD Working Paper No. 29 (London: EBRD, March).

van Wijnbergen, Sweder, 1998b, "On the Role of Banks in Enterprise Restructuring: The Polish Example," *Journal of Comparative Economics,* Vol. 24, No. 1, February, pp. 44-64.

Varhegyi, Eva, 1993, "Key Elements of the Reform of the Hungarian Banking System: Privatization and Portfolio Cleaning," Centre for Economic Policy Research Discussion Paper No. 826 (London: CEPR, September).

Wang, Jian-Ye, 1999, "The Georgian Hyperinflation and Stabilization," IMF Working Paper No. 99/65 (Washington: International Monetary Fund, May).

Word Bank, 1995, "Bank Recapitalization: If and When," A DEC Policy Review Note No. 2 (Washington: World Bank, April).

World Bank, Financial Sector Holistic Review, Czech Republic, http://eca/ecspf/holistic/reports/Czech.html.

Ziegler, Kamil, and Tomas Krones, 1999, "Accord Among Creditors Could Reap Many Benefits," *Bankovnictvi,* August 2.

World Bank Documents

Czech Republic

Czech Republic, 1999, *Czech Republic. Toward EU Accession*, A World Bank Country Study (Washington: World Bank).

Georgia

1996, Georgia. Banking Sector Policy Note, Vol. 1: Main Report, October.
1997, Georgia, Report of the President (ROP), Structural Adjustment Credit (SAC), Report No. P-7165-GE, August.

1998, *Georgia – Financial Sector Review Issues Paper,* Back to Office Report, December.

Hungary

1995, *Hungary. Structural Reforms for Sustainable Growth*, A World Bank Country Study (Washington: World Bank).
1997, Hungary, ROP, Enterprise and Financial Sector Adjustment Loan (EFSAL), Report No. P-6826HU, February.
1999, *Hungary. On the Road to the EU*, A World Bank Country Study (draft).
1999, Hungary, Implementation Completion Report (ICR), EFSAL, Report No. 19345, June.

Kazakhstan

1996, Kazakhstan, ROP, Financial Sector Adjustment Loan (FSAL), Report No. P-6880-KZ, May.
1996, Kazakhstan, Memorandum of President (MOP), Financial Sector Adjustment Loan (FINSAL), May.
1998, Kazakhstan, ICR, FINSAL, June.

Kyrgyz Republic

996, Kyrgyz Republic, MOP, Financial Sector Adjustment Credit (FINSAC), Report No. P-6891-KG, May.

Latvia

1994, Latvia, MOP, EFSAL, August.
1994, Latvia, Public Expenditure Review, Report No. 12793-LV, July.

Lithuania

1995, Lithuania, Staff Appraisal Report (SAR), Enterprise and Financial Sector Assistance Project (EFSAP), March 27, 1995, Report No. 13659-LT.
1998, *Lithuania. An Opportunity for Economic Success*, Vol. 2, A World Bank Country Study (Washington: World Bank).
1999, Lithuania, ICR, Structural Adjustment Loan (SAL), Report No. 19068, April.
1999," Lithuania. Macroeconomic and Financial Sector Vulnerability Review," August.

Macedonia

1995, *Macedonia, FYR.. An Introductory Economic Report* (Washington: World Bank).

1995, Macedonia, FYR, MOP, FINSAC, April.
1998, *Macedonia, FYR.. Enhancing Growth*, Country Economic Memorandum (CEM), November.

Poland

1994, *Poland: Policies for Growth with Equity*, A World Bank Country Study (Washington: World Bank).
1995, *Understanding Poverty in Poland*, A World Bank Country Study (Washington: World Bank).
1997, *Poland: Reform and Growth on the Road to the EU*, CEM, Report. No. 16858-POL (Washington: World Bank).

Ukraine

1998, Ukraine, ROP, FSAL, Report No. P7226UA, February.
1998, Ukraine, MOP, FINSAL, February.

International Monetary Fund Staff Country Reports:

Bulgaria: Report No. 96/13, No. 97/86, No. 99/26.
Czech Republic: Report No. 95/85, No. 96/147, No. 98/36, No. 98/37, No. 99/90, No. 99/91.
Estonia: Economic Review, 1993; Report No. 95/40, No. 96/96, No. 98/12, No. 99/74.
Georgia: Report No. 95/112, No. 96/116, No. 97/36, No. 98/99.
Hungary: Report No. 95/35, No. 96/109, No. 96/110, No. 97/103, No. 97/104, No. 99/27.
Kazakhstan: Report No. 95/7, No. 97/67, No. 98/84, No. 99/95.
Kyrgyz Republic: Report No. 95/38, No. 96/98, No. 98/08, No. 99/31.
Latvia: Report No. 95/125, No. 96/143, No. 98/47, No. 99/99.
Lithuania: Report No. 95/82, No. 96/72, No. 97/78, No. 98/92, No. 99/96.
Macedonia, FYR: Report No. 95/50, No. 97/45, No. 98/82.
Poland: Report No. 96/10, No. 96/20, No. 97/33, No. 98/51, No. 99/32.
Ukraine: Report No. 96/21, No. 97/109, No. 99/42.

