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FINANCIAL REFORM AND THE EFFICIENCY OF INTERMEDIATION: BANKING PERFORMANCE IN HUNGARY

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This manuscript benefitted from comments from Stephany Griffith-Jones and Niek de Jong.

ABSTRACT

This paper attempts to develop a conceptual framework in order to assess the efficiency of financial intermediation during a process of reform of the financial sector. The desired outcomes of reform, operational efficiency, allocative efficiency, dynamic efficiency and stability, are shown to depend on the fulfillment of certain preconditions and on intervening variables and factors. In the second part of the paper this framework is applied to Hungary. It is concluded that the way financial liberalization has proceeded in Hungary has led to two main problems: a structural competitive loss for the state banks and a lack of long-term finance available for private enterprises.

1. INTRODUCTION

Reforms of the financial sector are an essential component of the transition to a market economy in Central and Eastern Europe and in Central Asia. The monobank system must be changed into a two-tier banking system, in which the monetary policy function (Central Bank) is separated from the financial intermediation function (commercial banks). This paper focusses on financial intermediation. Financial liberalization in this area implies that credit allocation is deregulated, interest rates liberalized and entry of private banks is allowed.

Studies of these reforms have focussed on important issues involved in this reform process, such as the problem of non-performing loans and its possible solutions (Calvo and Frenkel 1991, Pleskovic 1994, Schröder 1995, among many others), or the need to consolidate banks while strengthening competition in the banking sector (Bonin and Leven 1996), or the necessary changes in bank behaviour (Dittus 1994). However, there seems to be a need for a conceptual framework to analyze the relationships between particular problems and outcomes of the reform process, and between these outcomes and the actual pace of reform.

The purpose of this paper is to develop such a framework in order to assess the *efficiency* of financial intermediation during the liberalization process. To this aim, I distinguish several concepts of efficiency: operational efficiency, allocative efficiency and dynamic efficiency.[1] Financial liberalization is expected to have a positive effect on these three types of efficiency. First, it will promote competition between banks and create more efficient banks, enhancing the *operational efficiency* of the banking system. Secondly, credit is expected to be allocated in a better way, which means that the *allocative efficiency* of financial intermediation is expected to increase. Thirdly, the *dynamic efficiency* of the system should improve, with banks allocating credit to potentially fast growing enterprises. And finally, financial reform should be accompanied by a minimum of *stability* of the financial system.

In practice, financial liberalization does not always bring these desired goals. The literature on experiences with financial reform and financial liberalization points to four conditions that must be fulfilled in order for reforms to have these beneficial effects. These conditions are

(Gibson and Tsakalotos 1994, McKinnon 1993, Roe 1994, Vos 1995):

- macroeconomic stability, in particular a low budget deficit and a low inflation rate;
- banking supervision and prudential regulation
- absence of monopoly or oligopolies in the banking system
- banks must not have a large stock of bad performing loans: a solution must be found for the *stock* of bad loans and for the *flow* problem of bad loans, the latter implying increased financial discipline for banks and firms.

The latter two of these *conditions* are also potential *results* of financial reform. Some authors stress the role of the banks in improving competition and financial discipline.[2] This would mean that not all conditions need to be fulfilled before banks are liberalized. Others point to other problems that may prevent the desired outcomes of the liberalization process from coming about. These problems, or *market imperfections*, include information asymmetries and incentive problems, and economies of scale and scope. It is therefore important to examine in more detail what aspects of the reform process will lead to which beneficial effects, and which conditions and other factors are important to achieve these particular effects. In the theoretical part of this paper these relationships will be explored.

In practice, countries in Central and Eastern Europe liberalized their financial sectors in different speed, and often without (all) conditions being met. Therefore, studying the impact of financial reform is essentially an empirical matter. It is important to investigate to what extent the financial sector has been liberalized, to what extent the conditions have been fulfilled and what positive or negative effects can be established. In the second part of this paper, I apply the theoretical framework to Hungary.

In general, Hungary has gone through a more gradual process of reforms than other countries in Central and Eastern Europe. Managers of state enterprises were already more free than in other countries, and small private enterprises were already allowed since 1968. After 1990, the economy was further liberalized but there was no 'shock'. This more gradual reform process does not seem to have produced better macro-economic results than 'shock' approaches in countries such as Poland and the Czech Republic. Growth rates of GDP in the latter countries are now much higher than those of Hungary. But Hungary attracts much more foreign direct investment than the other countries in Central and Eastern Europe. This foreign investment seems to have improved financial discipline and operational efficiency in the business sector (Business Central Europe 1995/1996).

In the financial sector, reforms already began in 1987, with the establishment of a two-tier banking system and the allowance of foreign banks. But it took until 1993 until credit allocation was really liberalized. Foreign banks did enter, however, and the country now has the largest presence of foreign banks (Schröder 1995). By studying the impact of financial liberalization in Hungary, the impact of the presence of foreign banks can be examined. In addition, the question can be asked whether the relatively low Hungarian growth rates,

despite a potentially less destructive reform process and more foreign direct investment, can be ascribed to problems in the financial sector.

In the next paragraph I explore the theoretical links between liberalization, preconditions, other factors and the potential beneficial effects, and I attempt to establish indicators. Section 3 explores the situation with respect to financial liberalization and the fulfillment of the preconditions for Hungary. This leads to certain hypotheses regarding the potential outcomes of the process. The outcomes are then examined in the fourth section. In section 5 I make some concluding remarks.

