Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn

Working Paper

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The Connection between more Multinational Banks and less Real Credit in Transition Economies

B99-08
1999

THE CONNECTION BETWEEN MORE MULTINATIONAL BANKS AND LESS REAL CREDIT IN TRANSITION ECONOMIES

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Abstract

The number of multinational banks have increased in transition economies in Central and Eastern Europe, while the amount of real credit has simultaneously decreased. Based on the cases of Poland and Hungary during the first six years of economic transition this paper investigates if there is a link between greater international financial competition and less real credit. I provide a theoretical argument that connects the number of multinational banks to the availability of capital for domestic banks, and hence to their lending capacity. In support of this argument, I employ data from both countries' central banks, central statistical offices, and private institutions, as well as from international institutions, such as IMF and BIS. The evidence suggests that the increases in efficiency which result from greater competition do not outweigh the limitations on the capital base of domestic banks. Consequently, I find that the constraints that international financial competition places on domestic banks to raise their capital leads them to reduce their commercial lending activities in the early stages of financial liberalization.

JEL Codes: F23; F36; O16; O52

I. Introduction

Bank credit is generally considered a crucial ingredient for investment and growth, particularly in economies with underdeveloped capital markets. However, while the goal of financial sector reform is clear, namely better access of borrowers to more credit, the best way to achieve this goal is contested. Most transition economies have followed the path of financial liberalization (FL), eliminating or reducing regulatory impediments, such as entry restrictions, interest rate ceilings and preferential credit allocation, to encourage more financial competition. According to FL proponents, an economy will benefit from more financial competition and less regulation as the efficiency of domestic banks improves and the number of financial intermediaries increases, which should help to reach the goals of better access and more credit (Terrell, 1986; Pigott, 1986; Fry, 1995; BIS, 1997; The Economist, 1997). A key method to raise competition and the number of financial intermediaries is the permission of multinational bank (MNB) entry.

The comprehensive implementation of FL was not without obstacles in Central Europe, though. This was particularly true in Poland where in 1993 MNBs found themselves in the middle of a political controversy. The Ministry of Finance (MoF) and the National Bank of Poland (NBP) disagreed over the wisdom of issuing new licenses to MNBs in the light of growing problems of domestic banks. Clearly, this disagreement also reflected increasing doubts over the effectiveness of the rapid transformation of the domestic financial system. Subsequently, the division among Polish decision makers was only resolved in 1995 when new licenses were again issued to MNBs.

Even more surprising than the fact that almost all Central European economies eventually introduced and continued on with similar financial market policies in the face of doubts as to their effectiveness, is that these doubts came to be proven true to some extent. There is substantial evidence, almost ten years into the transition, that the predictions of the FL framework have not

materialized. In the wake of FL, two of the earliest transition economies, Poland and Hungary[1], saw not only the number of multinational banks (MNBs) grow, but also the amounts of disbursed real loans drop. While real loans decreased by 5.2% in Poland from 1990 to 1995, and by 47.5% in Hungary between 1989 and 1994 (table 2), the number of MNBs increased from 0 to 14 in Poland and from 9 to 20 in Hungary. These trends are particularly interesting considering the economic improvements in both countries since 1992 and 1993, respectively, which should have together with a greater number of banks increased the total amount of real credit (table 1).

Obviously, hindsight is 20/20 and one may argue that exceptional circumstances have prohibited Poland and Hungary so far from reaping the full benefits of FL. However, the financial market developments in Poland and Hungary would not come as such a surprise if a more realistic theoretical perspective of financial markets is employed. As mentioned earlier, the implementation of full fledged FL is contested, not only among policy makers, but also among academics. In particular, a more critical view towards MNB entry, at least in the early stages of FL, exists. Opponents of early financial competition fear that it may have detrimental effects on the development of the domestic infant banking industry, particularly in transition economies, possibly even to the extent that domestic commercial banks may disappear (Corbett and Mayer, 1991; Stiglitz, 1992). Obviously, this infant banking industry argument is more than nationalistic rhetoric. It is, in fact, a more realistic framework for examining these issues since it incorporates a dynamic assessment of financial markets. Moreover, due to the heavy concentration in Central European banking systems, declines in credit by domestic banks - the infant industry - could explain a significant part of the observed real credit decline.

If opponents of FL are correct that early MNB entry may have an adverse effect on credit

[1] While all Visegrad economies share a similar economic history and experience similar trends with respect to MNBs and real credit, the break-up of the former Czechoslovakia in 1991 (?) limits its comparability with its neighbors (Abel, Siklos, and Szekely, 1998).

disbursement, the rapid growth of MNBs, particularly in Hungary, has to be considered one of the reasons for the slow recovery of the transition economies from their initial recessions. Six years after the transformation began in Hungary and in Poland, real GDP per capita had yet to reach pre-transformation levels (table 1). This slow growth may be attributable to slow investment growth, which in turn can be linked to sluggish or negative real credit growth (Calvo and Corricelli, 1993; Weller, 1998).

The remainder of the paper is organized as follows. I present an argument as to how greater international competition in the early stages of FL could result in decreasing real credit in section II. A brief history of the Polish and Hungarian banking systems follows in section III, and section IV presents the empirical evidence from the Polish and Hungarian transition in support of my hypothesis. Finally, some concluding remarks follow in section VI.

II. Infant Banking Industry and Real Credit

The majority of policy recommendations and implemented policies for financial sector reform in Central Europe are based on the traditional McKinnon-Shaw FL framework. For instance, the elimination of financial market restrictions in general (Calvo and Frenkel, 1991; Fischer and Gelb, 1991; Kaser and Allsop, 1992; Calvo and Kumar, 1993), and the permission of early international financial competition have been recommended (Schmieding and Buch, 1992) on the basis of this framework. FL proponents take as their starting point the assertion that developing economies faces excess demand for loans since financial markets are often repressed due to government intervention. Thus, the elimination of government regulations, such as entry restrictions, interest rate ceilings, or preferential loan requirements, should raise the credit supply (McKinnon, 1973; Shaw, 1973). More specifically, early MNB entry is regarded as an easy and

quick way to introduce market discipline by importing foreign expertise, banking know-how and bank capital. With greater market discipline domestic banks should become more efficient in the use of their resources, and ultimately increase their provision of loans.