Appendix Table 1: Incidence of Banking Crises in Transition Countries

Country	Study	Period	Magnitude of the crisis			Cost (existing estimates)
			Scope of crisis	**Private vs. public banks affected**	**Liquidity vs. solvency crisis**	
Albania	LGS (1996)	1992- significant problems	31% of loans granted after 1992 cleanup were non-performing		Some banks faced liquidity problems.	
Armenia	LGS (1996)	1994- significant problems	Half of active banks were closed after 1994. Saving Bank had negligible capital.			
Azerbaijan	LGS (1996)	1995- significant problems	One large state-owned bank faced liquidity problems; 12 private banks were closed; 3 large state banks had sizable share of non-performing loans.	4 large state banks faced problems; 12 private banks were closed.	One large state bank faced liquidity problem; 3 faced solvency problems.	
	Daniel (1997)	1995				
Belarus	LGS (1996)	1995- significant problems	Many banks were undercapitalized.			
Bosnia-Herzegovina	LGS (1996)	1992-	Loans extended in late 1980s and early 1990s were in default.			
Bulgaria	LGS (1996); CK (1996)	1991- Crisis	In 1995 75% of nongovernmnt loans were non-performing.		Liquidity and solvency problems.	CK: banking sector losses were approximately 14% of GDP.
Croatia	LGS (1996)	1995 Significant problems	Banks accounting for 47% of bank credits were unsound.			
Czech Rep.	LGS (1996), S&P (1997)	1991- Significant problems	1994-95: 38% of loans were not performing. Many banks were closed after 1993.	State and private commercial banks; saving banks.		12% of 1994 GDP was spent on bank support through 1994.
Estonia	LGS (1996)	1992-1995 Crisis	Insolvent banks held 41% of banking sysytem assets; the licenses of 5 banks were revoked, 2 banks were nationalized and merged, 2 banks were merged and converted to a loan recovery agency.	Commercial banks		1.8% of 1993 GDP
	CK (1996)	1992 systemic	Insolvent banks represented 41% of financial system assets.			recapitalization for new entity: 1.4% of GDP
	CK (1996)	1994 systemic	Crisis of Social Bank (which controlled 10% of financial system assets).			
Georgia	LGS (1996)	1991- Significant problems	Ablou 1/3 of banks loans were non-performing.		Solvency problems	

Appendix Table 1: Incidence of Banking Crises in Transition Countries

Country	Study	Period	Magnitude of the crisis			Cost (existing estimates)
			Scope of crisis	**Private vs. public banks affected**	**Liquidity vs. solvency crisis**	
Hungary	LGS (1996), S&P (1997)	1987-Significant problems	8 banks, accounting for 25% of financial system assets became insolvent.	State and private commercial banks.	Solvency problems.	9% of 1993 GDP was spent between 1992-95; interest on debt issued to support banks amounted to 1.75% of GDP in 1995.
	CK (1996)	1991-95 systemic	1993: 8 banks (25% of financial system assets) insolvent.			Overall resolution cost was approximately 10% of GDP.
	DP (1995)	1993-				12.2% of GDP
Kazakhstan	LGS (1996), S&P (1997)	1991-1995 Significant problems	45% of assets were non-performing.	Private commercial banks	Solvency problems	3-6% of the average of 1994 and 1995 GDP.
Kyrgyz Rep.	LGS (1996)	1995-Significant problems	80-90% of loans were doubtful; 4 small banks closed were closed in 1995 and 2 large state banks faced problems in 1996.			
Latvia	LGS (1996), S&P (1997)	1995-Crisis	2/3 of banks recorded losses in 1994; 23 licenses were revoked in 1994-95; closure of 3 major banks in 1995.	Private banks		
	CK (1996)	1995 systemic	Crisis in 10 banks (accounting for 40% of banking system assets)			
Lithuania	LGS (1996), S&P (1997)	1995-Crisis	12 small banks were liquidated, 4 larger ones did not meet capital adequacy requirements; the fourth largest bank was closed.			
	CK (1996)	1995-96 systemic	1995: crisis in 4 banks (including the largest in the country).			
Macedonia	LGS (1996)	1993-1994 Crisis	70% of loans were non-performing; the second largest bank was closed.			
Moldova	LGS (1996)	1994-Significant problems	Substantial non performing loans.			

Appendix Table 1: Incidence of Banking Crises in Transition Countries

Country	Study	Period	Magnitude of the crisis			Cost (existing estimates)
			Scope of crisis	**Private vs. public banks affected**	**Liquidity vs. solvency crisis**	
Poland	LGS (1996), S&P (1997)	1991-Significant problems	16% of loans were classified as losses, 22% as doubtful, 24% as substandard in 1991.	State and private commercial banks, cooperatives, specialized banks		Bonds issued to recapitalize bank amounted to 2% of GDP in 1993-94.
	CK (1996)	1990s systemic	1991: crisis in 7 of 9 treasury owned banks (25% of banking system assets) & in Bank for Food Economy and coooperative banking sector (20% of banking system assets)	1991: crisis in 7 of 9 treasury owned banks & in Bank for Food Economy and coooperative banking sector (private)		1993: recapitalization cost for several commercial banks was $1.65 bln (of which 900 for Bank for Food Economy and cooperative banking sector).
	DP (1995)	1993-				5.7% of GDP
Romania	LGS (1996)	1990-Significant problems	Five major state-owned commercial banks had 35% of their accrued receivables overdue in June 1994.	State		
	CK (1996)	1990-93 systemic	Many loans to state-owned enterprises were doubtful.			
Russia	LGS (1996), S&P (1997)	1992-Significant problems	Loan arrears were 40% of total credit to private sector in 1995.			
	CK (1996)	1995 systemic	On August 24, 1995 the interbank loan market stopped working.			
Slovak Rep.	LGS (1996)	1991-95 Significant problems	At the end of 1995 nonstandard loans were large; the 5 major banks required government sponsored restructuring operations.		No bank runs	
Slovenia	LGS (1996)	1992-94 Significant problems	3 banks (accounting for 2/3 of banking system assets) were restructured.			
Tajikistan	LGS (1996)	1996-Significant problems	One of the largest bank was insolvent; 2 small banks were closed.			
Uzbekistan	LGS (1996)	1993-Significant problems	Almost 10% of loans were reported to be overdue in 1995.			