2. FINANCIAL LIBERALIZATION IN THEORY

Table 1 gives an overview of the variables and possible indicators involved in the relationships between liberalization, preconditions, desired outcomes, and intervening factors. The starting point is a liberalization of the financial system. Liberalization is defined to imply that commercial banks are established separate from the Central Bank, that credit allocation is no longer centrally determined and that interest rates can be freely set by the banks. Another aspect of the liberalization is the free entry of banks. The free entry of foreign banks is examined separately because of the different conditions mentioned in the literature and the potentially different effects.

In the following, I will examine one by one the four desired outcomes of the liberalization process (column 2 in table 1) and explore the relationships involved. The preconditions in column 1 are defined in a positive way. This means that if a condition is met, the desired outcome will be enhanced. Conversely, if it is not met, the outcome is negatively affected. Most of the indicators for the preconditions, however, have a negative impact on the outcomes (see below).

Operational efficiency

A first desired outcome is that banks function in an efficient way. The freeing of interest rates should lead to market behaviour among banks. They should set interest rates such that the spread covers operating costs and the risks of non repayment. They should strive for cost reduction and for becoming profitable enterprises. In addition, they should enter in competition with other banks to attract savings and deposits, and to search for borrowers. A crucial intervening factor here is the extent of financial discipline (Kornai 1993) on banks (V1). As long as banks can be sure that they will be bailed out by the government there is no incentive to strive for proper risk assessment, cost reduction or profitability. In this respect, banking and bankruptcy laws, regulation and accounting rules are important, as well as consistent enforcement of these rules and clear recapitalization policies. Even if we assume that these policies and regulations are in place, it is unlikely that profitable commercial banks will grow automatically from the (former) state banks.

Table 1. Financial liberalization

Preconditions - Indicators	Desired outcomes - Indicators	Intervening variables (V) and factors (F)
P1. Competition in banking: - ext. of specialization (SPE) - banking concentration in assets (CONAS), deposits (CONDE)	O1. Operational efficiency - costs (COST) - real lending rate (LR) - real deposit rate (DR) - spread (SPR) - profitability (PROF)	V1. Financial discipline (DISC) V2. Entry of foreign banks (FOR) F1. Economies of scale and scope
P2. No bad loans - stock of bad loans (BAD_{t0})	O2. Allocative efficiency - real lending rate (LR) - % recapitalization of interest (REC) Loan portfolio: - % government securities (GOV) - % to small & medium (SMALL) - % to commerce (COM)	F2. Information problems: adverse selection and negative incentive effects
P3. Macroeconomic stability: - fiscal deficit (FD) - reserve requirements (RRQ) - r_{gov}-r_{ib} - inflation (INF) - current account deficit (CADEF) - overvaluation of e (OVER)	O3. Dynamic efficiency - % long-term loans (LTL) - % loans to new firms (NEW) - savings as % of GDP (S) - household deposits (DEP)	
P4. Banking supervision and prudential regulation - law on capital asset ratios (CARLAW) - banking, bankruptcy laws (LAWS)	O4. Stability - % bad loans (BAD) - % interbank loans (IB) - capital asset ratios (CAR) - % s.t. foreign liabilities (STFOR) - deposit insurance (DEPINS)	F3. Information problems: moral hazard

A first reason is the stock of bad loans (P2). Against normal accounting rules, most former state banks would have gone bankrupt because of the large share of nonperforming loans. Furthermore, it is likely that bad loans continue in the transition period (the flow problem). Financial discipline on firms is still weak. Even if financial discipline is tightened, the uncertainties of the transition period tend to produce new bad loans (Anderson et al. 1996). In this situation, it is in the banks' interest to continue loan relations with dubious clients, whether these loans are profitable or not. Although credit allocation is formally free, they may even be pressured by the government to continue lending to these firms. This will lead to higher costs for banks and lower profitability. If financial discipline (V1) on banks has become stronger, they will compensate for these losses by setting higher lending rates.

A second reason is the specialization that existed before the liberalization (P1). Usually there was one savings bank, capturing all household deposits. The other banks were monopolistic credit allocators to a certain sector. If specialization in these banking functions continues, this leads to higher costs for banks: both because the lack of competition and because commercial banks remain very dependent on an interbank market. If financial discipline on banks has increased (V1), higher costs will bring about lower deposit rates, higher lending rates and a larger spread. The lack of competition may also affect lending and deposit rates directly.

Thirdly, a large government deficit may lead to pressure on banks to finance the budget deficit, to higher taxes or to high reserve requirements for the banks. The explicit or implicit taxation that follow from the latter two will increase banks' costs and so reduce profitability. Again, banks will probably increase lending rates in compensation if financial discipline has increased.

The entry of foreign banks may enhance competition, and so contribute to lower costs and to more (operationally) efficient banks. This will lead to lower lending rates, lower spreads and more services for clients (Borish et al. 1995). However, many authors point to the risks involved for domestic banks. As long as domestic banks suffer from a bad loan portfolio, from pressure to continue lending to these loss making firms, and from high reserve requirements or other pressures to finance the government deficit, the level playing field is obviously uneven. Foreign banks with their access to foreign money will be able to lend to more profitable and less risky enterprises. This will make it more difficult for domestic banks to become profitable. For this reason, recapitalization of banks, macroeconomic stability (McKinnon 1993), and low reserve requirements (Vos 1995, Fischer 1993b) have been mentioned as conditions for the entry of foreign banks. If these conditions are not met, profitability of domestic banks will be lower than of foreign banks and they will continue to be dependent on government support -- or go bankrupt. In either case they will constrain the transition process heavily by the burden on government finance (in the latter case by the implicit or explicit deposit insurance, see below).

