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**Financial Fragility or What
Went Right and What Could
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European Banking?**

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FINANCIAL FRAGILITY OR WHAT WENT RIGHT AND WHAT COULD GO WRONG IN CENTRAL EUROPEAN BANKING?

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Abstract

Despite the fact that banks in Central Europe are burdened by extraordinarily high bad loan ratios, the recent financial crisis in South East Asia and Russia, has not led to a massive failure of banks in the region. In this paper, we study economic trends and policies that may have helped to insulate CEECs from international financial contagion. Answering what went right over the past few years may not only help to further positive developments, but it may also highlight possible weaknesses that could result in future financial instabilities in the banking sectors of CEECs. Using data available from the IMF, and the BIS for nine Central European economies (Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, and Slovenia), our results indicate that an economic constellation unique to the early transition period rather than deliberate policy decisions have stabilized the CEECs. Specifically, the lack of recent banking crisis can be attributed to a lack of overly optimistic credit expansion, despite several years of real economic growth, to underdeveloped asset markets, and to a decline of trade relations with the former Soviet Union. Future problems may arise as banks are beginning to extend credit more to an expanding real sector than in the past, as asset markets become more developed, or as export growth to the EU may decline with European growth slowing down. Thus, improvements in bank regulation and bank supervision should receive a high priority among policy makers in CEECs.

Keywords: transition economies, emerging economies, banking crises, monetary policy, exchange rate policy, bank regulation, bank supervision

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I. Introduction

The banking systems of the transition economies have compiled bad loan ratios in the double digits during the early transition years. However, in the wake of the financial crisis in South East Asia and Russia, the transition banking systems have not experienced bank runs or massive bank failures. What is it that has saved these economies from the fate of other emerging economies in the wake of the Mexican and South East Asian crises?

Banking systems play a central role in any economy, hence their failure would have serious repercussions. Stable financial systems can channel savings to investors, and thus permit productive capacities to improve. Financial crises, then, not only constitute the breakdown of an industry, but they also adversely affect domestic output through a credit contraction.

The risk of a banking crisis occurring is intrinsically linked to the risks banks are exposed to, and the chance that these risks materialize. Through financial liberalization, banks are generally exposed to greater default, exchange rate, interest rate, and maturity risks. More importantly, though, the experience in other emerging economies has shown that the likelihood that these risks will materialize also grows with financial liberalization.

Understanding the stability of the early transition economies is not only of interest to the economies themselves, but also to their EU neighbours. Banking crises in Central Europe seem to hit closer to home than financial turmoil in South East Asia as many investors learned after the Russian crisis. Hence, it is important to identify the factors which helped to stabilize banks of the earlier transition economies to ensure that slower transition economies will also become or remain stable, and second, to correct possible shortcomings which could lead to instabilities in the future.

Obviously, something must have gone right if Central European banks, which are exposed to greater risks, did not experience bank runs and failures. This stability may result from a unique constellation of economic fundamentals. It may also result from the speed at which financial systems were transformed. The rapid transition may have made the creation of stabilizing institutions possible within a short time frame. Thus, emerging economies that have liberalized at a slower pace than transition economies may be haunted by "non-market inertia".

The remainder of the paper is organized as follows. Section II .1 provides an overview of the economic and institutional trends in transition economies, so far as they pertain to their banking stability. In section II .2, a univariate comparison of the data for transition economies and other emerging economies is presented, while a few concluding remarks follow in section III.

II. Risks and Protection in Transition Economies

II. 1 Banking Crisis after Financial Liberalization

Before we pursue our empirical analysis it seems useful to give a few definitions, and a framework to study the chance of banking crises in Central and Eastern Europe countries (CEECs). We begin with brief definitions of banking crises, and financial liberalization (FL), and then lay out a framework which connects FL to the likelihood of banking crises.

An indication for a looming banking crisis may be a deterioration of the balance sheets of commercial banks, which could precede a bank run. Massive bank failures, or public intervention in a large share of the banking system subsequently end a bank run. Increased bad loan ratios do not necessarily have to lead to banking crises if they can be fended off through the use of the banks' own reserves or through bail-out programs. In this case, the chance of a banking crisis increases without resulting in bank runs, and bank failures. In this paper, we are chiefly interested in the occurrence, or more accurately non-occurrence, of bank runs, as signs of banking crises.

In a number of previous studies the likelihood of banking crisis has been connected to an economy's previous liberalization of its financial sector. The radical financial market changes, which have occurred in CEECs over the past decade, including bank privatization, entry of foreign banks, creation of market based lending rules, or elimination of interest rate ceilings, by and large meet the definition of financial liberalization (FL). FL is understood as the elimination of financial regulations in the domestic financial markets to reduce excess demand for credit (McKinnon, 1973; Shaw, 1973). In addition to reducing domestic restrictions, FL often comprises external liberalization leading to the permission of overseas lending and borrowing and a greater mobility of multinational corporations (MNCs) and multinational banks (MNBs).

Since FL has been the prominent policy stance in CEECs, our attention now focuses on the possible link between liberalization and crisis. Generally speaking, financial liberalization (FL), exposes banks to a number of risks, which are also more likely to materialize after liberalization. Clearly, saying that risks increase if banks borrow more or lend out more is tautological. The important aspect, then, is that these risks become more likely to materialize after FL.

Banking instabilities could arise after FL due to an initial "deregulation euphoria". This may sound like pure psychology, but it can be relatively easily connected to economic fundamentals. As domestic financial markets become more liberalized, credit may be expanded to sectors that were previously credit constrained, mainly because rising real interest rates promise more profits to credit suppliers. Greater supply of credit might in turn increase business investment, thus possibly leading to an output increase (Calvo and Corricelli, 1993; Weller, 1999) - as long as borrowers are willing to borrow at higher real interest rates. Borrowers may be inclined to borrow at higher real rates either because they expect lower interest rates in the future, or because the risk of bankruptcy for each firm declines if enough firms borrow at unsustainably high interest rates. With higher real rates and with expanding real and financial sectors, more funds should be attracted from overseas. More capital inflows from abroad, in turn, may lead to a currency appreciation in real terms, hence attracting even more international capital. In other words, initially a previously financially repressed economy should see real gains from FL.

However, rather than a stable equilibrium, changes in economic fundamentals after liberalization may merely produce periods of tranquility (Minsky, 1986). Mainly because the continued overvaluation of a currency helps to attract foreign capital, governments may find themselves in a situation where they maintain an overvalued real exchange rate to bring in new capital despite the fact that it hurts its export producing sector. Put differently, while the real sector is already experiencing a slow down, as often reflected in a worsening current account balance and lower industrial production growth, international and domestic lenders may still expand credit. While the size and growth rates of this speculative financing can vary with the

strength of the regulatory structures, the outcome is still a more unstable banking structure. A banking crisis may then result from an unsustainable, speculative credit expansion.