CK (1996): Caprio G. and D. Klingebiel "Bank Insolvencies. Cross Country Experience", World Bank Policy Research Working Paper No. 1620.
DP (1997): Dziobek C. and C. Pazarbasioglu "Lessons from Systemic Bank restructuring: A Survey of 24 Countries", IMF Working Paper No. 97/161
Daniel (1997): Daniel J. "Fiscal Aspects of Bank Restructiring", IMF Working Paper No. 97/52
LGS (1996): Lindgren, C-J, C. Garcia and M. I. Saal "Bank Soundness and Macroeconomic Policy", International Monetary Fund.
S&P (1997): Standard & Poor, "Sovereign Ratings Services", December.

Appendix Table 2: Institutional Framework of Banking Systems in Transition Economies

Date crisis (distress) peaked	*Banking Supervision Institution*	*Date IAS in force*	*Minimum Capital Requirement*	*Large Credit Exposures*	*Open ForEx positon limits*	*Loan classification and provisioning*	*Limits on equity holdings in non-financial ent's*	*Capital Adequacy Requirement*	*Connected lending*	*EBRD Ranking of Extensiveness and Effectiveness of Legal Rules**
Memo Item: EU or BIS Recomm. Std.			ECU 5 mln (EU)	lending to a single outsider at 25% of total capital; no aggregate large loans limit (BIS)	NA	no recommended standard	NA	8% (risk-weighted) for total capital; 4% (risk weighted) of total assets and at least 50% of total capital for Tier One Capital	total lending to insiders not to exceed 20% of total capital	
Bulgaria										
1996-97	BNB's Deputy Governor is in charge of the Bank Supervision Department	1998	BGL 10 mln (minimum paid-up capital) (est. by Aug'97 regulation).	A 'large loan' (exceeding 10% of bank's own funds) to one party or group of related parties shall not exceed 25% of bank's own funds.The total amount of 'large loans' shall not exceed eight times the bank's own funds (est. by Dec'97 regulation).	Exposure in an individual foreign currency may not exceed 25% of bank's own funds; net open forex position may not exceed 60% of own funds (est. by Jan'98 regulation).	Five categories of exposures have been determined: standard, watch, substandard, doubtful, and loss (est. by Aug'97 regulation). Provisioning requirement: 3-5%; 25%; 50%; 75%; 100% of net value according to the category.	Limit on lending to single connected party 50% of bank's capital; aggregate limit 75% of bank's capital (as of Dec'98)	BIS capital adequacy enacted 3/93. At end'98 CAR at 10%; at end'99 CAR at 12%. (all banks are now in compliance)	Total amount of loans to connected parties may not exceed 10% of bank's paid-in capital (est. by the Law on Banks, Jul'97).	Extensiveness: 4 Effectiveness: 4-
Czech Republic										
1991-'93; 1996-'97	CNB is responsible for supervising banking activities (since 1993)	NA	CZK 500 mln (approximately USD 15 mln)	Net credit exposure to one party or group of related parties shall not exceed 25% of bank's own funds.In addition, there are limits on lending to connected financial and non-financial entities. (est. by Oct'95 regulation, amended in 1996).	ForEx position in every currency is limited to 15% of capital base (est. by Dec'95 regulation).	Watch claims; substandard; doubtful; loss (est. by Jul'94 regulation).	Prior approval is required if bank is to acquire equity in excess of 10% in a non-bank; on aggregate equity participation in non-banks shall not exceed 25% of bank's capital and reserves (est. by the 1992 Act on Banks, amended	Jan'96 BIS capital requirement enactment; as of 1999, CAR 8%; on a risk-adjusted basis	NA	Extensiveness: 3 Effectiveness: 3-

Date crisis (distress) peaked	*Banking Supervision Institution*	*Date IAS in force*	*Minimum Capital Requirement*	*Large Credit Exposures*	*Open ForEx positon limits*	*Loan classification and provisioning*	*Limits on equity holdings in non-financial ent's*	*Capital Adequacy Requirement*	*Connected lending*	*EBRD Ranking of Extensiveness and Effectiveness of Legal Rules**
Hungary										
1992; 1995-96	State Banking and Capital Markets Supervision (BCMS) which reports to the Government and to the NBH	1996	HUF 3 bln for mortgage banks, HUF 2 bln for commercial banks, HUF 1 bln for building societies, HUF 100 mln for cooperative credit institutions and HUF 20 mln for financial undertakings	25% for single borrower; 800% aggregate 'large loans' (est. by the 1996 Act on Credit Institutions).	Open ForEx position may not exceed 30% of adjusted capital	general reserve and general provision requirements and provision requirements according to laon category ('to be monitored separately,' 'substandard,' 'doubtful,' or 'bad') (est. by the 1993 decree and the 1996 Act on Credit Institutions).	Participation in a non-bank enterprise may not exceed 51% of bank's equity capital and total participation may not exceed 60% (est. by the 1996 Act on Credit Institutions).	Jan'93 BIS capital adequacy enacted; as of 1999 CAR 8%; on a risk-adjusted basis	shall not exceed 15% of bank's own adjusted capital (est. by the 1996 Act on Credit Institutions).	Extensiveness: 4 Effectiveness: 4
FYR Macedonia										
1994-'96	Central Bank is the supervisory authority	1996	denar counterpart of DEM 7 mln; for international operations requirement is DEM 21 mln	30% of bank's guaranteed capital limit on exposure to single debtor; 300% limit on aggregate exposure to large debtors.	open ForEx position in various currencies shall not exceed 30% of bank's guaranteed capital; open aggregate denar position no more than 60% of bank's guaranteed capital.	NA	NA	May'93 enactment of BIS captial requirement;	limits on loans to insiders (management and employees).	Extensiveness: 3 Effectiveness: 3-
Poland										
1992-'94	Committee on Banking Supervision at the National Bank of Poland	1994	ECU 5 mln	single customer exposure limit of 15% of a bank's capital base; exposure under any single agreement may be higher with NBP's consent, however not to exceed 50%.	15% of gross capital limit on exposure on any single currency; aggregate net position may not exceed 30%; the maximum position in all foreign currencies may not exceed 40%.	level of provisions shall be determined on case-by-case basis but shall not be lower than 20% for substandard loans, 50% for doubtful and 100% for loss loans (est. by Dec'94 regulation).	no limit on a single shareholding but total equity holdings may not exceed 25% of own funds	BIS capital adequacy adopted in 5/93. In 1999, CAR 8%, on a risk-adjusted basis for all banks operating prior to May'93; for newer banks CAR shall be at 15% in the first year of operations and 12% thereafter	loans to insiders shall not exceed 4% of own funds	Extensiveness: 4 Effectiveness: 3