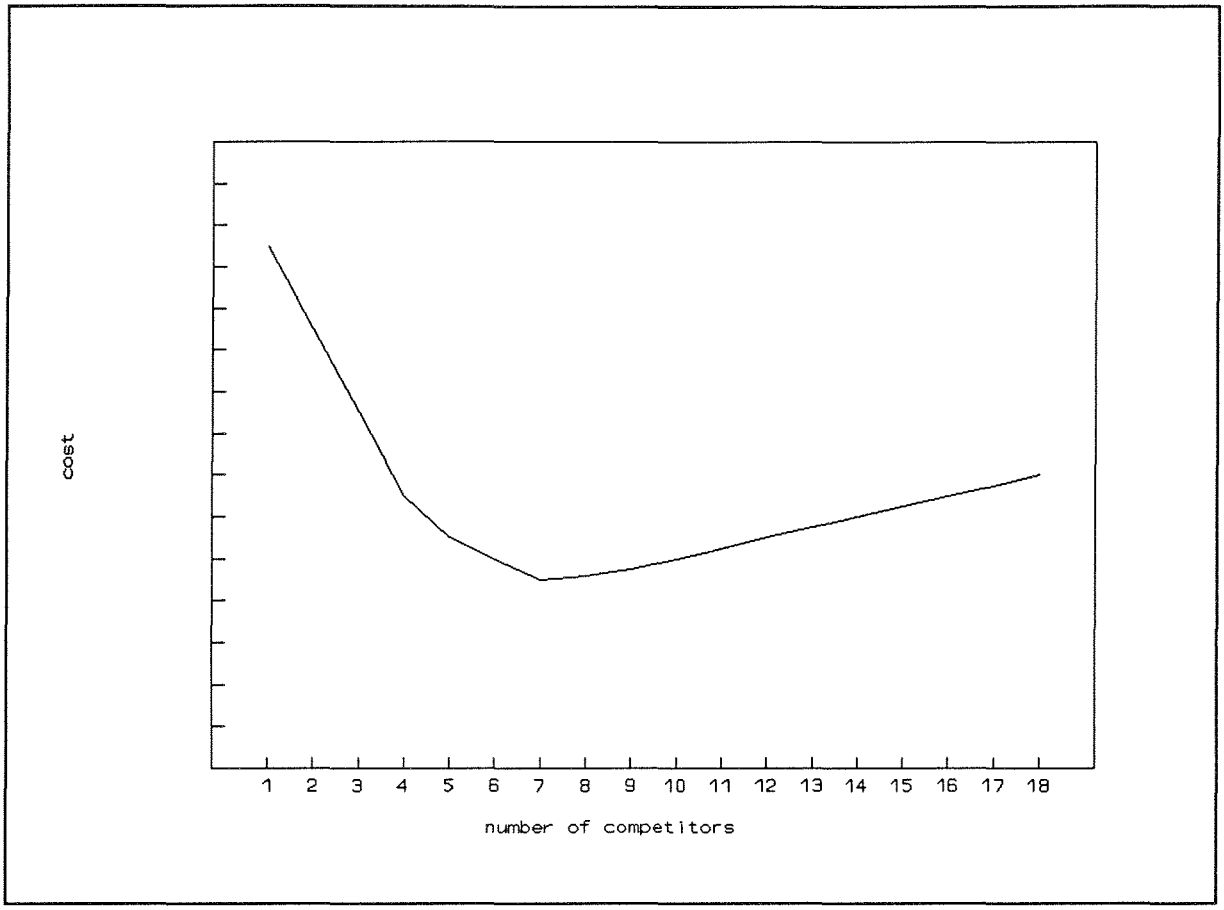


Figure 1. Relationship between competition (number of competitors) and operational efficiency (cost)

Competition among banks is seen as a desired outcome of the liberalization process, whether enhanced by the entry of foreign banks or not. However, there seem to be limits to the beneficial effects of competition for operational efficiency. This is because of economies of scale and scope in banking (Gibson and Tsakalotos 1994, V2 in column 3). For small banks it is impossible to have an extensive branch network, necessary to attract deposits. They will also have more problems in spreading lending risks by diversification, and tend to be very dependent on a few borrowers. Some specialization may be desirable from an efficiency viewpoint, but these specialized banks need to have a minimum size. In other cases, it will be more profitable to offer a ranch of banking services instead of just a few products but this also requires larger banks. If liberalization leads to the coming into being of too many small banks, operational efficiency of banking is not enhanced.

In sum, there is a rather complex relationship between competition and operational efficiency. If we operationalize the former as number of market participants and the latter as costs (low costs means high operational efficiency), the relationship could be as shown in figure 1. If competition increases, operational efficiency first increases (costs decrease) but

after a certain point operational efficiency of banks decreases. In this figure, this point is shown to be at 7, but in practice we do not know it. Obviously, the optimum competition depends on the size of the market. The shape of the curve depends on many factors, among which banking technology. For economies in transition, we assume that competition of foreign banks will always be beneficial for operational efficiency.