Because of its domestic and international features, FL exposes domestic banks to a number of risks over time, namely default risk, exchange rate risk, interest rate risk and maturity risk. Further, as FL may create a destabilizing dynamic, banks' exposure to these risks may not only rise, but the likelihood that these risks may materialize may also increase.

First, default risk, that is the risk that borrowers are going to default on their loans, becomes larger simply because more credit is extended, usually at higher interest rates. As the quality of borrowers may gradually deteriorate if banks engage in speculative financing, the default risk rises further. Borrower default may also increase because the real sector is adversely affected by FL. For instance, the terms of trade worsen with a currency overvaluation, making exports a harder sell. Or, an appreciating currency following FL may provide an incentive to domestic borrowers to take out foreign currency loans, and thus raise the likelihood of default in the case of a devaluation. Finally, before a devaluation becomes necessary, monetary authorities may be tempted to tighten their stance on money to avoid capital outflows, thereby inducing a real economic slow down.

Second, banks may be exposed to a greater exchange rate risk if banks borrow overseas or if they lend out foreign currency loans. Exchange rate risk is the risk that a domestic currency will be devalued, thus making the repayment of foreign currency denominated loans harder. Since FL may have an initially appreciating effect on a currency as more capital is attracted into an economy, domestic banks may be enticed to finance domestic assets with foreign liabilities (BIS, 1997; Grabel, 1998). If emerging market currencies become overvalued, more speculative investments may attract more international capital inflows with the promise of short-term gains (Dornbusch, Goldfajn and Valdés, 1996; Kaminsky and Reinhart, 1996). To avoid large-scale capital outflows, monetary authorities may try to maintain the overvaluation with possibly insufficient reserves or with a tightened monetary stance. A devaluation may ultimately become unavoidable as reserves are depleted or the economic performance begins to slow down.

Third, FL may lead to a growing maturity risk. Maturity risk is understood here as the risk that enough short-term bank liabilities, which have been used to fund long-term assets, are withdrawn to force banks to recall their long-term outstanding assets. Short-term international loans may be withdrawn if international investors anticipate economic difficulties. As a large share of overseas funds are in the form of short-term loans, quick recall is rather easy. Large scale short-term capital inflows may have helped to generate initially an overvaluation, which may make a devaluation, and subsequent capital outflows more likely.

Fourth, with capital account liberalization as part of FL interest rate risk increases, too. Interest rate risk is the possibility that outside interest rates rise, and hence capital flows out of an economy. If banks borrow short-term funds on international financial markets, investors can withdraw their funds rather quickly if the differential between international capital market rates and the domestic market rates are narrowing. Similarly, domestic investors are not insensitive to changes in interest rate differential, and they will subsequently move their financial investments wherever higher risk adjusted yields can be earned. Notice that both domestic and international borrowers may perceive investments in emerging economies as riskier if economic fundamentals

begin to deteriorate, for which they may be compensated by a widening interest rate differential due to monetary tightening. However, as tight money may stifle economic growth, a future narrowing of the interest rate differential, and capital outflows may become more likely.

Moving from macro factors to the micro workings of financial markets, the risks banks incur may decline due to more international financial competition. It is likely that banks in transition economies reduce their loan and risk exposure once they find themselves in competition with well capitalised MNBs. In other words, if a bank's net worth is above its safety threshold for prudent lending, more international competition may lead a bank to reduce its lending, such that it can lower its loan and risk exposure – assuming that its capital base is weaker than its competitor's and that access to new capital is limited (Weller 1998a, 1998b). The reduction in lending will be greater if MNBs engage in "cherry picking" leaving only borrowers of lesser quality for domestic banks. Obviously, the more a bank reduces its lending the less likely it is to experience default risks, or maturity risks, and thus bank runs.

Adding to the greater problems for banks after FL is the likelihood that, as banking systems are becoming more vulnerable to crises, the support governments can provide is declining, too. The need to support a domestic financial system may come in the wake of already deteriorating economic fundamentals before a crisis, sometimes induced by government policies, such as tightened money (Kaminsky and Reinhart, 1996). In other words, at the same time that government finances are worsening the demands on these finances may be rising.

II.2 Reducing the Risks in Central Europe

As mentioned earlier, the stability of banks in the transition economies may be the outcome of effective policies, or it may be the result of economic fundamentals unique to these transition economies. Essentially, to mitigate the risks banks are exposed to policy makers could either reduce banks' exposure to these risks, or they could try to reduce the probability that these risks materialize. While policies may have helped to stabilize banks in transition economies, their stability may also be simply the result of economic fundamentals, which may have, despite greater openness and more deregulation, led to a reduction in the banks' exposure to risks.

We could think of a number of policies, which may have led to a reduction in the risks for banks after FL. Such policies could generally include: exchange rate policies which would lower the exchange rate risk, tight monetary policy which should address worries about exchange rate risk, interest rate risk, capital controls which would also reduce the exposure to exchange rate risk, maturity risk, interest rate risk, and adequate supervision and regulation which should reduce default risk. Furthermore, the transition economies in Central Europe have also inherited large state holdings of private enterprises and banks. Thus, they are in the unique position to possibly raise additional funds through privatisation of state-owned enterprises, and to potentially stabilize their banks through more competition via joint ventures or majority share holdings by MNBs.

Monetary policy remains largely focused on price and exchange rate stability for most of the period, thereby accepting adverse output and employment effects (Abel, Siklos, and Szekely, 1998; Hoen, 1998; Mygind, 1997; Rybczynski, 1997; Skreb, 1997; Norgard, 1996; Bruno, 1993;

Calvo and Corricelli, 1992). Tight monetary policy has been implemented early to curtail high inflation in the wake of price liberalizations (OECD, 1997; Banerjee et al., 1995), and to help the credibility of newly established currencies¹. Particularly, in the now independent states of the former Soviet Union and Yugoslavia, as well as in the separated Czech and Slovak Republic, monetary credibility was inherently tied to the stability of newly created currencies.