However, this benign view of international competition, ignores the crucial value of information for financial firms. If borrowers and lenders do not have perfect information about each other, borrowers may not be able to obtain the necessary amount of finance for their investments (Stiglitz and Weiss, 1982; Gertler, 1988; Bernanke 1993), while banks - like other firms - may have limited access to equity capital (Greenwald and Stiglitz, 1990). With respect to the effect of competition on financial firms, two different outcomes are now possible depending on a bank's net worth (Stiglitz, 1993). If a bank's net worth remains *above* a safety threshold the bank will *not increase* its lending unless its net worth increases, but once its net worth falls *below* that safety threshold the bank *will increase* its lending, particularly for high risk high projects, since it stands to lose little or nothing. The dilemma, though, is that financial competition may further limit banks= ability to raise their net worth, and hence they may restrict their lending given that their net worth is above their safety threshold.

In transition economies the domestic banking system is a newcomer to a relatively unregulated market environment[2], and hence an infant banking industry with large capital needs. New capital is necessary to compete, especially with MNBs, once know-how and technology have been acquired, whereas the presence of MNBs limits the options of domestic banks to raise new capital. Specifically, more competition lowers interest rate spreads and retained earnings, while other sources, such as capital markets and public support are already limited.

When faced with greater international financial competition and limited access to new capital, domestic banks may reduce their lending as long as their net worth remains above their

[2] Domestic banks were further burdened with their old technology, and staff.

safety threshold. The combination of greater competition and less access to capital raises the chance of bank failure for domestic banks which they may subsequently try to contain by stressing less risky lending activities over more risky ones, or by reducing their lending overall. Lending to some market segments, such as to MNCs, or to large domestic corporations, is clearly less risky than to others, such as small and medium-sized enterprises (SMEs) or to start-up companies. However, the less risky market segments are likely to be covered already by MNBs who have the know-how and resources to serve the needs of MNCs or large domestic corporations. By virtue of their competitive disadvantages, domestic banks are left even more exposed to the more risky market segments, and hence have few alternatives to reducing their overall lending (Sabi, 1996)[3].

While international financial competition poses a dilemma for domestic banks as it raises their need for more capital at the same time as it limits access to it, it also seems to create a policy puzzle. Some limited MNB entry may provide market discipline, and limit rent extraction (Dini, 1991), but it is also seen as detrimental to domestic banks as it prevents them from establishing a reputation and raising sufficient capital (Stiglitz, 1992). A more protectionist stance, however, is not necessarily in contradiction to a more open one. Domestic banks may be in need of temporary protection from international competition so that they could improve their capital, know-how and technology before international financial competition is permitted to reduce rent extraction.

Relying solely on the traditional FL framework the connection between greater financial competition and reduced lending is not apparent. As the traditional McKinnon-Shaw framework largely neglects the role of information for financial firms, negative repercussions of greater international financial competition for the credit volume of domestic banks, and, in the case of

[3] This still leaves the question as to why MNBs are not picking up the slack. As MNBs are largely unfamiliar with the domestic economy, they restrict themselves, at least in the early stages of FL, to activities that they know, such as lending to MNCs.

transition economies, for the total amount of credit are not possible. By linking competition to capital access we can connect the divergent and seemingly contradictory trends of growing numbers of financial intermediaries and declining real credit[4].

III. The Polish and Hungarian Banking Systems

A few developments in Poland and Hungary help to illustrate the inadequacy of the FL framework to explain financial market developments in transition, and thus lend some initial support for my argument. Specifically, the Polish and Hungarian banking sectors were and are heavily concentrated and segmented, and hence insufficiently diversified. Thus, these banks are sometimes exposed to exceptionally high risks, which - in combination with their sheer size - makes relatively large amounts of new capital necessary (Mondshean and Opiela, 1997). Also, both economies opened their financial markets rather quickly to MNBs - with a subsequent rapid increase in their numbers - which resulted in a steep, and desired, incline in competitive pressures. Hence, the original prediction, namely lesser market concentration, more financial intermediaries, and more competition have become realities, and yet, the amounts of real credit have significantly decreased, mainly because of declining real credit disbursements of old domestic banks.

The transformed Polish banking system consisted of nine regional banks which were created by separating the commercial operations from the central bank in February of 1989, added to five specialized banks which were already separate entities in the centrally planned economy. The latter consisted of the Bank for Food Economy (BGZ) (serving private and state-owned agriculture and the food processing industry), the Polish Savings Bank (PeKaO) (the only bank permitted to collect foreign currency deposits), the State Savings Bank (PKO BP), the Foreign

[4] It would be naive to think that there is only one possible explanation for declining real credit, and, as the following shows, there are indications that other factors may have contributed to the decline in Poland and Hungary. However, the following evidence supports my argument that international financial competition may have contributed to the decline in real credit.

Trade Bank (BHW), and the Export Development Bank (BRE).

The 14 state owned banks had a combined credit market share of about 90% in 1990 which dropped to approximately 75% in 1995. Consequently, due to their large market shares, the observed real credit declines at the regional and specialized banks are in absolute amounts greater than the economy wide decline in real credit. Market segmentation remains high with BHW still handling 53% of export and 40% of import transactions, and PKO BP and PeKaO S.A. retaining large market shares in their areas with 31% of all domestic currency deposits for PKO BP, and 49% of foreign currency deposits for PeKaO SA at the end of 1994 (PBS).

Thanks to new license issues the total of Polish owned banks grew to 75 by the end of 1990, while the number of MNBs increased steadily. Initially, two licenses were granted to ING and Societe Generale for branch offices. Due to regulatory concerns, especially insufficient large credit restrictions, the MoF and the NBP continued to grant licenses only for subsidiaries after that. In the Fall of 1993, amid growing concerns about bad loans, low capital levels and occasional incidences of fraud the MoF and NBP disagreed about the pace of further international opening. As a result, no new licenses were issued to MNBs until 1995, when the renewed opening brought the number of MNB licenses to 14 by the end of 1995[5].