Date crisis (distress) peaked	*Banking Supervision Institution*	*Date IAS in force*	*Minimum Capital Requirement*	*Large Credit Exposures*	*Open ForEx positon limits*	*Loan classification and provisioning*	*Limits on equity holdings in non-financial ent's*	*Capital Adequacy Requirement*	*Connected lending*	*EBRD Ranking of Extensiveness and Effectiveness of Legal Rules**
Estonia										
1992; 1994	Bank Supervision Department at the Bank of Estonia	1995	minimum share capital requirement EEK 35 mln as of 1996; from Jan'98 requirement for minimum own funds (capital and reserves) is ECU 5 mln; and the share capital must be at least ECU 5 mln by Jan'00.	Total exposure to a single customer may not exceed 25% of bank's own funds. Total large exposures may not exceed 800% of the own funds of the institution.	variable limits for different currencies (for the currencies of non-Western European EU countries and the US, Canada, Australia limit is 5% of own funds, except for Latvia and Lithuania for which the limit is 10%).	loans which are more than 150 days overdue are to be classified as bad and should be written off	NA	Sep'94 BIS capital requirement in effect; as of 1999 CAR 10% (since 1997); on a risk-adjusted basis	Total credits granted to a bank's own subsidiaries, its holding company and the subsidiaries of the holding company may not exceed 20% of its own funds. There are additional limits on lending to management and employees.	Extensiveness: 3 Effectiveness: 3
Latvia										
1995-96	As of 4/99 there were plans to introduce unified supervision of all financial institutions.	1992	LVL 1 mln (Apr'96); LVL 2 mln (Apr'98); Euro 5 mln by December 1999 as required by the Law on Credit Institutions (in 1998, based on non-audited financial statements, nearly half of the banks did not satisfy the requirement)	800% limit on the aggregate exposure; 25% exposure limit to a single customer or a group of connected customers; total exposures to related persons may not exceed 15% of own funds.(since Jan'96)	Open ForEx position in any single currency may not exceed 10% as from Jan'96. Total open ForEx position may not exceed 20%. (since Jan'96)	10% provisions for 'watch' category; 30% for 'substandard'; 60% for 'doubtful'; 100% for 'lost.'	From Oct'94 credit institutions' participation in non-credit institutions may not exceed 15% of its own funds. Total amount of such participation may not exeed 60%.	BIS capital adequacy requirement introduced in Jan'94; 10% CAR as of 1999	15% aggregate insider lending limit (since Jan'96)	Extensiveness: 3 Effectiveness: 3
Lithuania										
1995-'96	BoL supervises banks through the operation of its BSD.	1997	ECU 3.8 mln from Jan'97 until Jan'98; requirement was increased in Jan'98 to ECU 5 mln as required by the Law on Credit Institutions (in 1998, based on non-audited financial statements, nearly half of the banks did not satisfy the requirement)	may not exceed 25% of bank capital to single borrower or group of connected borrowers; no aggregate limit	overall open position and precious metals may not exceed 30% of capital and in individual currencies - may not exceed 20% of capital	provisions for standard assets 20%; doubtful 40%; bad 100% (as est. by Apr'97 regulation).	total sum of participation in non-banking institutions shall not exceed 10% of core capital; banks can not acquire controlling interest in a non-banking institution	BIS capital adequacy requirement introduced in Mar'96; 10% CAR (since Jan'97 and as of 1999; on a risk adjusted basis)	total amount of bank invesment in shares of another enterprise may not exceed 10% of bank's core capital; bank may not acquire controlling interest in another company (est. by Law on Commercial Banks, first passed Dec'94 and subsequently amended).	Extensiveness: 3- Effectiveness: 2+

Date crisis (distress) peaked	*Banking Supervision Institution*	*Date IAS in force*	*Minimum Capital Requirement*	*Large Credit Exposures*	*Open ForEx positon limits*	*Loan classification and provisioning*	*Limits on equity holdings in non-financial ent's*	*Capital Adequacy Requirement*	*Connected lending*	*EBRD Ranking of Extensiveness and Effectiveness of Legal Rules**
Georgia										
1995-97		proposed date Dec '2000	for new banks Lari 5 mln; for licensed banks US$0.25 mln (Dec'97); US$0.5 mln (Jun'98); Lari 1 mln (Dec'98) . . . Lari 5 mln (Dec'2000)	Total exposure to a single customer may not exceed 15% of total capital; total lending to 1 0 largest debtors not to exceed 50% of total loans	no single currency limit as of 1998	2% for performing loans; 5-10% for watch loans; 30-40% for sub-standard loans; 50-70% for doubtful loans; 100% for loss loans	NA	Basle capital adequacy requirement in effect Sep'96; as of 1999 CAR >=12%; on a risk-adjusted basis		Extensiveness: 2 Effectiveness: 2
Kazakhstan										
1994-96	Bank Supervision Department at the central bank	1997 (?)	$0.5 mln - $3 mln depending on ownership	limit on loans to individual borrower at 40% of bank's assets	NA	NA	NA	NA	limit on loans to single insider 20% of bank's assets; aggregate maximum loans to insiders 100%	Extensiveness: 2 Effectiveness: 2
Kyrgyz Republic										
1994-96	by the central bank	1997	prior to Oct'98: between 15 mln soms and 30 mln; since Jan'99: 25-40 mln soms	prior to Oct'98: 25%; since Jan'99: 20%	prior to Oct'98: 15% for single currency; 30% aggregate; since Jan'99: 10% for single currency; 15% aggregate	NA	NA	8% BIS capital adequacy enacted in June'95; Jan'99 - 12%	loans to insiders prior to Oct'98: 15% ; since Jan'99: 10%	Extensiveness: 3- Effectiveness: 2
Ukraine										
1995; 1996-'98	Committee on Banking Supervision (at the central bank) was established in 1996	1998	ECU 100,000 (June'96); Ecu 500,000 (Jan'97); Ecu 750,000 (June'97); Ecu 1,000,000 (Jan'98)	lending to a single outsider at 25% of total capital; aggregate large credit exposure limit 800% of total capital	20% of bank's capital for each single currency; 40% general open forex position; 10% limit for precious metals	NA	50% of total bank capital	as of 1999, CAR 8%; or a risk-adjusted basis	maximum allowed unsecured loan to a single shareholder (partner) - 50% of his/her equity investment; aggregate - 5% of bank's capital	Extensiveness: 2+ Effectiveness: 2