Table 1 illustrates both the initial rationale for and the effect of tight monetary policies across the region. Early in the transition process, that is between 1990 and 1993, inflation rates have been high and accelerating due to price liberalizations, and due to a general uncertainty about each economy's future. A firm stance on money, particularly in 1992 with an average interest rate of 331%, has lowered inflation in the following years. After an initial increase in both M1 and M2 relative to GDP, both decline after 1992 until 1995, and M1 even until 1996. Once inflation rates have become more stable, monetary policies have become less restrictive in 1997, as M1 and M2 grow quite rapidly. Clearly, the change in monetary policy has been too recent to assess its impact on bank stability. However, just like a tightening of monetary policy may lead to a rise in the default risk due to higher capital costs, a loosening of monetary policy may help to continue the recovery in CEECs, and thus lower the default risk.

Tight monetary policies in Eastern Europe were intended to not only stabilize prices, but also to establish credibility for the newly created currencies. However, currency stability may result either from limited convertibility or from fixed exchange rate regimes. In either case, exchange rate risk should become lower. Table 2 provides an overview of changes introduced to the exchange rate regimes and controls in a number of CEECs. Two trends seem noteworthy, namely throughout the period most economies are loosening their exchange rate restrictions, and the viability of fixed exchange rates, or crawling pegs seems to be only gradually emerging. While Hungary, Poland, and to a lesser degree, the Czech Republic seem to have stabilized their exchange rates, the Slovak Republic seems to be struggling. Exchange rate risk may be currently curtailed in most economies as pegged exchange rates remain stable. However, future instabilities may lurk if pegged exchange rates become harder to maintain in a more open environment.

Tight money may have led to an initial economic downturn, thus raising borrower default, but it may have lowered interest rate and exchange rate risks by rising real interest rates, and stabilizing exchange rates. Whether both stable prices and exchange rates can be maintained depends on the credibility of monetary policies now that money is expanding again, and it depends on future exchange rate changes in a more open environment. Hence, while exchange rate and interest rate risk have been contained in the recent past - in a trade-off against a rising default risk - these risks may rise again in a more deregulated environment with less tight money.

Capital controls may help to reduce exchange rate, maturity and interest rate risks. While some of the transition economies have initially introduced some inward and outward capital controls (Abel, Siklos, Szekely, 1998; Druzic, 1997; Leinela and Sutela, 1997; Mygind, 1997; Radosevic and Dyker, 1997; CNB, 1995), these have largely been lifted (table 3). Remaining capital controls may come in the form of limitations on the ability of residents to move capital

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In the case of currency boards in Estonia and Lithuania, the causality runs the other way. Here fixed exchange rate regimes are introduced to curtail domestic inflation.

abroad (Radosevic, 1997; BOS, 1998), or as requirements to obtain foreign exchange licenses (NBS, 1995). Thus, capital account regulations have made it easier over time to invest and withdraw funds, consequently raising exchange rate, maturity and interest rate risks. The fact that the elimination of capital controls is a rather recent phenomenon, in most economies after 1996, may explain why these risks have not materialized yet.

Whereas all risks seem to be increasing in recent years, bank instabilities could be curtailed through improvements in bank regulation and supervision. Recently, however, a number of remaining problems in the supervision and regulation of banks in transition economies have been identified (Bonin, Mizsei, Szekely, and Wachtel, 1998). Among them are moral hazard problems due to relatively big state-ownership of large banks, necessary recapitalizations of domestic banks, the lagging application of international accounting standards, and the prohibition of orderly exit of domestic banks. Overall, it seems that "the infrastructure for bank supervision and regulation has not developed as quickly as it should" (Bonin et al, 1998:1).

The need for adequate supervision and regulation clearly emerges in CEECs from their persistently high bad loan ratios, and the continued recapitalization efforts of large domestic banks. Especially in the large economies of Poland, Hungary, and the Czech Republic have wholly or partially state owned banks been repeatedly been the target of government fund injections². Obviously, most of these measures are necessitated by the persistence of bad loan ratios, but the issue remains as to whether repeated recapitalizations create moral hazard problems for the domestic banking sector. To avoid instabilities from riskier lending among banks, bank regulation and supervision need to be effective.

Finally, bank stability may have been achieved through increased international competition. It needs to be noted, though, that domestic banks are not necessarily becoming more efficient, but that they simply lend less as they desire to lower their risk exposure, while competing with well capitalized MNBs³. In all transition economies, MNB entry has been introduced as a mainstay of economic reform. Hungary, for instance, promoted foreign ownership of domestic banks most forcefully (Anderson and Kegels, 1998). By 1994, about 15.1% of all Hungarian banks were already foreign-owned, with a further increase to 35.6% in 1995, and expected increase to 47% in 1996 (Abel, Siklos and Szekely, 1998). Hungary has also seen a consistent decline of real credit as a result of increased competition, as has Poland (Weller, 1998a, 1998b). Clearly, if banks lend less commercially, they automatically lower their default risk.

With respect to the policies discussed here that may have helped to stabilize the banking systems in CEECs two aspects seem to be worth emphasizing. First, tight monetary policies and increased international financial competition may have helped to stabilize the banking system at

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Bank recapitalizations are not always driven by economic reasoning alone. For instance, recapitalization of the Bank for Food Economy, BGZ, in Poland, was arguably only possible in the political climate at the time, when the Polish Peasant Party provided the prime minister. 3 More competition may lower the rent seeking by domestic banks, thus making them by definition more efficient, but also limiting their ability to acquire new technologies or staff. Thus, reducing their lending engagements seems to be the only alternative to reduce their default risks.

the expense of real sector development. Second, changes in monetary policies, or in policies pertaining to exchange rate and capital controls may have happened too recently to destabilize domestic banks during the recent Russian turmoil, but they may bear the seeds for future troubles. Further, countervailing forces, such as adequate regulation and supervision, are still in their developing stages.

Besides new policies, there is also the possibility that economic fundamentals may change in the future, thus raising the risks for domestic banks. In other words, banking sectors in transition economies have so far been stable thanks to a constellation of economic fundamentals unique to the early transition period, in addition to active policies pursued.

The real sector, for instance, shows signs of recovery, whereas there remain hints of weakness (table 4). Thus, the default risk may have gradually declined, while dangers of future increases are still looming. GDP per capita (on a PPP basis) shows initially a sharp decline, followed by a gradual increase, such that it reached its nominal 1990 level for the first time again in 1997. As a result of the economic deterioration, governmental balances are initially worsening, before improving slowly. Further, GDP and industrial production both decrease for three years before they begin growing again in 1994. Hence, unemployment grows quickly to between 10% and 12% for most of the period, whereas wages of those who are still employed fall initially and then rise gradually. While economic growth seems on a sound footing in the late 1990's, it is important to note that it followed a sharp drop, and that severe problems, such as high unemployment, remain. .