Indicators for competition in the banking are the concentration of assets and deposits (CONAS and CONDE, respectively), and also the concentration of assets by sector or branch of industry (the extent of specialization, SPE). The extent of bad loans in the initial situation (BAD_{to}) can be measured, as well as the fiscal deficit (FD). To further assess the impact of the fiscal deficit on the banking sector, taxation on banks can be looked at (TAX) and the reserve requirement ratio in place (RRQ). In addition, the difference between the yield on government bills and the interbank money rate can be taken as indicator (r_{gov} - r_{ib}).

The most important indicator for operational efficiency would be cost (COST). However, this is not easily measurable. Instead, we can look at real lending and deposit rates (LR and DR), the spread (SPR), and at the profitability of banks (PROF). If costs are high, the intervening variable financial discipline (DISC) is supposed to lead to higher LR, lower DR and larger SPR. This variable is difficult to quantify. Government policies toward banks are important, in particular, banking and bankruptcy laws, accounting rules, banking regulation, and the enforcement of these rules. This factor is summarized in LAWS. The entry of foreign banks (FOR) will have the opposite effects from that of financial discipline, at least for domestic banks and provided foreign banks are competing in the same ranch of services as domestic banks.

Until now, we have hypothesized the following relationships for the domestic banking sector (see also table 2). The costs (operational efficiency) are influenced by competition (SPE, CONDE and CONAS) as specified in figure 1. Competition by foreign banks will lower costs. Costs are negatively influenced by the fiscal deficit (FD) and by the stock of bad loans (BAD_{to}). The lending rate is lower with more competition (domestic and foreign) but if financial discipline increases, the lending rate will increase with costs. The deposit rate will be higher with more competition, but will decrease as a function of costs if financial discipline on banks increases. The spread, as the difference between LR and DR, behaves as the LR. Profitability depends on the difference between spread and costs. If costs are high but financial discipline is high as well, banking profits may still be positive but allocative efficiency may be affected (see below). Financial discipline will be higher of more laws are in place. The fiscal deficit (FD) may impact the banking system through the difference between interest rates on government securities and interban loans (r_{gov}-r_{ib}), bank taxes (TAX) and/or reserve requirements (RRQ).

With respect to profitability, it is interesting to make comparisons between foreign and domestic banks. Costs of foreign banks are lower, since they are not affected by the need to finance the fiscal deficit, nor by bad loans. In addition, financial discipline can be assumed

to be good. So profitability of foreign banks is probably higher. $PROF_{FB}$ = F(SPR - $COST_{FB}$). From this comparison, we can conclude on the relative influence of the other factors on domestic banks' profitability.

Allocative efficiency

A second desired outcome of the liberalization process is the improvement of the allocative efficiency of intermediation, in particular of credit allocation. Credit should go to enterprises with the highest expected returns. It is often argued that the freeing of the interest rate, i.e., making an end to financial repression, produces the best allocation of credit (McKinnon 1973, Shaw 1973). A market environment leads to positive real interest rates so that rationing is avoided. This rules out possibilities for discretion or favoritism among banks, and will therefore lead to a better allocation. Among other effects, it is expected to improve the chances for small and medium enterprises, which are rationed out if the interest rate is too low.

However, Stiglitz and Weiss (1981) have proved that credit rationing is a rational strategy for banks also in a liberalized environment. This is due to asymmetric information: the banks do not know the risks involved in projects with high expected profits. In order to avoid the most risky borrowers (via adverse selection and negative incentive effects), banks will set the lending rate lower than the market clearing rate and apply rationing. We can conclude from this that information problems hindering an efficient credit allocation are always present, be it in a market environment or in a government directed system of credit allocation. However, most authors agree that the allocation of credit will benefit from a positive real lending rate. In general, this positive real rate is more likely to come about in a market environment than in a system of centralized allocation.

Liberalization of the financial sector should therefore lead to higher and positive real lending rates and should thereby increase the allocative efficiency of financial intermediation. On the other hand, the interest rate should not become too high. As we saw above, the lending rate will be subjected to upward pressure if the three preconditions (P1-P3) are not met and if financial discipline on banks has increased. The lending rate will experience downward pressure from competition, in particular the presence of foreign banks.

Apart from the indirect effect via the interest rate, some effects on the allocative efficiency can be related directly to the preconditions. If the budget deficit is still high (P3), this may lead to high reserve requirements and/or to high interest rates on government securities, leading to upward pressure on the lending rate in general. Profitable lending projects may be crowded out because of the high interest rate or because of the smaller amount of funds available for private enterprise. An indicator of the impact of this factor is the difference between the treasury bill yield (r_{gov}) and the interbank money rate (r_{ib}). The indicator of the resulting deficient allocative efficiency is the share of government securities in bank assets (GOV).

Similarly, as long as the bad loan problem persists and banks continue lending to loss making firms (P2), the allocation of credit is not at all efficient. An indicator for this is the extent to which lending consists of a capitalization of interest rates (CAP): net enterprise borrowing exceeds net interest payments by enterprises to banks (Dittus 1994). An oligopolistic banking system (lack of competition, P1) may further limit allocative efficiency. A bank with a high concentration of assets tends to continue lending to these former clients irrespective of profitability or risk criteria. If the interest rate is high, this will further increase the chances that "distress borrowing" (borrowing by loss making firms) occurs. In short, the higher lending rate will negatively affect the allocative efficiency. Indicators for this can be the share of credits going to small and medium enterprises (SMALL), and the share of credits going to sectors with a quick return such as commerce and trade (COM). A higher lending rate is expected to lead to a smaller share for small enterprises and a larger share for commerce.