Sources: Handbook on Central Banks of Central and Eastern Europe, Bank for International Settlements, August 1998 and EBRD 1998 Transition Report

For detailed explanation of the rankings see 1998 EBRD Transition report.

Appendix Table 3:Inflation
(Consumer prices annual percent change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria	23.9	333.5	82.0	72.8	96.0	62.1	123.0	1082.2	22.3
Czech Rep	10.8	56.6	11.1	20.8	10.0	9.1	8.8	8.4	10.7
Hungary	28.6	34.8	22.8	22.4	18.8	28.3	23.5	18.3	14.2
Macedonia				338.7	126.5	16.4	2.5	1.5	0.6
Poland	585.8	70.3	43.0	35.3	32.2	27.9	19.9	15.0	11.7
Baltics									
Estonia	23.1	210.6	1069.0	89.0	47.7	28.9	23.1	11.2	8.2
Latvia	10.5	124.4	951.3	109.1	35.8	25.1	17.6	8.4	4.7
Lithuania	8.4	224.7	1020.5	410.4	72.1	39.5	24.7	8.8	5.1
CIS									
Georgia	3	78.5	887.4	3125.4	15606.5	162.7	39.3	7.1	3.6
Kazakhstan		91.0	1515.7	1662.3	1879.9	176.3	39.1	17.4	7.3
Kyrgyz Rep.		85	854.6	772.4	228.7	52.5	30.4	25.5	12.0
Ukraine	4.2	91.2	1209.9	4735.2	891.2	376.4	80.2	15.9	10.6

Source: World Economic Outlook (1998, 1999), International Monetary Fund; EBRD Transition Reports (1997, 1998).

Appendix Table 4. Bonds for Bank Restructuring and Deposit Compensation -- Technical Aspects

Country	Date	Issuer	Currency	Interest rate	Maturity	Purpose
Bulgaria	1992	Government	Local	Central Bank basic rate + 1%.	15 years, with 4 years grace period.	Bank financial restructuring (swap for bad assets).
	1993	Government	Local	Fraction of Central Bank basic rate.	20 years, with 5 years grace period.	Bank financial restructuring (swap for bad assets).
	1994	Government	Local	Fraction of Central Bank basic rate.	20 years, with 5 years grace period.	Bank financial restructuring (swap for bad assets).
		Government	US Dollar	6-months LIBOR	20 years, with 5 years grace period.	Bank financial restructuring (swap for bad assets).
	1995	Government	Local	Central Bank basic rate	3, 4, 5 years.	Bank financial restructuring (swap for bad assets).
	1996	Government	Local	Central Bank basic rate	7 years.	Deposit insurance
		Government	US Dollar	6-months LIBOR+ 2%	3 years.	Deposit insurance
	1997	Government	Local	Central Bank basic rate	7 years.	Deposit insurance
		Government	US Dollar	6-months LIBOR+ 2%	3 years.	Deposit insurance
		Government	US Dollar		18 months.	Bank financial restructuring (swap for bad assets).
	1998	Government	US Dollar	6-months LIBOR+ 2%	3 years.	Deposit insurance
Czech Republic						
	1991	National Property Fund	Local			
	1992	National Property Fund	Local		5 years.	Bank financial restructuring (partial swap for bad assets).
Hungary						
	1992	Government	Local	Bonds for principal claims (A bonds): average yield on 3 months Treasury Bills. Bonds for interest arrears (B bonds): 50% of interest on A bonds.	20, 25, 30 years.	Bank financial restructuring (swap for bad assets) (Loan Consolidation Program).
	1993-94	Government	Local			Bank financial restructuring (unrequited) (Bank-led restructuring and Loan Consolidation Program).
Macedonia						
	1994	Bank Rehabilitation Agency	Local	Central Bank basic rate.	15 years.	Recapitalization (swap for bad assets).