With the real economy slowly recovering, the focus shifts to the financial sector, where some trends may have helped to lower the default, and maturity risks (table 1). Especially, inflation has decreased to manageable levels after high and sometimes hyper-inflation in the early years. Clearly, price stability has a stabilizing impact as international investors become more likely to undertake more long-term projects, thus automatically reducing the maturity risk. Similarly, increased price stability for sustained periods of time allows monetary authorities to ease their monetary stance, thus making it easier for borrowers to finance desired investments.

While businesses want to invest, banks appear hesitant to lend (Anderson and Kegels, 1998; Abel, Szekely and Siklos, 1998; Weller, 1999a, 1999b; Mygind, 1997; Dittus, 1994), as table 1 already indicates. While slow credit expansion may have real adverse effects (Weller, 1999c; Calvo and Corricelli, 1992, 1993), it may also lower the default risk for banks – which may be the rationale for less credit exposure in the first place. However, it is quite likely that as banks lower their net default ratios lending increases over time - as seems to be generally the case in 1997 - thereby raising again the default risk to banks.

Finally, as the CEECs have become more integrated into the world economy, the risk of contagion effects, and thus the probability of banking crises is also growing (table 5). Even a sound economy may be affected by contagion effects. A deterioration in the trade balance as a result of contagion spells economic troubles for exporters, and potentially for import competing industries, thus raising the default risk. Also, under fixed exchange rate regimes, a deterioration of the trade balance should make a devaluation more likely, suggesting a greater exchange rate risk. Clearly, trade ties with the former Soviet Union could pose a threat of contagion for transition economies. Overall, exports and imports have grown, while the current account

balances of almost all transition economies have lately turned negative - making them more vulnerable if contagion poses a problem. However, exports to and imports from the Russian Federation ranged from negligible in Slovenia and Croatia (2.9% of exports and 2.7% of imports) to a substantial 24.5% of exports and 25.3% of imports in Lithuania by 1997 (ECE, 1998). Generally, the large economies export 3%-7% of their exports to the Russian Federation, and import 7%-9% of their imports from there. In other words, while contagion seems less of a concern to the former Yugoslavia or the Visegrad countries, they may pose a problem for the Baltic economies.

Similar to trade related contagion, contagion effects may also spread through international financial markets. If international financial investors get burned in one emerging economy, they are likely to repatriate their funds to safer grounds from other economies, too. For example, investors withdrew funds from a number of economies in the wake of the Mexican peso crises in 1995, even though some of them had very little obvious connections with Mexico, which is, for instance, reflected in the stock market decline in 1995 (table 4). How vulnerable transition economies are to international capital mobility depends largely on their exposure to short-term funds. Overall, transition economies seem to have maintained stable levels of external debt, while there seems to be a shift from short-term debt to more long-term debt. Thus, international investors become more likely to invest more long-term in the CEECs over time, which is also reflected in the continuous flows of FDI and more MNB lending. More long-term financial commitments consequently spell less maturity, interest rate and exchange rate risks.

More long-term international investments may also help to reduce the chance for speculative bubbles. In a number of emerging economies, bank crises have been linked to asset market speculation, which in turn has been fuelled by growing short-term international debt, or so-called "hot" money (Weller, 1998d; Grabel, 1998; Kaminsky and Reinhart, 1996; Lindgren, Garcia and Saal, 1996; Sheng, 1996; Benink and Llewellyn, 1994b; Balino and Sundararajan, 1991). Obviously, as speculative bubbles raise the default risk, the question arises as to why large scale speculation has not been a problem in the CEECs. Speculative growth, albeit common after FL in emerging economies, may not have occurred in the CEECs because domestic banks have been slow to expand their loan portfolios due to their high bad loan burdens, because international investors have moved into more long-term investments, and because asset markets are underdeveloped, thereby impeding speculation.

This overview of real, financial and external trends suggests that a constellation of economic fundamentals unique to the early transition years has helped to insulate the CEECs from the recent global financial turmoil. In particular, slow credit expansions, a reorientation of trade towards the EU, and more long-term investment horizons seem among the beneficial factors. However, for the future either one of these factors may deteriorate as a stabilizing factor. For instance, a persistent slow down in the EU would have clear repercussions for trade and economic growth in the region. Also, the elimination of capital controls and the development of asset markets may make the CEECs more attractive for short-term capital flows in the near future.

III. Conclusion and Policy Implications for Croatia

In this paper, we have looked at the question as to why the transition economies in Central and Eastern Europe have not been caught up in the recent financial turmoil, which has spanned from South East Asia to Russia to Brazil. In particular, the fact that banks in transition economies may not have failed on a massive scale, or that major bail-out packages, similar to those for Korea or Indonesia, have not been necessary may be caused either by stabilizing policies, or by a constellation of economic fundamentals unique to the early transition years.

Our research finds that a unique constellation of economic fundamentals, rather than deliberate policies have helped to insulate transition economies. True, a number of policies, such as exchange rate controls, and, more importantly, capital controls, have contributed to the stability of the transition banking systems in the early years, but lately most stabilizing policies have been reversed. Also, policies which are designed to directly stabilize banks, such as the permission to allow international financial competition, may have adverse real effects, hence increasing the default risk of domestic borrowers. In other words, policies, which we may associate with increasing stability of banks, may actually have an ambiguous effect. This leaves us turning to economic fundamentals looking for clues. Here we find that slow credit growth, a reorientation of trade towards the EU, and more long-term investment horizons seem among the factors contributing to banking stability in the CEECs. However, for the future either one of these factors may deteriorate, and lose its stabilizing impact. For instance, a slow down or recession in the EU would have clear repercussions for trade and economic growth in the region. Also, the elimination of capital controls and the development of asset markets may make the CEECs more attractive for short-term capital flows in the near future, and thus open to speculative growth similar to that observed in Asia or Latin America.

Concluding that the lack of recent financial turmoil is not necessarily due to economic policies should not be misunderstood, though. It does not mean that the policies pursued did not achieve their original goals. It also does not mean that there are no policies that transition economies could pursue to stabilize their banking systems. Clearly, evaluating each policy with respect to all goals that it is designed to achieve is beyond the scope of this discussion. Debates over optimal monetary policies alone could probably fill volumes. Hence, we are going to focus here only on policies transition economies should consider for the future.