In summary, we have hypothesized the following (table 2). The share of government securities in total assets (GOV) will be higher if the lending rate is higher, the fiscal deficit is higher and the difference between government securities and interbank loans is larger. The extent of interest capitalization (CAP) will be higher of the lending rate is higher and the stock of bad loans is larger. The share of small firms in total loans will be smaller if the lending rate is higher, and the share of commercial activities (COM) will be larger if the lending rate is higher.

The effect of the entry of foreign banks on the allocative efficiency is positive in sofar as it leads to downward pressure on an otherwise high lending rate. In addition, foreign banks can be expected to be unaffected by needs to finance the government or to relend to loss making firms. Their lower costs will allow lower real lending rates, so that they can lend to the better (less risky) clients. The allocative efficiency of credit by foreign banks can be expected to be higher than of domestic banks. An eventual difference in credit allocation by foreign and domestic banks can be considered an indicator of the lack of allocative efficiency of domestic banks.

Dynamic efficiency

The liberalization of the financial sector is also expected to improve the dynamic efficiency of the economy. On the one hand, the market interest rate for deposits will be higher than if set by the government. According to the orthodox view on financial liberalization, this will attract more savings and so increase the funds available for investment. In practice, the relationship between savings and the interest rate has proved to be weak (Giovannini 1985, McKinnon 1993). What could be established in most studies is a positive relationship between the real deposit rate and the volume of time deposits (Clarke 1996). Many factors will probably influence saving behaviour in a transition economy, but one can assume that macroeconomic stability, in particular a low inflation rate, will enhance

it. And a positive real interest rate can be assumed to play a role in attracting time and savings deposits.

With respect to the allocation of credit, the orthodox view is that banks, operating in a market economy and subject to hard budget constraints, are more able to "pick winners", to identify potential growth opportunities in the economy, than bureaucratic organizations. However, in identifying growth potentials information problems are even more serious than in the allocation of (short-term) credit. Growth requires innovation, and this in turn requires investment in research and development (R en D). In the short term this constitutes a burden on financial results, but long-term profits are potentially high. The outcome is uncertain, however. For this reason, it is often argued that a market is not the best system for promoting innovation (Pack and Westphal 1986). Government decisions and government subsidies are necessary to secure these investments. Consequently, a (completely) liberalized financial market will lower the growth potential of the economy. In this respect, there is a trade-off between operational efficiency and dynamic efficiency, or between the short and the long run. Promoting competition and a competitive environment for banks and firms will increase their profitability in the short run but may negatively affect their profitability in the long run. At the same time, a minimum of short run profitability is required for banks to engage in more risky long-term lending.

For a transition economy, I assume that liberalization will improve the dynamic efficiency in comparison with the old system of centralized allocation across-the-board. It will help correcting the misallocations of the past. But in the medium term, renewed and selective government intervention may be necessary to enhance economic growth.

As before, the dynamic efficiency effects of liberalization may be hampered if several conditions are not met. Bad loans, a lack of competition, and a large budget deficit will limit the positive effects of liberalization on dynamic efficiency through their impact on the lending rate. Low macroeconomic stability, in particular a high inflation rate, will add to uncertainty and will lead to lower domestic savings and investment.

Indicators for the savings aspect of dynamic efficiency are the real interest rate for time deposits, the volume of these deposits and the volume of household and corporate savings; and for the allocative aspect the share of long-term loans compared to short-term loans, and the share of loans to new firms. The latter would be a negative indicator.

In sum, we hypothesize that domestic savings are negatively influenced by inflation. Household deposits (DEP) are positively influenced by the deposit rate. The share of long-term loans (LTL) is negatively affected by the inflation rate and by the lending rate. The share of loans going to new firms (NEW) is also negatively affected by the lending rate.

Whether the entry of foreign banks enhances or reduces dynamic efficiency will depend on their lending behaviour. On the one hand, foreign banks are not hindered by old nonperforming loans nor by the need to finance the fiscal deficit. They have easy access to foreign funds, so they are in a position to finance innovative activities or new firms with

long-term loans. On the other, the aim of foreign banks is often just to be present in a market in order to serve established foreign clients with (trade) finance, or to finance other activities with a quick and safe return. Short-run profitability criteria may be more important for them than establishing long-run relationships with promising enterprises. It is an empirical matter to establish whether foreign enterprises are better for dynamic efficiency than domestic banks.

Stability

Stability is not so much an expected consequence of liberalization, but rather an objective for the financial sector in general. This objective can be endangered by financial reform if appropriate measures are not taken. Stability of the financial sector implies that savers and depositors (including households, enterprises and financial institutions) can be reasonably sure that their funds deposited with the banking system are safe. Bank failures must be allowed to occur, but should not lead to a collapse of the whole system.

In this area, another information and incentive problem exists: that of moral hazard.[3] If banks know that governments will protect their clients and, even more, if banks know that governments will protect *them*, they have an incentive to lend to projects with high potential profits and high risks. If things go well, they will earn high profits, if things go wrong, they will be bailed out. In a transition economy, the risk of moral hazard is even larger since capital markets are relatively underdeveloped. In addition, the state has always provided implicit protection of deposits. To enhance banking stability, appropriate banking supervision and regulation must be established (P4). Although informal insurance is likely to continue, formal deposit insurance schemes must be developed (Anderson et al. 1996). Standards on capital adequacy ratios and on minimum capital requirements for establishing a bank all play a role in reducing the risk of moral hazard. To enforce these rules, an appropriate system of banking supervision is necessary. But moral hazard can never be excluded completely.