In a manner similar to Poland, the Hungarian financial sector remains heavily segmented and concentrated with the difference that Hungary's commercial banks are segmented along industries rather than regions. In 1987, the commercial banking unit of the central bank was divided into three commercial banks. Magyar Hitel Bank served heavy industry, engineering, and transport. Kereskedelmi Bank's (K&H) client base comprised agriculture, food processing and

[5] The rapid growth of the numbers of MNBs is not reflected in an equally fast growth in credit market share, which thus understates their competitive impact. First, the numbers exclude the ING and Societe Generale branches, and the minority shares in four regional and one specialized banks. Second, MNBs operate only in a few market segments, particularly less risky ones, which increases competition for domestic banks beyond what is reflected in the overall figures.

trade. The last, Budapest Bank provided finance to the infrastructure sector. Additionally, three specialized banks, the Hungarian Foreign Trade Bank, the General Banking and Trust Company, and the National Savings Bank (OTP), continued operating in the new environment.

The concentration in the Hungarian banking sector is similarly strong as in Poland, even though it had been declining there, too. Measured by the size of the balance sheets, the five large Hungarian banks - all of the above with the exception of the General Banking and Trust Company - had a market share of 82.6% by 1990 which had decreased to 70.2% by 1994 (Anderson and Kegels, 1998). Hence, the decline of real credit at the purely domestic banks can also explain the majority of the decline in real lending in the Hungarian economy.

With the political and legal reforms of 1989 more private banks were established bringing the total to 43 by the end of 1995, of which 23 were at least partially foreign-owned. While a few foreign banks established limited operations in the early and mid-1980's[6], the pronounced increase in their number occurred only after the transformation in 1989 (table 6). Despite this rapid growth in the number of new entrants the market share of domestic banks declined only gradually.

While the number of financial intermediaries, particularly foreign owned ones, grew in both economies, the amounts of real loans also declined in both. Moreover, the overall decline in real loans reflected a decline at the commercial banks, due to the large market shares of the respective banks (table 7). The decrease in total credit is much more pronounced in Hungary where it declines by more than 35% as compared to less than 3% in Poland. The same difference exists with respect to declining loans by the domestic banks with -42% at Hungarian, -27% at Polish regional and -13% at Polish specialized banks.

[6] Three MNBs already operated in Hungary: CIB Bank, Citibank and Unicbank. CIB Bank received a limited license in 1979 as an off-shore bank, while the other two were established in anticipation of the transformation process in 1985 and in 1986, respectively.

IV. The Link Between Multinational Banks and Declining Real Credit

Obviously something must be missing in the original FL framework if despite the predicted initial changes, more banks and greater competition, the expected result is the exact opposite of what was hoped for, namely declining rather than decreasing real credit. As an alternative view of international financial competition in the early stages of FL has been presented in section II, I will provide further empirical evidence supporting this view in this section.

A crucial aspect of the above argument is the connection between greater international financial competition and the limits it puts on the access to new capital for domestic banks, especially since such limits may make domestic banks inclined to reduce their loan exposure. The evidence suggests that throughout the early transition years, Hungarian and Polish banks struggle to raise their capital levels. For instance, real capital for Hungarian and Polish banks reach their highest points in the second year of the transition (table 8) - with the exception of the Polish specialized banks[7]. Domestic banks may have found it harder to gain access to new capital with increased international financial competition because some sources for new capital are virtually non-existent in transition economies, such as equity markets or government funds, and one main source, namely retained earnings, is limited exactly because of greater competition.

Equity markets are very narrow in Poland and Hungary, and hence, they can only play a limited role for new equity issues. Poland's stock exchange quoted 53 stocks in 1995, Hungary's stock exchange quoted 40 stocks in 1994, and both stock exchanges had a total valuation of only about 4% of GDP in 1995 and 1994, respectively (Anderson and Kegels, 1998). Similarly, despite major recapitalizations by their respective governments the capital needs of domestic banks remain

[7] Whereas it is easy enough to realize that Polish and Hungarian banks had large capital needs, it is more difficult to quantify these capital needs. For once, the number of bad loans - one sign for capital needs - increased gradually due to changes in the former Soviet Union and due to legal changes in the transition economies. Furthermore, repeated recapitalizations in Hungary throughout the period may have had adverse incentive effects (Anderson and Kegels, 1998). Thus, the fact remains that Polish and Hungarian banks are requiring new capital for the entire time of our investigation (PBR, 1993, 1994; OECD, 1996; Mondshean and Opiela, 1997).

high which the governments due to their budget deficits and accompanying growing debt burdens are less and less likely to meet (Anderson and Kegels, 1998). For instance, the Polish government continuously produced deficits - since 1993 below 3% of GDP, while the Hungarian government generated increasing deficits of up to 7.5% of GDP in 1994 (NBP, NBH). Both governments had also external debt burdens of around 65% of GDP which reduced the possibility for large new capital injections. By 1994, for example, outstanding debt to the tune of 7.7% of GDP was already tied to bank restructuring in Hungary.

If equity markets and government financing are limited, retained earnings should remain as a source for new capital. Since retained earnings are largely a direct result of net interest income, a rather crude measure for increased competition, namely the spread between loan and deposit rates, can be calculated. For Hungary, neither the absolute spread nor the spread between the two rates relative to bank assets shows a clear sign of competitive pressures (Anderson and Kegels, 1998). On the other hand, in the Polish case, the spread between loan and deposit rates has clearly declined since 1991 as competition has increased (Mondshean and Opiela, 1997).