Adequate regulation and supervision of domestic banks should rank high on the priority list of policy makers, especially since it appears that more work needs to be done in this area. Banking systems in open emerging economies are prone to experience crisis as they are exposed to a number of risks. As international factors in addition to domestic ones are now determining banking stability, regulators and supervisors are even more demanded than in a purely domestic setting. The need for improvements in regulation and supervision are augmented by the recent economic improvements as they are prone to breed optimistic expectations, and hence credit expansions, even for borrowers of lesser quality. Further, the continued, and necessary, recapitalizations of large banks in transition economies may begin to create moral hazard problems, which may become worse without adequate regulation and supervision.

Transition economies have done well with respect to banking crises in part because of a more long term commitment of international investors. We have argued that this more longer time

horizon of international investors is to some degree caused by the lack of well developed asset markets, which would allow for short term portfolios investment inflows. Obviously, this should not be misunderstood as an argument in favor of not developing capital markets, but rather taken as an argument to design capital controls in such a way that they lengthen the time horizon of international investors. Such capital controls could include so-called “speed bumps”, or minimum stay requirements for international investors.

Finally, a number of transition economies appear to have been successful in establishing pegged exchange rates. Thus, domestic currencies have not come under devaluation pressures as pegged exchange rates in South East Asia, Russia or Latin America have come. With the elimination of exchange rate and capital controls, the chance for currencies to be exposed to international financial market pressures to devalue becomes clearly greater. However, while fully flexible exchange rates cannot come under devaluation pressures, the greater volatility associated with flexible exchange rates may disrupt international trade flows. Considering that the CEECs are integrated to a relatively large degree via international trade flows, this last concern should be taken very seriously. However, even with flexible exchange rates, a certain level of stability can be achieved through either capital controls designed to curb the volatility of international capital flows, or through solid monetary and fiscal policies pursuing stable economic growth.

References

- Abel, Istvan, Pierre L. Siklos, and Istvan Szekely, 1998, *Money and Finance in the Transition to a Market Economy*, Northampton MA: Edward Elgar.
- Balino, Tomas and V. Sundararajan, 1991, *Banking Crises: Cases and Issues*, Washington DC: International Monetary Fund.
- Balczerowicz, Leszek, Barbara Blaszczyk and Marek Dabrowski, 1997, "The Polish Way to the Market Economy 1989-1995", in W.T. Woo, S. Parker and J. Sachs, eds., *Economies in Transition*, Cambridge MA: MIT Press.
- Banerjee, Biswajit, Vincent Koen, Thomas Krueger, Mark S. Lutz, Michael Marrese, and Tapio O. Saavalainen, 1995, *Road Maps of the Transition: The Baltics, the Czech Republic, Hungary, and Russia*, Occasional Paper #127, Washington DC: IMF
- Bank for International Settlements (BIS), 1998a, *International Banking and Financial Market Developments*, Basle: Bank for International Settlements.
- Bank for International Settlements (BIS), 1998b, *Consolidated International Banking Statistics for End-1997*, Basle: Bank for International Settlements.
- Bank for International Settlements (BIS), 1997, *Financial Stability in Emerging Market Economies, Report of the Working Party on Financial Stability in Emerging Market Economies*, Basle: Bank for International Settlements.
- Bank of Slovenia (BOS), 1998, *Foreign Exchange Regime in Slovenia*, updated October 16, 1998, http://www.bsi.si/html/eng/laws_regulations/foreign_exchange.html
- Benink, Harald, 1995, *Coping with Financial Fragility and Systemic Risk*, Financial and Monetary Policy Studies Volume 30, Boston: Kluwer Academic Publishers.
- Benink, Harald, and David Llewellyn, 1994a, "Deregulation and Financial Fragility: A Case Study of the UK and Scandinavia", in D. Fair and R. Raymond, eds., *The competitiveness of financial institutions and centres in Europe*, Financial and Monetary Policy Studies, vol. 28. Dordrecht and Boston: Kluwer Academic.
- Benink, Harald and David Llewellyn, 1994b, "Fragile Banking in Norway, Sweden and Finland: An Empirical Analysis", *Journal of International Financial Markets, Institutions and Money* Vol. 4, 3-4: 5-19, 1994.
- Bonin, John P., Kalman Mizsei, Istvan P. Szekely, and Paul Wachtel, 1998, *Banking in Transition Economies*, Brookfield VT: Edward Elgar.
- Bruno, Michael, 1993, *Crisis, Stabilization, and Economic Reform: Therapy by Consensus*, Oxford: Clarendon Press.
- Calvo, Guillermo and Fabrizio Corricelli, 1993, "Output Collapse in Eastern Europe: The Role of Credit", *IMF Staff Papers* (March, 1993).
- Calvo, Guillermo and Fabrizio Corricelli, 1992, "Stabilizing a Previously Centrally Planned Economy: Poland 1990", *Economic Policy* 14: 176-208, 213-226 (April 1992).
- Czech National Bank (CNB), 1995, *Foreign Exchange Act of 26 September 1995*, Prague: CNB.

- Demirgüç-Kunt, Asli and Enrica Detragiache, 1997, “The Determinants of Banking Crises: Evidence from Developed and Developing Countries”, *Policy Research Working Paper* #1828, Washington DC: World Bank.
- Drusic, Ivo, 1997, “Regional Dispersion of Foreign Direct Investment in Eastern Europe”, in S. Sharma, ed., *Restructuring Eastern Europe: The Microeconomics of the Transition Process*, Lyme NH: Edward Elgar.
- Eichengreen, Barry, Andrew K. Rose, and Charles Wyplosz, 1995, “Exchange Market Mayhem: The Antecedents and Aftermath of Speculative Attacks”, *Economic Policy*, October 1995:251-312.
- Faruqi, Shakil, 1994, *Financial Sector Reforms, Economic Growth, and Stability*, Washington DC: World Bank.
- Fleming, Alex and Samuel Talley, 1996, *The Latvian Banking Crisis: Lessons Learned*, Policy Research Working Paper No. 1590, Washington DC: World Bank.
- Frankel, Jeffrey and Andrew Rose, 1996, “Currency Crashes in Emerging Markets: An Empirical Treatment”, *Journal of International Economics* Vol. 41 (1996:351-366).
- Garber, Peter M., 1996, “Managing Risk to Financial Markets from Volatile Capital Flows: The Role of Prudential Regulation”, *International Journal of Finance and Economics*, 1:183-195.
- Goldstein, Morris and Philip Turner, 1996, “Banking Crises in Emerging Economies: Origins and Policy Options”, *BIS Economic Papers* #46, October 1996, Basle: Bank for International Settlements.
- Grabel, Ilene, 1998, “Rejecting Exceptionalism: Reinterpreting the Asian Financial Crises”, in J. Michie and J. Grieve Smith, eds., *Global Instability and World Economic Governance*, Routledge, forthcoming.
- Grabel, Ilene, 1995, “Speculation-Led Economic Development: A Post-Keynesian Interpretation of Financial Liberalization Programmes in the Third World”, *International Review of Applied Economics* 9, No. 2:127-49.
- Haavisto, Tarmo, 1997, *The Transition to a Market Economy: Transformation and Reform in the Baltic States*, Brookfield VT: Edward Elgar.
- Hardy, Daniel C. and Ashok Kumar Lahiri, 1992, Bank Insolvency and Stabilization in Eastern Europe, *IMF Staff Papers* 39, 4:778-800 (September 1992).
- Hoen, Herman W., 1998, *The Transformation of Economic Systems in Central Europe*, Northampton MA: Edward Elgar.
- Kaminsky, Graciela and Carmen M. Reinhart, 1996, “The Twin Crises: The Causes of Banking and Balance-of-Payments Problems”, *International Finance Discussion Papers* #544, Washington DC: Board of Governors of the Federal Reserve System.
- Kaminsky, Graciela, Saul Lizondo and Carmen Reinhart, 1997, “Leading Indicators of Currency Crises”, *IMF Working Paper* #97/79, Washington DC: International Monetary Fund.