Appendix Table 4. Bonds for Bank Restructuring and Deposit Compensation -- Technical Aspects

Country	Date	Issuer	Currency	Interest rate	Maturity	Purpose
Poland						
	1991	Government	US Dollar	1991-95: 6-months LIBOR+ 2%. From 1996: 6-months LIBOR + 0.5%.	1-13 years.	Cover foreign exchange losses accumulated by banks on foreign exchange deposits after devaluation.
	1991-93	Government	US Dollar		1 year.	Transferred to PKO to refinance accrued and capitalized interest on the bank bad loans.
	1993-94	Government	Local	Central Bank rediscount rate.	15 years.	Bank financial restructuring (unrequited) (Enterprise and Bank Restructuring Program).
Estonia						
	1993	Government	Local	10% (For comparison: int. rate on loans over 5 years: 9.6%; int. rate on overnight loans: 6.3%).	15 years, with 5 years grace period.	Bank financial restructuring (unrequited).
		Government	Local			Bank financial restructuring (swap for bad assets).
Latvia						
	1993-94	Government	Local	20% for the first year, thereafter 1.5%.	Up to 7 years.	Bank financial restructuring (swap for bad assets).
Lithuania						
	1996-98	Government	Local	Average term deposit rate +1%.	10 years.	Bank financial restructuring (swap for bad assets).
	1997	Government	Local	Zero coupon bonds		Deposit protection.
Kyrgyz Rep.						
	1995-97	Government	Local	5, 25, 50.64, 55.7 percent	6 months, 1, 5, 10, 25 years.	Bank financial restructuring (swap for bad assets).

Appendix Table 5: Ratio of Recapitalization Bonds to Bad Debt in Poland and Hungary

Poland

	(in bln old PLZ)
Total debt for restructuring (December 1994)	51,662
o/w at 9 commercial banks	12,252
at specialized banks (PKO BP; BGZ; Pe Kao SA)	39,407
EBRP[1/] bonds allocated (in old PLZ, bln)	
o/w at 9 commercial banks	11,000
at specialized banks:	
PKO BP	5,734
BGZ	19,566
Pe Kao SA	3,700
Subtotal: at specialized banks	29,000
Total: commercial and specialized banks	*40,000*
RATIO of bonds/debt at commercial banks	0.90
RATIO of bonds/debt at specialized banks	0.74

Sources: Authors' calculations. Background information from Montes-Negret and others (1996), p. 45-48, and Borish and others (1997).

Hungary

1. ***1991 Consolidation Agreement*** (HUF 10.5 bln gurantee)
   Government extended an HUF 10.5 bln guarantee that covered HUF 21 bln
   (HUF 21 bln constituted 2% of bad loans held by banks at year-end 1990)
   Bonds/Debt = 0.50

2. ***1992 Loan Consolidation Scheme*** (HUF 98.6bln bonds covered HUF 120.5 bad loans held by banks)
   Bonds/Debt = 0.82*

3. ***'13+1 Program'*** (HUF 57 mln bonds)
   Swapped HUF 57 mln in bonds for 90% of the book value of bank loans to 13 large enterprises
   and the state railway company
   Bonds/Debt: assumed at 0.9, since the swap was for 90% of book value

4. ***1993-1994 Bank Consolidation Program:***
   Three infusions: HUF 114.4bln at the end of 1993 and HUF 50bln in two tranche: in 5/94 and in 12/94.
   Bonds were allocated to cover capital deficiency which was estimated, based on end-93 data to be: HUF 139 bln**

   From the above, estimated RATIO bonds/debt (largely overstated) = 1.18

5. ***'Good bank/Bad bank' approach:***
   This approach was designed to avoid further fiscal costs.
   State owned bank MHB spun off HUF 82 bln of its bad assets to a newly created subsidiary bad bank, Risk Kft, which was to be liquidated within 3 yrs. Risk Kft issued HUF 11 bln in 3 year bonds to MHB.
   Bonds/Debt = 0.13

Sources: Authors' calculations. Sources of background information: Montes-Negret and others (1996), Borish and others (1997).
*Initially the government planned to swap pre-1992 enterprise debt for bonds so that bonds would cover 50% of the face value of debt, and loans extended during 1992 would cover 80% of the face value.
**By end-94 portfolio quality deteriorated again, so actual capital deficiency over the whole period is higher than 139 bln.
See Borish, 1997, in: *Most-Moct*, p.56

Appendix Table 6. Cost of Bank Restructuring for the Government and Central Bank (Consolidated) (1991-1998)

	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL
Bulgaria									
Government	0.0	2.1	10.9	23.1	0.3	3.3	1.9	0.0	**29.8**
Bank restructuring	0.0	2.1	10.9	23.1	0.3	0.0	0.5	0.0	**26.5**
Deposit Compensation	0.0	0.0	0.0	0.0	0.0	3.3	1.3	0.0	**3.3**
Central Bank	NA	NA	NA	NA	2.8	6.6	2.2	-0.1	**11.8**
Total	**0.0**	**2.1**	**10.9**	**23.1**	**3.1**	**9.9**	**4.1**	**-0.1**	**41.6**
Czech Republic									
Government	14.9	1.8	3.6	1.0	0.3	0.1	0.7	1.0	**20.6**
Central Bank	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.9	**4.8**
Total	**14.9**	**1.8**	**3.6**	**1.0**	**0.3**	**0.1**	**2.8**	**3.9**	**25.4**
Hungary									
Government	0.0	2.8	3.6	2.1	0.2	0.2	0.1	1.7	**12.9**
Central Bank	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Total	**0.0**	**2.8**	**3.6**	**2.1**	**0.2**	**0.2**	**0.1**	**1.7**	**12.9**
Macedonia									
Government	0.0	0.0	0.0	3.3	0.0	0.0	0.2	NA	**29.6**
Bank restructuring	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	**5.1**
Deposit Compensation	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	**24.5**
Central Bank	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	**0.7**
Total	**0.0**	**0.0**	**0.0**	**3.3**	**0.0**	**0.6**	**0.2**	**NA**	**30.3**
Poland									
Government	7.1	0.0	1.3	0.8	0.0	0.0	0.0	0.0	**8.2**
Central Bank	NA	NA	NA	NA	NA	NA	NA	NA	**0.5**
Adjustment (-)	1.6	0.1	0.1	0.1	0.1	0.0	0.0	0.0	**1.3**
Government bonds placed in central bank	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**1.3**
Interest payments to central bank	0.1	0.1	0.1	0.1	0.1	0.04	0.03	0.02	
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**7.4**
Estonia									
Government	0.0	0.0	2.0	0.0	0.0	0.4	0.0	0.0	**1.4**
Central Bank	0.0	0.0	0.0	0.7	0.3	0.0	0.2	0.0	**0.8**
Adjustment (-)	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	**0.3**
Total	**0.0**	**0.0**	**2.0**	**0.7**	**0.4**	**0.0**	**0.2**	**0.0**	**1.9**
Latvia									
Government	0.0	0.0	1.6	1.9	0.0	0.00	0.00	0.00	**2.54**
Bank restructuring	0.0	0.0	1.6	1.9	0.00	0.00	0.00	0.00	**2.5**
Deposit compensation	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	**0.04**
Central Bank	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	**0.1**
Total	**0.0**	**0.0**	**1.6**	**1.9**	**0.2**	**0.0**	**0.0**	**0.0**	**2.7**