To paint a more accurate picture of the impact of competition on capital access for domestic banks, though, some adjusted profitability ratios can be used. In Hungary, annual profit and capital are adjusted for bad loans which shows that the ROA of Hungarian banks decreases until 1993 (table 8) before it increases due to recapitalization efforts by the Hungarian government (Anderson and Kegels, 1998). For Poland, the capital levels are adjusted for the large and increasing bad loan burdens which are not fully covered by built up reserves which paints a different picture than the published balance sheet figures (table 8). Most notably, at the specialized banks the adjusted real capital decreases now such that it becomes negative for two consecutive years, 1991 and 1992, whereas the adjusted real capital levels for the regional banks are declining

before the turn around in 1993[8]. While the situation is improving for domestic banks towards the end of the period under investigation, the adjusted capital levels are still far from adequate[9].

Clearly, the available resources were insufficient to raise the capital of domestic banks to stable levels. Thus, it seems reasonable to assume that domestic banks would have increased their profitability through greater retained earnings in a less competitive situation. However, greater reported profitability does not necessarily translate into higher capital levels as the adjustments for bad loan portfolios reveal. Here, MNBs may actually have a positive impact on the capital levels of domestic banks if they manage to induce them to become more efficient through better information technologies and improved know-how, despite decreasing interest rate spreads[10]. However, due to the limited access to new capital, improvements in information technology and know-how are only materializing rather slowly.

In Poland, the implementation of modern information technologies has begun in several places, while its speed and scale varies with each bank=s capital level. *BRE* as the smallest specialized bank was the first to complete its computerization in 1993, and can now offer real time transactions (BREE; Annual Reports). Larger banks began to implement integrated networks, but did not complete these changes before 1995. Finally, the specialized banks with the most extensive branch networks, and lowest capital adequacy ratios, *PKO BP*, *PeKaO S.A.* and *BGZ* (BREE, Gazeta Bankowa), were the last to start with their computerization.

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[8] The increase in real capital levels at Polish banks is mainly due to the recapitalizations of the Enterprise and Bank Restructuring Program (EBRP) in 1993, and an additional recapitalization of BGZ in 1994. However, these put a strain on the $750 million EBRP, while the undertaking of the BGZ recapitalization stretched the federal budget and was only possible in the political climate at the time, when the Polish Peasant Party provided the prime minister.

[9] By and large, a capital adequacy ratio of 8% is regarded as adequate, whereas the Polish government attempted to achieve a 12% ratio.

[10] International financial competition may exert here greater pressure on domestic banks to improve their technology and know-how than purely domestic competition would. Domestic banks by and large have similar starting positions, while MNBs have more experience - and more capital - than any Central European bank, and hence their competitive advantage is likely to create greater competitive pressures than purely domestic competition could.

Similarly, the introduction of new technologies in Hungary depends on the access to new capital for domestic banks. For example, the *Foreign Trade Bank* and the *General Banking and Trust Co.* started computerization in 1993 and completed the task in 1994 with the help of their foreign minority shareholders (Kerekes, 1995; BREE; Annual Reports). On the other hand, domestic banks with less access to new capital are slower in implementing new technologies, such as *Budapest Bank* and *K&H Bank* finished the task by 1995, while *OTP* did not achieve full computerization before the end of 1995 (Kerekes, 1995; BREE; Annual Reports).

MNBs affect the implementation of information technologies indirectly[11], as domestic banks that began with the introduction of new information technologies earlier than others generally have an edge over their competitors and hence can close the gap between themselves and MNBs (Mondshean and Opiela, 1997). However, due to the limits on access to new capital that result from international competition, only a small number of domestic banks are able to introduce new information technologies, and even then, only with several years delay.

Only the combination of better information technology and improved know-how can raise the efficiency since the best computers are worth very little if there is not sufficient qualified personnel who knows how to use them. In particular, Polish and Hungarian banks are in need of trained professionals who can use the qualitatively and quantitatively improved information to their advantage, especially in monitoring and supervising borrowers. Central European banks can use two strategies to raise the know-how at their disposal, namely by training their employees, or by hiring qualified personnel either from other banks or from other sources.

One of the preferred strategies is to use outside training sources, such as one of the three Polish banking schools, or one of the two Hungarian specialized institutions; the other is to hire

[11] The only organized efforts to implement modern banking technology and know-how were the so-called twinning agreements in Poland (World Bank, 1995). However, the realized technology and know-how transfers from these arrangements were smaller than predicted due to the reluctance on both sides to share vital information with potential competitors (PBR, 1992).

recent college or university graduates (Kerekes, 1995; PBR, 1994; BREE). With respect to hiring qualified personnel from other banks Polish state-owned banks were hampered by the "excessive wage tax" for most of the time between 1990 and 1995 which prohibited them from paying going market rates for qualified personnel, while such a tax did not exist in Hungary. Furthermore, domestic banks with low capital bases are generally at a disadvantage to employ or recruit qualified personnel since higher salaries are a drain on their already limited resources. Not surprisingly, the banking sector has seen a flow of qualified staff from domestic banks to MNBs.

While domestic banks have clearly recognized the need to improve the factors underlying the supply of credit, such as bad loan ratios, information technology or banking know-how, these efforts are severely hampered by their low capital levels. Access to new capital, however, is in turn restricted by increased financial competition from MNBs in both economies. Hence, domestic banks may respond to competition by reducing their lending to lower their risk exposure. It appears that Hungarian and Polish banks did just that by reducing their lending overall and by shifting the allocation of their resources towards virtually risk free government issues.

Various factors indicate that the portfolio risk for domestic banks may have slowly decreased. The bad loan burden of Polish banks - at least - has been slowly decreasing after an initial increase which is not only shown by the decreasing absolute amounts of bad loans, but also by their declining share in loan portfolios. Bad loans reached their highest share of total loans at the regional banks in 1993, and at the specialized banks in 1992[12] [13]. Third, a weighted average of different asset allocations is used to measure asset portfolio risk. Thus, the asset risk of the Hungarian banking system declines from 1990 to 1994 and from 1991 to 1995 in Poland (table 9).

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[12] The available data does not allow for a similar calculation for the Hungarian banks.