- Lainela, Seija and Pekka Sutela, 1997, "Introducing New Currencies in the Baltic Countries", in T. Haavisto, ed., *The Transition to a Market Economy: Transformation and Reform in the Baltic States*, Brookfield VT: Edward Elgar.
- Lindgren, Carl-Johan, Gillian Garcia, and Matthew Saal, 1996, *Bank Soundness and Macroeconomic Policy*, Washington DC: International Monetary Fund.
- Mygind, Niels, 1997, "A Comparative Analysis of the Economic Transition in the Baltic Countries - Barriers, Strategies, Perspectives", in T. Haavisto, ed., *The Transition to a Market Economy*, Brookfield VT: Edward Elgar Publishing Co.
- National Bank of the Slovak Republic (NBS), *Foreign Exchange Act of 20 September 1995*, Bratislava: NBS.
- Norgard, Ole, D. Hindsgaul, L. Johanssen, and H. Willumsen, 1996, *The Baltic States after Independence*, Lyme NH: Edward Elgar.
- OECD, 1997, *OECD Economic Surveys - Slovenia*, Paris: OECD.
- Polish Development Bank (in co-operation with the Ministry of Finance), 1992, *The Banking System in Poland 1991/92*, Warsaw: PBR.
- Polish Development Bank (in co-operation with the Ministry of Finance), 1993, *The Banking System in Poland 1992/93*, Warsaw: PBR
- Polish Development Bank (in co-operation with the Ministry of Finance), 1994, *The Financial System in Poland 1993/94*, Warsaw: PBR.
- Radosevic, Dubravko, 1997, "Capital Restrictions in Croatia", *National Bank of Croatia Working Paper*, March 1998, Zagreb: NBH
- Radosevic, Slavo and David Dyker, 1997, "Technological Integration and Global Marginalization of Central and East European Economies: The Role of FDI and Alliances", in S. Sharma, ed., *Restructuring Eastern Europe: The Microeconomics of the Transition Process*, Lyme NH: Edward Elgar.
- Rybczinski, T.M., 1997, "Introducing New Currencies in the Baltic Countries: A Comment", in T. Haavisto, ed., *The Transition to a Market Economy*, Brookfield VT: Edward Elgar
- Sheng, Andrew, 1996, *Bank Restructuring: Lessons from the 1980s*, Washington DC: World Bank
- Sharma, Soumitra, 1997, *Restructuring Eastern Europe: The Microeconomics of the Transition Process*, Lyme NH: Edward Elgar.
- Skreb, Marko, 1997, "Banking Sector Reforms in Croatia: Problems and Prospects", in S. Sharma, ed., *Restructuring Eastern Europe: The Microeconomics of the Transition Process*, Lyme NH: Edward Elgar.
- Toporowski, Jan, 1997, "Financial Fragility in the Banking System of Transitional Economies in Eastern Europe", in S. Sharma, ed., *Restructuring Eastern Europe: The Microeconomics of the Transition Process*, Lyme NH: Edward Elgar.
- Weller, Christian, 1999a, *Financial Liberalization, Multinational Banks and Declining Real Credit: The Case of Poland*, forthcoming as ZEI Economic Policy Working Paper.

- Weller, Christian, 1999b, *Is There a Link Between Multinational Banks and Declining Real Credit?*, forthcoming as ZEI Economic Policy Working Paper.
- Weller, Christian, 1999c, *The Finance-Investment Link in a Transition Economy: Evidence for Poland from Panel Data*, forthcoming as ZEI Economic Policy Working Paper.
- Weller, Christian, 1999d, *How Does Financial Liberalization Lead to More Financial Instability?*, forthcoming as ZEI Economic Policy Working Paper.

Table 1
Money and Credit

Year	M1/GDP	M2/GDP	Credit/GDP	Discount Rate	Inflation
1990	24.56	43.51	80.98	34.00	203.33
1991	24.13	46.88	73.39	21.20	119.00
1992	26.88	50.51	68.47	330.90	444.67
1993	21.57	49.00	60.94	28.53	490.99
1994	20.70	47.63	57.61	11.32	29.45
1995	18.24	47.24	50.54	15.41	18.46
1996	17.63	54.33	51.52	11.50	11.86
1997	24.90	68.48	76.37	11.19	9.84

Note: All money and credit figures are GDP weighted averages, whereas discount rates and inflation rates are simple averages. In the case of Estonia, the interbank rate is used instead of the discount rate. All figures are reported in percent.

Table 2
Exchange Rate Changes

Time	Changes
<u>Croatia</u>	
06/1991	Introduction of Croatian dinar. Foreign exchange rate pegged to a basket of currencies.
05/1994	Croatian dinar as national currency replaced by kuna at the ratio of 1 kuna :1000 dinars.
03/1997	Foreign juridical persons allowed to withdraw monthly foreign currency equivalent up to HRK 15,000 from deposit accounts
<u>Czech Republic</u>	
02/1993	Introduction of the Czech Koruna. The Czech National Bank adjusts the official Koruna rate by pegging it to a basket consisting of five currencies.
05/1993	Reduction of currencies in basket to peg Koruna to from five to DEM and USD.
01/1994	Maximum allowance for foreign travel raised to 12,000 Koruna per year.
02/1994	Simplification and partial liberalization of permit procedures for enterprises to keep foreign currency accounts.
03/1994	Adjustment of Koruna exchange rate against clearing ECU from 3% above the market cross rate to parity.
09/1994	Limit to import or export domestic currency increased to 5,000 Koruny.
04/1995	Fee of 0.25% on banks' foreign exchange transactions with National Bank.
02/1996	Widening of foreign exchange rate band of Koruna fluctuation from 0.5% to 7.5% against the central rate.
05/1997	Canceling of foreign exchange rate band; introduction of new exchange arrangement based on managed floating system to stabilize Koruna against the Deutsche Mark.
<u>Estonia</u>	
06/1992	Currency Board with a fixed exchange rate of 8 Estonian Kroons to 1 DM.
12/1993	Elimination of requirement that spread between buying and selling rates of foreign exchange by banks not exceed 7%.
03/1994	individuals permitted to open foreign exchange accounts with domestic banks.