Appendix Table 6. Cost of Bank Restructuring for the Government and Central Bank (Consolidated) (1991-1998)

	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL
Lithuania									
Government	0.0	0.0	0.0	0.0	0.0	1.1	1.4	0.5	**3.0**
Bank restructuring	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.5	**1.7**
Deposit compensation	0.0	0.0	0.0	0.0	0.0	0.3	0.9	0.0	**1.3**
Central Bank	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	**0.2**
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.1**	**1.5**	**0.5**	**3.1**
Georgia									
Government	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	**0.1**
Central Bank	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	**0.1**
Kazakhstan									
Government	0.0	0.0	0.0	0.0	11.0	0.1	0.4	0.0	**18.4**
Central Bank	NA	NA	NA	NA	NA	NA	NA	NA	**NA**
Total	**0.0**	**0.0**	**0.0**	**0.0**	**11.0**	**0.1**	**0.4**	**0.0**	**18.4**
Kyrgyz Republic									
Government	0.0	0.0	0.0	0.0	0.1	4.3	1.0	0.0	**4.9**
Bank restructuring	0.0	0.0	0.0	0.0	0.1	4.3	0.7	0.0	**4.4**
Deposit compensation	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	**0.5**
Central Bank	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	**8.9**
Adjustment (-)	0.0	0.0	0.0	0.0	0.0	4.3	0.2	0.1	**3.3**
Government bonds placed in central bank	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	**3.3**
Interest payments to central bank	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**4.3**	**0.8**	**-0.1**	**10.6**

Appendix Table 7
Debt Incurred due to Banking Crises and Central Government Debt
End-1998

	Central Government Debt	Recapitalization and Depositor Compensation Bonds	Bank Crises-Related Bonds/Central Government Debt
Bulgaria	76.0	7.3	10.6%
Hungary	60.6	4.0	7.1%
Poland	43.1	2.3	5.6%
Estonia	7.4	0.5	7.2%
Lithuania	22.7	2.1	10.2%
Kyrgyz Republic	65.5	3.3	5.3%

Appendix Table 8. Asset Management Companies and Bad Debt Recoveries

	Date of activity	Size of bad assets at AMC*		Recovery Rate (Loans Recovered/Total Face Value of Bad Loans)	Comments
		(in LCU)	*(as % of GDP)*		
Czech Republic					
Konsolidacny Banka (KoB)	1991 - present		around 25%	around **3-5%** after 5-7 years of bankruptcy work	*Source: KoB publications and World Bank.*
Ceska Inkasni	1993 - present			NA	
Ceska Financni	1996 - present			NA	*Ceska Financni (CF) only manages loans that remain at core banks subject to contracts with CF. Management expected recoveries to be low due to their nature (many assets were the results of criminal activity) (source: 1999 Czech Republic WB country study, p.113)*
Hungary					
MBFB Rt	1991 - present	1/3 of HUF 120.5 bln in NPLs = HUF 40 bln	0.01% of 1992 GDP	**16%**	*Source: Johnson, 1999, "State-owned Enterprise Insolvency: Treatment of Financial Distress", September, the World Bank.*
Risk Kft (bad bank spun off from Magyar Hitel Banka)	1996 - 1999	HUF 82 bln	0.01% of 1996 GDP	NA	
Macedonia					
BRA	1994 - present	around 13 bln denars**	0.1% of 1994 GDP	no quantitative information is available	*BRA was not successful in restructuring or liquidating enterprises.*
Estonia					
Social Bank's "bad bank"	March 1995 - August 1996	about EEK 80 mln	0.002% of 1995 GDP	NA	
Lithuania					
Turtobankas	1996 - present	1,215 mln Ltl	3.85% of 1996 GDP	**5.27%** after 4 years of bankruptcy work	*If market value of the bad loans were used, the recovery rate would have been 36.5%. (Source: Turtobankas).*

	Date of activity	Size of bad assets at AMC*		Recovery Rate (Loans Recovered/Total Face Value of Bad Loans)	Comments
Kazakhstan					
Eximbank	1994 - present	Tenge 25.4 bln	6%	NA	*Eximbank manages bad loans on an agency basis and receives incentives for loan collection.*
Agricultural Support Fund	1994 - present	Tenge 16.9 bln	4%	NA	
Rehabilitation Bank (RB)	1994 - present	Tenge 4.2 bln	1%	NA	*Return on sale of 14 specific assets in 1999 was relatively low at only 15.6%. RB has been quite successful in fulfilling the objective of restructuring and liquidating enterprises: out of 44 enterprises RB initiated liquidation procedures against 4 insolvent enterprises; implemented severe reductions in staff (an average of 34.4%); pursued restructuring of 14 enterprises; and privatization and transfer under management contracts of 26 enterprises (Source: World Bank ICR FSAL document, 1998).*
Total			11%		
Kyrgyz Republic					
DEBRA	1996 - present	1.3 bln soms	0.06% of 1996 GDP	10%	*The ratio of 10% was calculated from: "the total amount of bad debts transferred to DEBRA was 1.3 bln som in 1997, and in 1998 DEBRA returned 99.4 mln som to creditors." (Source: Oxford Analytica Brief, June 30, 1999 "Kyrgyzstan: Banking Regulation").*

*For all countries except for Czech Republic this indicates size of assets transferred to AMC. For Czech Republic, only data for total assets managed by AMC were available. Since Konsolidacny Banka has a broader mandate than just managing bad assets, the total assets may include assets other than nonperforming loans.