[13] This ratio is preferred to a measure that includes loan loss provisions since these are more influenced by regulatory decisions and are counted with a lag (Dahl and Shrieves, 1992).

Since the weighted average of different portfolio allocations is an aggregate measure over all banks, old and new, domestic and foreign, it is possible that it underestimates the risk for domestic banks. Unfortunately, a closer look at domestic banks is only possible in Poland where sufficient data is available. Here, the bad loan share has increased within the first two years before it started to decrease slowly in the ensuing years which does not tell the whole story, though, as bad loan regulations have been enforced more strictly since 1993, and as domestic banks have been raising their loan loss reserves to the point where they fully meet the required coverage after 1993 (OECD, 1996; Mondshean and Opiela, 1997). Thus, the figures before 1993 are likely understating the respective bad loan portfolios, and Polish banks have thus reduced their bad loan portfolios more than the numbers show. Furthermore, the figures for later years clearly are less severe indicators for portfolio risk as Polish banks have built up their loan loss reserves.

All in all, the figures indicate a declining overall portfolio risk for domestic banks, even though it remains relatively high for the entire period. Hence, it is not surprising to find that despite growing deposits and lower profitability, domestic banks are pursuing a greater allocation in governmental treasury bill. The facts that deposits are growing and that t-bill allocations are large are noteworthy since they first refute the argument that reductions in loanable funds are the cause for the decline in real credit, and second they lend further support to the argument that domestic banks reduced their loans to limit their lending exposure, especially in light of limited access to new capital.

As already mentioned, real deposits grew at most domestic banks, despite declining real money levels. Overall, in both countries, real money declined slightly due to tight monetary policies with some fluctuations after the initial decreases (table 10). Decreases in the supply of real money are unlikely to have affected the supply of real loans, though, particularly as Hungary and Poland are both relatively disintermediated (table 10). The relative financial disintermediation is reflected by

the fact that about 20% of M2 is in the form of cash holdings in Hungary (NBH), and between 16% and 18% in Poland (NBP, IMF). Hence, there is still some room for banks to attract more liabilities even if real money declines - which is the case for Polish specialized banks and Hungarian domestic banks, leaving only Polish regional banks with declining real deposits[14].

As access to deposits does not seem to be an issue for most domestic banks in Poland or Hungary, our focus shifts to their asset allocation. For all domestic banks, the loan to deposit ratio increases in the second year and then falls in the following years before it rebounds in the last year of our investigation (table 10). The changes are rather similar for all domestic banks with an overall drop in the loan to deposit rate by 20 percentage points from their peak to their bottom. Hence, conscious decisions to reduce loan exposure and the associated risk at domestic banks appears to be a more plausible explanation than a decrease in the availability of loanable funds.

One explanation for the changing allocation of Polish and Hungarian banks may simply be that other fund uses have become less risky and more profitable. In fact, all Polish and Hungarian banks invest 15-30% of their assets in t-bills. Moreover, Polish banks increased their allocation in t-bills continuously from 3.97% in January 1992 to 12.19% in December 1995 (NBP).

Considering that real t-bill rates are negative for quite some time, and that the interest rate differential between loans and t-bills is significantly positive in Poland and growing in Hungary (table 10), the large and growing t-bill allocations are likely to be a reflection of domestic banks= desire to reduce their risk exposure. Banks may increase their allocation in t-bills even if the real interest rate on t-bills is negative or interest rate spreads are large if the risk of commercial loans is too high. Even though the portfolio risk decreases in Hungary overall between 1989 and 1994 and at Polish banks between 1991 and 1995, the remaining portfolio risk may still be too high for

[14] A possible explanation for the divergence of the regional banks from the overall trend may be that the regions served by some of the large regional banks, particularly in the mining area around Katowice or in the textile producing town of Lodz, have been hit harder by the initial recession and took longer to recover than others (Dabrowski et al., 1994).

domestic banks since access to new capital which could help compensate for this risk is not sufficiently available, and thus less profitable t-bill issues are still more attractive.

As portfolio allocations change at domestic banks away from commercial lending as a result of greater international financial competition obviously some borrowers should become credit constraint unless demand for bank loans is declining even faster. However, in an expanding economy credit demand is likely to grow to finance investments, and hence to fuel further growth. Overall, both economies have been improving as indicated by GDP growth, unemployment rates and inflation rates (tables 1 and 12). As the new market based systems are slowly approaching pre-transition period output levels in Hungary, and are even growing beyond those in Poland, the percentage of loans to GDP continually decreases in Hungary for the entire period, and in Poland since 1991. Despite the overall improvements the credit growth lags behind the economic growth.

If the discrepancy between economic growth rates and credit growth rates are caused by sluggish demand for bank credit, we should be able to trace this back to either declining investment needs, or an already high firm indebtedness. However, investment needs of old state owned enterprises (SOE), as well as new private businesses are great. The new market based environment has put pressure on firms to modernize their production facilities to remain competitive. Considering the outdated equipment that the SOEs used, modernization of production facilities will take several years, which makes it unlikely that slowed demand for credit is a reason for the decline (Lipton and Sachs, 1990; Abel, Siklos, and Szekely, 1998; Anderson and Kegels, 1998; Weller, 1998). Similarly, capital needs of start-up companies are high in the early years of operation, and hence it is unlikely that demand for debt financing has slowed down in the most dynamic companies, either[15].

[15] The share of GDP produced by private companies in Poland has increased from 30.9% in 1990 to about 60% by the end of 1995 (GUS, 1995; PAIZ, 1997). In 1990, private companies in the industrial sector employed 27.3% of the workforce, but received only 15.2% of all industrial sales. In 1993, private firms in the industrial sector employed 41.8% of the workforce and generated 37.4% of industrial sales in 1993 (Chmiel and

Demand for more debt financing may be dampened, though, by the fact that industries are highly leveraged in Poland and Hungary. Corporate debt is a necessary tool to finance investment as long as the greater costs of obtaining debt financing as compared to internal finance are not reducing the firm=s cash flow unduly. Due to the often observed cost wedge between debt and equity finance, however, greater leverage reduces a firm=s ability to undertake desired investments (Ndikumana, 1996a, 1996b). Thus, a firm may use increased cash flows in an expanding economy to reduce its outstanding debt. In Central Europe, though, industries are heavily credit constrained, such that increased leverage can still lead to greater investment outlays (Abel, Siklos, and Szekely, 1998; Weller, 1998)). The only impediment to more borrowing may be that the real costs of borrowing are significantly increasing. However, real loan rates are declining in the first years of the transition in Hungary, and even though they are initially growing in Poland, they are still either negative or reasonably low (table 10). Furthermore, in the year with the highest real interest rate in Poland, namely in 1995, real credit disbursements are also growing again.