Time	Changes
<u>Hungary</u>	
06/1991	Legal markets for currencies which have not been officially quoted established. The National Bank of Hungary adjusts the official exchange rate to a basket of currencies weighted according to currency composition of foreign trade turnover.
12/1991	Change of the currency basket to determine Forint's external value from 11 currencies (weighted according to currency composition of foreign trade turnover) to 50 % ECU - 50% USD. Spot exchange rates now quoted on the basis of international markets' exchange rates of the same instead of previous business day. Banks allowed to freely set exchange rates for currency notes and traveler's checks if buying rate is not above and selling rate not below the official middle rate and margins for currency notes are the same around the commercial banks' middle rate for currency notes.
02-09/1993	Exchange rate depreciations in February, March, June, July, September by 1.9% to 4.5%.
06/1993	Widening of exchange rate margins within which banks allowed to quote interbank and customers' rates from 0.3% to 0.5%.
08/1993	ECU in currency basket for Forint pegging replaced by Deutsche Mark.
01-12 /1994	Widening of official spot buying and selling rates' margins from +/- 0.3% to +/- 0.5% (January); to 1.25% (August); 2.25% (December).
01-12/1994	Exchange rate depreciations in Jan., Feb., May, Jun., Aug., Oct., Nov. by ca. 1.0% - 2.6%.
04-05/1994	Elimination of several restrictions on currency purchases for tourism and business travel.
05/1994	Changing of the currency pegging basket: 50% DEM, 50% USD to 70% ECU, 30% USD.
06/1994	Nonresidents allowed to convert forints from foreign trade into foreign exchange.
03/1995	Devaluation of the exchange rate by 8.3 %; adjustment of the exchange rate peg according to preannounced rate of crawl.
04/1997	Monthly depreciation rate reduced from 1.2% to 1.1%
08/1997	Further adjustment of the monthly depreciation rate to 1.0%
1/1998	Reduction of the monthly depreciation rate to 0.9%
01/1998	Imports and exports of domestic currency allowed up to Ft 350,000 per trip.
<u>Latvia</u>	
02/1994	Informal pegging to SDRs at 0.7997 Latvian Lats to 1 SDR

Time	Changes
<u>Lithuania</u>	
04/1994	Creation of a Currency Board with a fixed exchange rate of 1 Lithuania Litas to 1 USD.
<u>Poland</u>	
705/1991	Devaluation of the Zloty. The National Bank of Poland adjusts the official Zloty rate by pegging it to a basket consisting of five currencies.
10/1991	Introduction of crawling peg policy with depreciation by up to 1.8 % a month.
09-11/1994	Reduction of the monthly depreciation rate from 1.6% to 1.4%.
01/1995	Removing exchange restrictions on international transactions.
05/1995	External value of Zloty allowed to fluctuate within margins of 7% around the central rate.
01/1996	Reduction of crawl rate by 1% a month.
<u>Slovak Republic</u>	
02/1993	Introduction of the Slovak Koruna. The National Bank of Slovakia adjusts the official koruna rate by pegging it to a basket consisting of five currencies.
01/1994	Annual limit on foreign exchange allowance for tourists increased to Sk 9,000's equivalent.
07/1994	Change of exchange rate pegging basket from five currencies DEM and USD (60:40).
05-09/1995	Revaluation of the Koruna under bilateral payments agreement with the Czech Republic by 4% (May) and 1% (September).
09/1995	Termination of bilateral payments agreement with Czech Republic.
10/1995	New Foreign Exchange Law: Koruna fully convertible for current international transactions.
01-10/1995	Further increase to annual limit on foreign exchange allowance for tourists to 16,000 Sk (January); 30,000 Sk (July), 60,000 Sk (October).
07/1996	Exchange rate margins widened to +/- 5%.
12/1996	Limits on exporting and importing of national and foreign currency abolished and partly replaced by declaration requirement.
01/1997	Margins of exchange rate band widened to +/- 7%.

Time	Changes
<u>Slovenia</u>	
06/1991	Introduction of Slovenian tolar. Exchange rate determined through a managed float.
07/1992	Foreign exchange transactions allowed.
02/1997	Cash withdrawals from foreign exchange accounts exceeding equivalent of SIT 250,000 per month are to be approved by BOS.

Source: IMF, Exchange Arrangements and Restrictions Annual Report.

Table 3
Changes in External Capital Controls

Time	Changes
<u>Croatia</u>	
02/1996	New trade law allows domestic juridical persons to do foreign direct investments.
03/1997	Foreign juridical persons allowed to withdraw monthly foreign currency equivalent up to HRK 15,000 from deposit accounts.
<u>Czech Republic</u>	
09/1994	Partial liberalization of foreign securities purchases by residents. Simplification of rules to acquire properties abroad. No longer import and export restrictions on securities denominated in Koruny.
08/1995	Curtailment of borrowing abroad by banks by limiting open positions of National Bank towards nonresidents.
<u>Hungary</u>	
01/12/1991	Financial institutions' foreign borrowings to be approved by the NBH. Credits to foreigners by Hungarian financial institutions limited to maturities up to 6 months; exceptional cases with NBH authorization. Joint ventures generally without approval; exception: foreign participation of more than 10% of banks' & insurances' equities. Reglementation of joint ventures' taxation and further questions.
01/1991	Abolition of the licensing requirement for joint ventures.
01/1996	Elimination of capital account restrictions. Foreigners allowed to buy securities with maturities longer than 1 year without extra NBH permission. Permission of outward equity investments if equity share of over 10% is acquired (canceled on March 20).
07/1996	Liberalization of issue, placement and introduction of OECD government bonds and highly-rated OECD-based enterprises' bonds and shares. Extension of foreign exchange law's provisions on domestic securities to debt instruments with maturities of 1 year and more.