While banking supervision and prudential regulation are essential for stability, the other preconditions may also play a role. Achieving a stable banking system is easier if the extent of specialization and concentration is smaller, since this brings about more spreading and diversification of risks. It is also easier if the nonperforming loan problem at the onset is smaller and if macroeconomic stability has been achieved, in particular, a low inflation rate.

Indicators for stability may include the share of bad loans in total assets (BAD), the share of interbank loans (IB) since this gives an indication of the extent to which commercial banks are able to attract deposits themselves or are still dependent on the savings bank(s), the existence of formal deposit insurance (DEPINS) and the capital asset ratios (CAR) of banks. Higher CARs will reduce the risks that banks fail. We can assume that legislation on capital asset ratios (CARLAW) will positively affect these ratios, as well as banking laws, bankruptcy laws (LAWS).

As pointed out above, the entry of foreign banks may lower the profitability of domestic

banks. It may therefore take longer before the domestic banking sector can raise its capital asset ratio. In addition, the entry of foreign capital in banking will probably be accompanied by an increase in foreign liabilities. Whether these have a positive or negative effect on stability depends on the nature of these liabilities: short-term loans (STFOR) tend to endanger stability much more than long-term foreign finance. From experiences in other countries, we can expect short-term foreign liabilities to increase if there is a current account deficit (CADEF) accompanied by exchange rate overvaluation (OVER). These relationships are also summarized in table 2.

Table 2. Summary of expected relationships

Operational efficiency
COST = F (SPE, CONDE, CONAS, BAD_{to}, FD, - FOR)
LR = F (SPE, CONDE, CONAS, - FOR); if DISC, then LR = F (COST)
DR = F (- SPE, - CONDE, - CONAS, FOR); if DISC, then DR = F (- COST)
SPR = LR - DR
PROF = F (SPR - COST)
DISC = F (LAWS)

Allocative efficiency
GOV = F (LR, FD, r_{gov}-r_{ib}))
CAP = F (LR, BAD_{to})
SMALL = F (- LR)
COM = F (LR)

Dynamic efficiency
S = F (-INF)
DEP = F (DR)
LTL = (-INF, -LR)
NEW = F (-LR)

Stability
CAR = F (LAWS, CARLAW, -INF, -SPE, -CONAS, -CONDE, -BAD_{to}, -FOR)
IB, BAD, = F (-LAWS, -CARLAW, INF, SPE, CONAS, CONDE, BAD_{to})
STFOR = F (CADEF, OVER)

3. HUNGARY: THE PRECONDITIONS

Hungary carried out a banking reform already in 1987. Three former sectoral departments of the National Bank of Hungary were established as separate commercial banks: the Hungarian Credit Bank, the Commercial and Credit Bank, and the Budapest Bank (Abel and Bonin 1994, Van den Berkmortel 1994). Two other financial institutions also obtained a

commercial banking licence: the Hungarian Foreign Trade Bank and the General Banking and Trust Company. In addition, the institutions that used to collect household deposits were established as Savings Banks. They could attract deposits and lend to households. Among these is the National Savings Bank which is the largest bank of the country in terms of assets. In addition, there were some specialized financial institutions. Foreign banks and joint ventures were also allowed in 1987. The number of foreign and joint venture banks increased from three in 1987 to fifteen in 1992 and to 20 in 1995 of foreign and joint venture banks was still rather limited in 1992 (table 3). At the end of 1994, the share of foreign banks in total assets was 18% in Hungary, compared to 2% in Poland and 3% in the Czech Republic (Bonin and Leven 1996).

In the first years (1987-1991), liberalization of the banking sector was still limited (Apolte 1991). Commercial banks were forbidden to attract deposits from households. An interbank market did not exist yet, and the interest rate was still regulated. Refinancing loans from the NBH were not yet extended on a market basis, and the NBH was obliged to finance the budget deficit. As of 1991, these restrictions were gradually lifted. Hungary did not chose unambiguously for a system of universal banking. Commercial banks can only lend up to 15% of their adjusted capital in long-term loans. Large-scale investment activities and securities are left to specialized institutions.

By 1991, banking concentration (CONAS) had decreased somewhat since 1987 but was still rather large (table 4). The figures for Hungary are a bit difficult to interpret because the Hungarian Savings Bank is still represented in a separate category. The "total large banks" figure includes the six largest banks of the country and points to a high concentration of assets. However, it does not seem to be high in comparison with other emerging market economies. More recent concentration ratios for OECD countries will probably also reveal higher figures.

In 1991, the savings banks held 81.3% of total household deposits (Thorne 1993). This means a rather high concentration of deposits (CONDE). In 1995, the large savings bank still captured 65% of deposits (Business Central Europe 1995/1996) and many of these were transferred via the interbank market. But foreign banks have now started to attract deposits, and the market share of the savings bank is expected to decline further. At the same time, the savings bank is increasingly active in corporate lending. Therefore, the extent of specialization and the concentration of deposits can no longer be considered a negative factor. Competition is increasing.