Despite the implementation of FL policies designed to reduce excess demand for credit, it is, in fact, growing in both economies due to reduced supply and increasing demand. So far, the declining supply of real credit has been attributed to a lack of access to new capital in the face of high risk. Obviously, there are other explanations for the decline in credit. First, domestic banks may initially have been reluctant to enforce loan repayments in a recession as this would have reduced the chances of future repayments (Begg and Portes, 1993; Dittus, 1994; Mondshean and Opiela, 1997). Thus, they may have enforced tighter standards once the economy has improved. Second, stricter enforcement of bad loan regulations may have forced banks to act on their significant bad loan portfolios which resulted from soft budget constraints (Mondshean and

Pawlowska, 1995). Similarly, the private sector as a whole produced 60% of GDP with 63% of the labor force (PAIZ, 1997).

Opiela, 1997). Third, creditors may have become less optimistic about repayments of their loans and thus reduced their lending activities early in the transition (Calvo and Coricelli, 1993). A related point may be that banks may simply have improved their screening of loan applicants.

Neither of the above three explanations are completely convincing since they are either not fully supported by the existing data or they leave substantial periods of time uncovered. For instance, the hypothesis that banks may have accommodated state-owned enterprises (SOEs) to keep them solvent until better economic times may explain the increase of credit in the second year, but it is contradicted by the decline in real credit in the first year of the transition (table 2). Furthermore, Dittus (1994), Weller (1998) and Abel et al. (1998) find evidence that commercial banks seemed to be enforcing hard budget constraints early in the transition, and that industries were in fact credit constrained. Similarly, stricter enforcements of bad loan regulations did not take place in Poland until the second half of 1993 (Mondshean and Opiela, 1997). Finally, better know-how and technology which would have allowed domestic banks to better evaluate their borrowers happened very slowly. Hence, banks should have become more optimistic about loan repayments and should have raised their credit exposure in an improving economic situation.

V. Conclusion

Considering the empirical evidence, it appears that the limiting effect MNBs have on the access of domestic banks to new capital cannot be disregarded as one factor explaining the overall decline in real credit. That the limited access to new capital has reduced domestic banks= desire to expand their loan portfolios should also be viewed in connection with the declining, yet still high risk levels for all domestic banks. While there may be other explanations for the decline of credit, these do not contradict the one presented here. On the contrary, the high observed risk levels, especially the bad loan portfolios, are providing the rationale for giving an infant banking

industry sufficient access to new capital. Since international financial competition, however, reduces access to new capital, the probability of bank failure increases and with it the likelihood that banks reduce their loan exposure. Thus, the solutions to the problems of domestic banks in Eastern Europe are limited by increased international financial competition.

Intensified international competition and its negative impact on real lending may be acceptable if in return MNBs positively impact the efficiency of domestic banks, or if MNB lending compensates for the decline in purely domestic credit. Both was not the case in Central Europe. Without sufficient access to capital, domestic banks are restricted in their efforts to improve information technologies and know-how to become more efficient. Also, while the decline in real lending has been dampened by new MNB lending to the tune of $811 million in Poland by the end of 1995, and of $729 million in Hungary by the end of 1994 (BIS), it has obviously not been enough to compensate the reduced domestic lending. As the benefits from greater international financial competition did not materialize in the early stages of FL, the domestic economy may be adversely affected by the lack of commercial lending, and the subsequent reduction in investment (Weller, 1998), especially in dynamic new companies (Abel, Siklos, and Szekely, 1998; Anderson and Kegels, 1998).

Appendix:

A. Tables

Table 1: Economic Indicators for Hungary and Poland

	Hungary				**Poland**			
Year	Real GDP (bio. HUF)	Real GDP per Cap. (HUF)	Unemp. (%)	Infl. (%)	Real GDP (bio. PLZ)	Real GDP per Cap. (PLZ)	Unemp.(%)	Infl. (%)
1989	2001.6	213644	0.3	17.0	-	-	-	-
1990	2079.5	201670	1.9	28.9	6067000	1470	6.1	249.3
1991	1737.8	179822	7.5	35.0	5042581	1197	11.5	60.4
1992	1689.3	172767	12.3	23.0	4966102	1167	13.6	44.3
1993	1758.3	170629	12.1	21.1	4891281	1152	15.7	37.6
1994	1804.0	177094	10.4	18.8	5100813	1166	16.0	29.5
1995	-	-	-	-	5703127	1260	14.9	21.6

Sources: NBH, *Monthly Reports*, various issues; NBP, *Information Bulletin*, various issues; IMF, *International Financial Statistics*, various issues; GUS, *Statistical Bulletin*, various issues.