**Figure refers to bad asset transfer in 1994; no information was available about subsequent bad asset transfers.

Appendix Table 9: Interest Rate Spreads /1

(Percent per annum)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria		8.9	11.7	15.7	21.4	23.0	48.8	37.1	10.3
Czech Rep.				7.0	6.0	5.8	5.8	5.5	4.7
Hungary	4.1	4.7	8.6	9.8	7.1	6.5	5.1	3.2	
Macedonia					42.3	21.9	8.8	9.8	9.4
Poland	462.5	1.1	1.3	1.3	-0.6	6.7	6.1	5.6	6.3
Baltics									
Estonia					11.6	7.2	7.6	13.6	8.6
Latvia				51.6	24.2	19.8	14.1	9.4	9.0
Lithuania				3.5	13.9	7.0	7.6	6.5	6.2
CIS									
Georgia							27.2	36.9	29.0
Kazakhstan									
Kyrgyz Rep.							28.3	9.8	37.7
Ukraine				35.6	41.7	52.4	46.3	30.9	32.2
OECD Countries /2	5.2	5.4	5.4	4.7	4.2	4.4	4.3	4.2	

/1 Lending minus deposit rate.

/2 Data for high-income OECD countries except for Austria (all years), Iceland (1993-94) and US (all years) for which data is not available.

Source: International Monetary Fund, "International Financial Statistics."

Appendix Table 10: Central Bank Credit to Banks
(Percent of GDP)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria		18.8	10.3	10.7	10.4	5.0	15.0	2.0	1.2
Czech Rep.				7.8	6.6	5.4	5.4	6.0	4.1
Hungary	16.9	16.7	10.0	10.4	9.3	5.4			
Macedonia				3.1	1.7	3.1	3.6	2.2	2.0
Poland	13.6	9.3	4.2	4.1	3.3	2.7	2.9	2.1	
Baltics									
Estonia		15.0	4.4	2.7	1.6	0.5	0.3	0.1	0.4
Latvia				0.9	1.0	0.9	0.7	0.2	1.4
Lithuania				2.5	0.9	0.7	0.4	0.2	0.1
CIS									
Georgia						0.1	0.2	0.1	0.1
Kazakhstan				20.7	3.2	1.0	0.6	0.5	0.1
Kyrgyz Rep.						7.1	0.6	0.3	1.0
Ukraine			37.2	10.0	2.8	1.2	1.1	1.7	
OECD Countries /1	2.1	2.4	2.8	2.8	2.2	2.2	1.9	1.8	

/1 Data for high-income OECD countries except for Austria, Canada, Germany (1990), Ireland (all years) and US (all years) for which data is not available.

Source: International Monetary Fund, "International Financial Statistics."

Appendix Table 11: Currency to Deposit ratio
(End of Period, Percent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria		91.6	92.5	100.1	102.6	133.2	114.8	134.6	160.7
Czech Rep.				28.1	26.1	31.9	35.7	39.6	45.9
Hungary	68.2	74.1	66.4	69.9	72.9	75.8			
Macedonia				93.6	92.4	95.3	118.8	99.9	87.2
Poland	71.6	108.8	108.9	103.3	80.9	109.1	81.9	79.2	72.9
Baltics									
Estonia		41.1	57.4	85.7	96.4	87.2	65.5	53.1	55.3
Latvia				132.8	154.3	145.3	163.3	141.8	130.3
Lithuania				82.8	116.9	120.6	111.0	98.5	101.1
CIS									
Georgia						406.8	492.4	619.0	551.5
Kazakhstan				38.4	57.6	71.2	82.0	159.7	137.4
Kyrgyz Rep.						355.8	505.8	606.4	746.4
Ukraine			30.5	59.6	74.3	127.4	177.6	210.1	225.8
OECD Countries /1	47.5	44.6	41.9	41.4	37.6	35.4	33.3	32.9	

/1 Data for high-income OECD countries except for Sweden (all years), UK (all years), and Luxembourg (1993) for which data is not available.
Source: International Monetary Fund, "International Financial Statistics."

Appendix Table 12: M1/M2
(In Percent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Central and Eastern Europe									
Bulgaria		25.4	25.3	21.7	18.5	18.9	19.0	39.8	44.7
Czech Rep.				38.6	48.1	39.7	39.1	35.6	33.3
Hungary	56.6	51.7	53.6	51.3	49.0	43.8			
Macedonia				13.0	53.9	59.2	57.7	54.3	52.4
Poland	49.5	41.3	36.4	35.1	35.5	35.9	38.3	35.0	32.5
Baltics									
Estonia		31.4	71.8	86.1	79.9	79.4	76.2	67.8	61.3
Latvia				57.7	50.3	64.5	64.6	63.0	62.7
Lithuania				65.3	56.8	62.1	66.6	70.3	66.9
CIS									
Georgia									
Kazakhstan								87.2	79.9
Kyrgyz Rep.						89.4	90.8	74.0	64.8
Ukraine			82.1	71.0	57.8	67.7	67.5	72.2	67.4
OECD Countries /1	30.4	31.8	32.0	33.3	32.4	32.8	33.8	34.5	

/1Data for high-income OECD countries except for Sweden (all years) and UK (all years) for which data is not available.

Source: International Monetary Fund, "International Financial Statistics."