When the New Banking Act and new accounting rules were introduced in 1991 and 1992 (see below), the proportion of nonperforming loans proved to be quite high (table 5). Bad loans were in part inherited from before the economic reforms, and in part they had become "bad" because of the recession following the reforms (Abel and Bonin 1994, 107). The banks had to make extensive provisions for these bad loans. Already in 1991, the Hungarian government had taken over one quarter of the then recognized bad loans from the banks. In 1992, a first bank consolidation programme was initiated. The banks could swap bad loans

Table 3. Market share of banks by ownership (% of total assets)

	1991	1992
Hungarian banks	88.8	89.5
Joint ventures	7.3	6.4
Foreign banks	3.9	4.1
Foreign plus joint ventures	11.2	10.5
Total	100.0	100.0

Source: Van den Berkmortel 1994.

Table 4. Banking concentration[a] in Hungary and other countries

	1987	1988	1989	1990	1991
Hungary:					
Four largest banks	58.2	53.3	52.0	48.2	42.4
Savings banks	35.6	38.1	37.8	36.0	34.8
Total large banks	93.8	91.4	89.8	84.2	77.2
Medium-sized banks	4.7	6.1	7.2	13.7	22.1
Specialized financial institutions	1.6	2.5	2.9	2.1	0.7
Reforming emerging market countries (four largest banks)					
Argentina	82				
Indonesia	66				
Malaysia	64				
Thailand	65				
Taiwan ('82-'87)	85-63				
OECD countries (five largest banks):					
France	52				
Germany (1984)	26				
Spain	43				
USA (1984)[b]	13				

[a]Expressed as percentage of total asset.
[b]Only domestic assets.
Sources: Van den Berkmortel (1994) for Hungary, Fischer (1993b, 130) for other countries.

Table 5. Bad loans in Hungary

	1991	1992	1993	1994
As % of bank loans	9.4	20.7	42.6	30.2
As % of total assets	4.1	7.5	15.7	11.0
As % of GDP	3.5	5.4	11.9	7.9

Source: Anderson et al. 1996.

for Treasury bonds (Anderson et al., 61). A total of 104.9 bn forints of bad debts was swapped for 80.3 bn forints of 20 year government bonds (Van den Berkmortel 1994). Apparently this was not enough: not all nonperforming loans were removed, and it has created the expectation of further bailouts. New bad loans were likely to come about since many loss-making enterprises continued to exist which the government did not want to let fail. In 1993 followed a second and much larger bank consolidation programme, which also involved a recapitalization of firms and capital injections for banks in order to raise their capital asset ratio. But this scheme did not provide the ultimate solution for the bad loan problem either, although bad loans decreased for the first time in 1994 (table 5). The recapitalization schemes brought about more government debt and increasing government influence in domestic banks. This was not wholly positive. The government was reluctant in selling shares of state banks abroad: they were considered of strategic interest. At the same time, the banks were deeply in need of a change in managment, a reduction in workforce and more modern information technology. It was not until 1994 that these changes began to come about (Business Central Europe 1995/1996).

Table 6. Macroeconomic indicators of Hungary

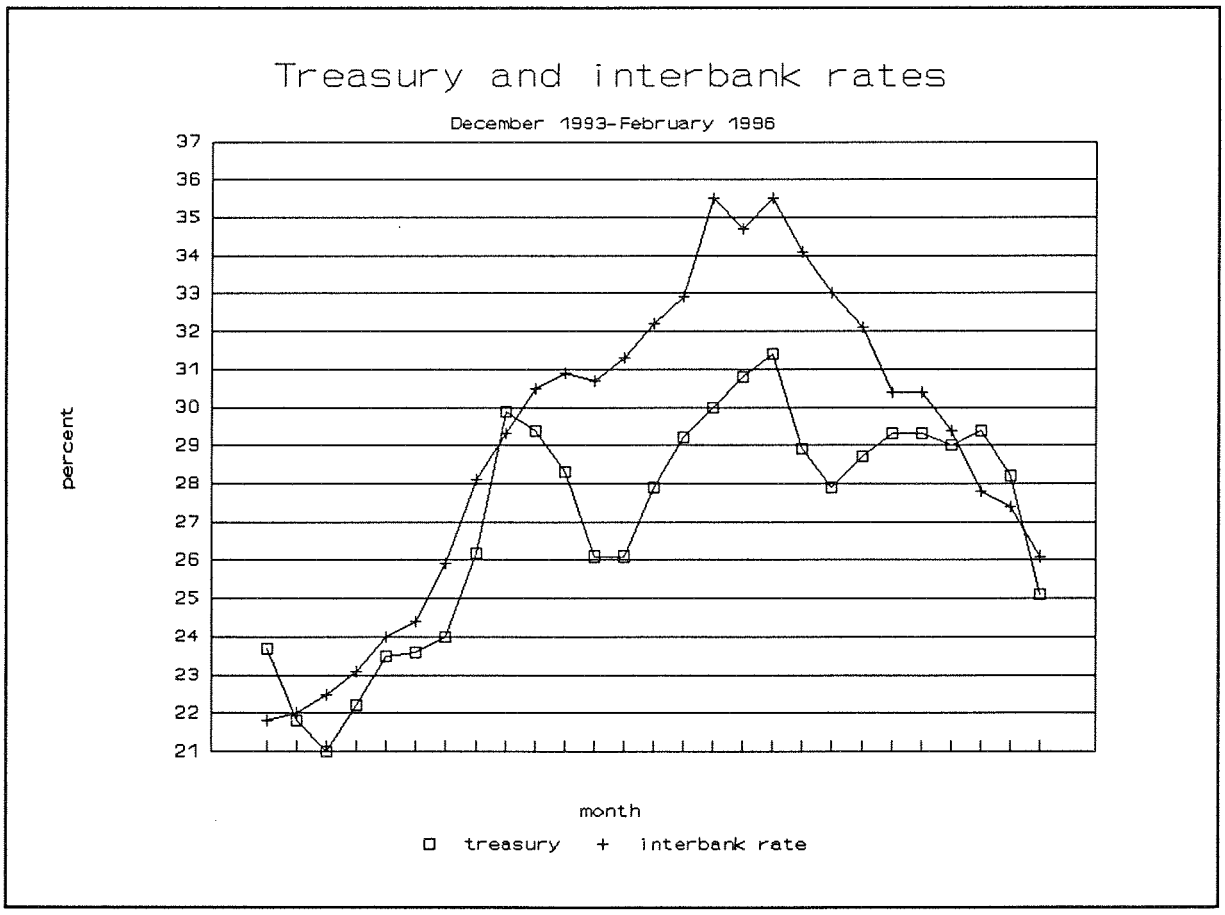
	1989	1990	1991	1992	1993	1994	1995
GDP growth (%)		-3.5	-9.9	-5.1	-0.8	2.0	1.2
Inflation (%)	17.0	28.9	35.0	23.0	22.5	18.8	28.2
Government:							
Central budget balance (% of GDP)				-0.8	-0.3	-0.9	2.8
Overall primary balance[a] (% of GDP)				-1.4	-1.1	-3.5	2.0
Consolidated deficit[b] (% of GDP)			2.1	6.2	5.4	9.8	7.1
Exports ($ bn)		6.3	9.3	10.0	8.1	7.7	12.8
Imports ($ bn)		6.0	9.1	10.1	12.1	11.4	15.3
Trade balance ($ bn)		0.3	0.2	-0.0	-4.0	-3.7	-2.4
Current account balance ($bn)		0.1	0.3	0.3	-4.3	-4.1	-2.5
in % of GDP					-11.9	-10.0	-5.6
Gross debt ($bn)					24.8	28.5	31.1
Foreign investment ($bn)		0.3	1.5	1.5	2.3	1.1	2.5