Table 2: Financial Data for Hungary and Poland

	Hungary				**Poland**			
Year	Real Loans	Growth Rate	Real Deposits	Growth Rate	Real Loans	Growth Rate	Real Deposits	Growth Rate
1989	916.8	-1.4	544.5	-4.7	-	-	-	-
1990	968.3	5.6	638.2	17.2	118241	-44.5	151017	-61.1
1991	715.0	-26.2	605.7	-5.1	119547	1.1	139980	-7.3
1992	593.1	-17.1	629.0	3.9	105203	-12.0	138861	-0.8
1993	500.5	-15.6	606.5	-3.6	104146	-1.0	144189	3.8
1994	481.7	-3.8	597.4	-1.5	100715	-3.3	157647	9.3
1995	-	-	-	-	112079	11.3	168945	7.2
%	- 47.5	-	9.7	-	- 5.21	-	11.87	-8.2

Sources: NBH, *Monthly Reports*; NBH, *Annual Reports*; NBP, *Information Bulletin*

Table 3: Regional and Specialized Banks in Poland

	Regional Banks			**Specialized Banks**		
Years	Real Deposits	Real Loans[a]	Crdt. Mkt Share (%)	Real Deposits	Real Loans	Crdt. Mkt. Share (%)
1990	70171.3	52615.0	44.5	42661.1	51862.4	43.9
1991	48454.0	45477.4	32.6	74908.8	54148.6	38.8
1992	48904.9	37813.8	32.4	81510.9	48494.7	41.6
1993	48307.3	32723.5	28.2	80337.5	42760.2	36.8
1994	50887.8	32768.6	30.6	90961.3	43401.8	40.5
1995	49751.7	38600.9	33.5	91423.6	44898.3	39.0
Change	-29.1%	-26.6%	-11%	114.3%	-13.4%	-4.9%

a) Real loans comprise zloty and currency denominated loans to private households, enterprises and the government. Hence, the denominator for the calculation of credit market share is different from the amount of real commercial loans reported in table 2 in that "loans to the budget sector" (NBP) are included here.
Sources: NBP, *Information Bulletin*; *Gazeta Bankowa*

Table 4: Multinational Banks in Poland

Time	Number of MNB	Real Deposits (billion PLZ)	Real Loans (billion PLZ)	Credit Market Share (in %)
1991	6	343.3	403.2	0.4
1992	7	1551.9	872.4	0.7
1993	7	1649.6	930.3	0.7
1994	7	4270.2	1768.4	1.5
06.1995	9	3420.5	2223.8	1.9
12.1995	14	-	-	-

Sources: *Gazeta Bankowa*; NBP, *Information Bulletin*

Table 5: Domestic Banks in Hungary

Year	Real Deposits (billion HUF)	Real Loans (billion HUF)[a]
1990	937.8	662.3
1991	818.3	608.2
1992	783.2	412.2
1993	740.5	395.1
1994	692.9	382.5
Change	-26.1%	-42.3%

a) Real loans comprise HUF and currency denominated loans to private households, enterprises and the government. Hence, the denominator for the calculation of credit market share is different from the amount of real commercial loans reported in table 2 in that "loans to the government" (NBH) are included here.
Sources: G. Kerekes, *Hungarian Financial and Stock Exchange Almanac*; HBA, *Annual Reports*; NBH, *Monthly Reports*

Table 6: Multinational Banks in Hungary

Year	Number of MNB	Real Deposits (bio. HUF)	Real Loans (bio. HUF)
1990	8	28.6	46.2
1991	10	55.9	58.1
1992	12	68.7	46.6
1993	17	79.6	50.9
1994	18	111.8	92.7

Sources: NBH, *Monthly Report*, various issues; G. Kerekes, *Hungarian Financial and Stock Exchange Almanac*, various issues.

Table 7: Real Commercial Credit in Poland and Hungary[a]

Year	**Total Real Credit**		**Infant Industry Real Credit**		
	Hungary (in bio.HUF)	Poland (in bilo. PLZ)	Hungary (in bilo. HUF)	Poland (in billion PLZ)	
				Regional	Specialized
1989	1814.0	-	N.A.	-	-
1990	1720.6	118241.3	661.3	52615.0	51862.4
1991	1366.3	139522.6	608.2	45477.4	54148.6
1992	1225.8	116699.6	412.2	37813.8	48494.7
1993	1198.6	116097.3	395.1	32723.5	42760.2
1994	1173.8	107072.1	382.5	32768.6	43401.8
1995	-	115225.2	-	38600.9	44898.3
%	-35.3	-2.6	-42.2	-26.6	-13.4

a) These numbers diverge from those presented in table 2 since they include the amount of lending to the government.
Sources: NBH, *Monthly Report*; G. Kerekes; HBA, *Annual Report*; NBP, *Information Bulletin*; *Gazeta Bankowa*

Table 8: Capital Levels of Hungarian and Polish Banks

Year	**Hungary**		**Poland**					
	Domestic Banks		Regional			Specialized		
	Real Capital (bio. HUF)	ROA (in %)	Real Capital (bio. PLZ)	Adj. Real Capital (bio. PLZ)[a]	ROA (in %)	Real Capital (bio. PLZ)	Adj. Real Capital (bio. PLZ)	ROA (in %)
1989	52.9	2.1	-	-	-	-	-	-
1990	79.0	2.0	839.7	444.9	13.1	615.6	468.2	2.9
1991	76.6	0.6	1081.5	438.7	6.4	690.5	-279.0	4.0
1992	61.5	-1.4	841.7	23.2	3.6	811.0	-649.5	0.2
1993	36.5	-7.2	799.6	143.9	4.4	1180.1	365.6	0.5
1994	42.7	0.03	800.7	257.2	4.5	1456.2	866.6	1.4
1995	-	-	967.2	551.5	4.2	1420.2	925.2	2.9

a) Adjusted real capital is measured as the difference between the reported capital levels and the portion of bad loans that is not covered by loan loss provisions.
Sources: NBH, *Monthly Report*, various issues; G. Kerekes, *Hungarian Financial and Stock Exchange Almanac*, various issues; NBP, *Information Bulletin*, various issues; *Gazeta Bankowa*, various issues.