Time	Changes
01/1997	<p>Liberalization of issue and introduction of bonds with maturities of more than 1 year and OECD-based enterprises' investment grade-rated shares.</p> <p>Limitation of banks' short-term lending to non-residents to 50% of total foreign exchange liabilities (from 50% of foreign exchange liabilities to foreigners).</p> <p>Liberalization of banks' futures and options transactions in foreign currencies.</p>
01/1997	No longer government approval for foreign participation in banks required.
11/1997	Liberalization of short-term lending to non-residents.
01/1998	<p>Liberalization of issue and introduction of shares, other securities, bonds and other debt securities with a maturity of more than 1 year on domestic security market which are denominated in foreign exchange and issued by OECD-based enterprises – irrespective of credit rating.</p> <p>For residents: ability to purchase these securities without foreign exchange authorization.</p>
01/1998	<p>Elimination of restrictions on investments in branches of foreign companies (in addition to investments in joint ventures and fully foreign-owned companies).</p> <p>Elimination of further, more specific criteria on these direct investments.</p>
<u>Latvia</u>	
04/1996	Elimination of cabinet approval requirement for foreign direct investment above \$ 1 million.
<u>Poland</u>	
07/1991	<p>New foreign investment law</p> <p>– all restrictions on transfers of profits and capital repatriation cancelled.</p>
01/1995	Removing exchange restrictions on international transactions.
02/1997	Liberalizations on transfers of salaries, funds and deposits abroad by resident foreigners.
02/1997	<p>Liberalization of capital transactions:</p> <p>Limit for investment in publicly tradable securities issued in Poland by foreign entities raised to ECU 300,000,00.</p> <p>Residents allowed to purchase publicly traded securities in OECD countries ; purchases above ECU 50,000 needing 3 months' notice to NBP.</p>
03/1997	<p>Insurers permitted to purchase securities traded in OECD countries (minimum ratings required).</p> <p>Insurers allowed to invest abroad a maximum of 5% of funds covering their fund.</p>
<u>Slovak Republic</u>	
12/1996	Limits on exporting and importing of national and foreign currency abolished and partly replaced by declaration requirement.

Time	Changes
12/1996	<p>Liberalization of financial credits with a maturity of 5 years and above provided by Slovak residents to OECD residents.</p> <p>Liberalization of receipt and provision of trade credits for OECD trade.</p> <p>Liberalization of foreign borrowings by residents with a maturity of 3 years and above.</p>
12/1996	Liberalization of direct investments in OECD countries.
<u>Slovenia</u>	
04/1992	<p>Ratios of foreign exchange deposits required to be held abroad by deposit money banks as cover against domestically held foreign exchange deposits changed to 5-90%, depending on deposits' maturity.</p> <p>Permission to commercial banks to extend foreign exchange credits to resident juridical persons.</p>
02/1995	40% of external borrowing with maturities of less than 5 years not immediately used for import financing to be deposited to a unremunerated Tolar bank account.
07/1996	Extension of the maturity of loans borrowed abroad by residents subject to 40% interest-free deposit requirements from 5 to 7 years.
12/1996	Introduction of 10% interest-free deposit requirement on loans borrowed abroad by residents with maturities of more than 7 years.
01/1997	Domestic banks permitted to extend credits to nonresidents.
02/1997	<p>Cash withdrawals from foreign exchange accounts exceeding equivalent of SIT 250,000 per month are to be approved by BOS.</p> <p>Nonresidents' portfolio investments in secondary market-traded securities and derivatives have to be performed through custody accounts at domestic banks.</p>
05/1997	Remove of interest-free deposit requirement for loans raised abroad for setting up company abroad, increaseing capital or purchasing foreign companies' shares.
07/1997	Banks allowed to exempt from the balancing requirement the portfolio investments in shares acquired by nonresidents who undertake for the next 7 years not to sell, assign or dispose of securities to third parties – except to other nonresidents who undertake the same commitment.

Source: IMF, Exchange Arrangements and Restrictions Annual Report.

Table 4

Real Economic Variables

Year	GDP/Cap. (PPP \$)	Δ GDP (%) ^a	Δ Ind. Prod. (%) ^a	Unemp. (%) ^b	Avg. Monthly Wage (\$) ^a	Budget Def./Surplus (% of GDP) ^a	Δ Stock Market (%) ^a
1990	6627.59	-7.58	-15.93	5.54	279.57	1.27	NA
1991	5365.65	-10.63	-14.63	9.28	156.12	-4.19	NA
1992	5376.9	-1.72	-4.64	11.07	235.03	-4.97	NA
1993	5486.2	1.05	0.95	12.55	243.12	-2.86	NA
1994	5847.9	3.68	6.96	11.9	280.93	-2.87	4.98
1995	6256.5	5.59	7.11	11.67	345.79	-2.94	-8.09
1996	6717	4.73	5.12	10.87	416.2	-1.23	53.78
1997	6775.6	5.32	8.1	10.13	363.52	-1.47	-1.99

Note: All figures, except for GDP per capita, are GDP weighted averages. GDP per capita is a population weighted average. The data are taken from *Business Central Europe (BCE)*'s Key Data 1990-97, *IMF*'s International Financial Statistics and DataStream

Table 5
International Economic Statistics

Year	Exports (\$bn)	Imports (\$bn)	Current Account (\$bn)	Foreign Exchange Res. (\$bn)	FDI Flows (\$mn)	Total Outstanding Debt (\$bn)	Short-term Outstanding Debt (\$bn)	Long-term Outstanding Debt (\$bn)	MNB Loans (\$mn)
1990	44.0	43.0	2.1	7.8	411	81.1	15.44	55.53	295
1991	40.9	47.3	-1.9	14.7	1747	84.9	12.38	62.52	505
1992	48.3	52.8	2.5	11.0 ^d	2198.2	83.7	9.19	70.12	396
1993	54.3	62.4	-3.8	17.8	4037.6	88.9	7.62	67.18	767
1994	61.6	68.6	-0.2	25.3	2999.4	92.6	7.26	72.57	2763
1995	88.3	98.9	-0.436	50	9016.8	106	11.30	76.84	4213
1996	94.6	115.2	-11.9	54.1	7144.3	107.4	15.70	NA	9053
1997	103	127.1	-14.5	55.8	7675.5	106.9	19.50	NA	14168

Sources: *Business Central Europe (BCE)*, online, Key Data 1990-97; *IMF*, International Financial Statistics; *World Bank*, World Debt Tables; *BIS*, Consolidated International Banking Statistics.

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