Table 9: Risk Indicators for Hungarian and Polish Banking

Year	**Hungary**	**Poland**				
	Asset Portfolio Risk All Banks	Asset Portfolio Risk All Banks	Loan Portfolio Risk Bad Loans (in bio. PLZ)		Loan Portfolio Risk BL/TTL Ratio (in %)[a]	
			Regional	Specialized	Regional	Specialized
1989	0.51	-	-	-	-	-
1990	0.53	-	3083.69	1914.15	5.86	3.69
1991	0.52	0.56[b]	7527.34	9127.41	16.55	16.86
1992	0.49	0.57	8996.74	14718.96	23.79	30.35
1993	0.46	0.56	10252.06	12425.13	31.33	29.06
1994	0.46	0.54	8187.89	12953.04	24.99	29.84
1995	-	0.51	6150.84	11152.09	15.93	24.84

a) This ratio is modeled after the portfolio risk ratio, NON, in Dahl and Shrieves (1992) with BL as the amount of bad loans in a bank=s portfolio and TTL the amount of a bank=s total loan portfolio

b) Due to the lack of appropriate data in Poland the risk measure for December 1991 has been replaced with the risk measure for January 1992.

Sources: NBH, *Monthly Report*, various issues; G. Kerekes, *Hungarian Financial and Stock Exchange Almanac*, various issues; HBA, *Annual Report*, various issues; NBP, *Information Bulletin*, various issues; *Gazeta Bankowa*, various issues.

Table 10: Real Money and Real Deposits in Hungary and Poland

Year	**Total Real Money**		**Intermediation (Money/GDP)**				**Infant Industry Real Deposits**					
	Hungary (bio. HUF)	Poland (bio. PLZ)	Hungary		Poland		Hungary (bio. HUF)	L/D (%)	Poland			
			M1 (%)	M2 (%)	M1 (%)	M2 (%)			Regional	L/D (%)	Specialized	L/D (%)
1989	912.7	-	22	41	-	-	N.A.	N.A.	-	-	-	-
1990	914.3	190596	25	44	17	34	937.8	70.6	70171.3	75.0	42661.1	59.8
1991	881.3	147716	25	47	13	32	818.3	74.3	48454.0	93.9	74908.8	72.3
1992	912.4	160074	27	51	13	36	783.2	52.6	48904.9	77.3	81510.9	59.5
1993	870.3	159112	25	50	13	36	740.5	53.4	48307.3	67.7	80337.5	53.2
1994	827.6	165050	22	46	13	37	692.9	55.2	50887.8	64.4	90961.3	47.7
1995	-	175718	-	-	13	36	-	-	49751.7	77.6	91423.6	49.1
Change	-9.3%	-7.8%	-	-	-	-	-26.1%	-	-29.1%	-	1.143	-

Sources: IMF, *International Financial Statistics*; NBH, *Monthly Report*; NBP, *Information Bulletin*; GUS, *Statistical Bulletin*

Table 11: Real Interest Rates in Hungary and Poland

Year	**Hungary**				**Poland**			
	Loans	T-Bills	(Loans - T-Bills)	Interbank	Loans	T-Bills	(Loans - T-Bills)	Interbank
1989	5.8	3.5	2.3	-	-	-	-	-
1990	3.2	1.2	2.0	-	-188.3	-	-	-191.6
1991	0.5	-0.5	1.0	-	-11.4	-	-	-10.1
1992	5.8	-0.3	5.5	-0.7	5.2	-9.1	14.3	-1.2
1993	4.5	-3.9	8.4	2.8	7.4	-7.9	15.3	-1.1
1994	10.9	8.1	2.8	13.2	10.7	-3.7	14.4	-0.1
1995	-	-	-	-	12.5	1.52	11.0	0.7

Sources: NBH, Monthly Report, various issues; NBP, Information Bulletin, various issues.

Table 12: Lending and Growth in Hungary and Poland

Year	**Hungary**		**Poland**	
	GDP Growth	Loans/GDP	GDP Growth	Loans/GDP
1989	3.21	45.80	-	27.56
1990	3.89	46.56	-21.53	19.49
1991	-16.43	41.15	-16.89	27.67
1992	-2.79	35.11	-1.52	23.50
1993	4.08	28.46	-1.51	23.74
1994	2.6	26.7	4.28	20.99
1995	-	-	11.81	20.20

Sources: NBH, Monthly Report, various issues; NBP, Information Bulletin, various issues.

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C. Asset Portfolio Risk

Based on the theoretical development of the link between asset risk and bank capital levels by Kim and Santomero (1988), a weighted average has been developed (Keeton, 1991; Dahl and Shrieves, 1992). The following table summarizes the categories and weights in the original work by Dahl and Shrieves on the U.S., and its applications to the case of Hungary and Poland in this paper. The various asset categories are multiplied by their respective weights and then divided by the sum total of all asset categories.

Table A.1: Comparison of Original and Applied Risk Measures

Dahl and Shrieves (1992)		**Hungary**		**Poland**	
Category	w	*Category*	w	*Category*	w
Non-interest Bearing Balances and Currency and Coin	0.0	NA	0.0	Vault Cash	0.0
Interest-bearing Balances	0.25	Credits to Fin. Institutions	0.25	Banks, Bureaux De Change & Post Office	0.25
Short-term U.S. Treasury and Government Debt Securities	0.1	NA		Treasury Bills	0.1
				NBP Bills	0.1
Long-term US Government and Agency Debt Securities	0.25	Credits to General Govt..	0.25	Due from Central Govt.	0.25
				Treasury Bonds	0.25
State and Local Government Securities	0.5	Credits to Local Govts.	0.5	Due from Local Govt..	0.5
Bank Acceptances	0.25	NA		NA	
Fed Funds Sold; Securities Purchased under Agreements to Resell	0.25	NA		NA	
Standby Letters of Credit and Foreign Office Guarantees	0.75	NA		NA	
Loan and Lease Financing Agreements	0.75	Credits to Corporations	0.75	Corporate Loans	0.75
		Credits to Households and Small Enterprises	0.75	Household Loans	0.75
		Credits to Non-Profit Organizations	0.75		
Commercial Letters of Credit	0.5	NA		NA	
All Other Assets	1.0	NA		Other Securities	1.0
				Other Assets	1.0

Sources: Dahl, Drew, and Ronald E. Shrieves, 1992, "The Relationship Between Risk and Capital in Commercial Banks", *Journal of Banking and Finance*, 16:439-457, 1992.

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ISSN 1436 - 6053

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