[a]Including local government and social security funds.
[b]Including debt service.
Sources: For GDP: IMF World Economic Outlook, several years, inflation: National Bank of Hungary, Monthly Report 1996, 4 (April), Fiscal Deficit and trade figure 1990-1992: OECD Economic Surveys, Hungary 1995, Trade figures 1993-1995: Business Monitor International, Eastern Europe Monitor, May 1996, Foreign investment: European Economy (1995 forecast), Debt: Business Central Europe, December 1995/January 1996.

The macroeconomic environment was not very bright in the early years of the transition. GDP declined until 1994, and inflation rates were rather high (table 6). The fiscal deficit also became high in 1992, and the current account balance began to show a huge deficit in 1993. In 1995 this deficit diminished somewhat. Foreign debt was high and increased during 1992-1995.

Examining more in detail the causes of the fiscal deficit, it seems the problem does not lie in balancing central government revenues and expenditure. The principal causes are rising interest payments and the deficits of social security funds and local governments (table 6). The consolidation and bank recapitalization programmes caused domestic interest payments to rise, and foreign interest payments also increased. The fiscal deficit in turn complicated monetary policy. In 1992, monetary policy had been eased in order to stimulate the economy. In 1993, the National Bank of Hungary (NBH) came under pressure to finance the government deficit (OECD 1995, 67). Although the NBH itself was obliged to finance only up to 3% of government revenues, it had to facilitate financing of the deficit by the

Figure 2.



Source: National Bank of Hungary (1996)

commercial banks. It did so by increasing the treasury bill yield, which had been fixed until then by the Ministry of Finance. More recent figures show the treasury bill yield and the interbank rate moved together to a large extent (figure 2). However, this does not exclude that the high treasury yield provoked an upward pressure on other lending rates.

In the early years of the transition Hungary had a rather high reserve requirement ratio: it increased from 4% in 1988 to 16% in 1992 (Thorne 1993, Várhegyi 1994). After that it was lowered and apparently the reserve requirement was not binding in 1993-1994 (OECD 1995). As of 1995 the NBH did use this instrument, but raised interest rates on these mandatory reserves at the same time. During 1992-1994, monetary policy was not very strict. Apart from the pressure to finance the deficit, the NBH also hesitated to tighten monetary policy and to increase refinancing rates for other reasons. It feared that higher bank lending rates would decrease the volume of loans available for enterprises, in particular for profit making enterprises. In addition, higher domestic interest rate would automatically increase the fiscal deficit.

The not very strict monetary policy partly caused the worsening of the current account. Continuing inflation led to overvaluation of the exchange rate in this whole period. There were periodic devaluations, but they were not enough to compensate for the inflation rate. Here, the National Bank of Hungary faced the dilemma that increasing the rate of the devaluation would add to inflation. The contractionary effect (on the money supply) from the current account deficit did not come about, however, because enterprises and firms borrowed abroad on a large scale in spite of the exchange rate risk (OECD 1995). This inflow of capital further complicated monetary policy.

In 1995, reducing the current account deficit took a higher priority in monetary policy. Devaluations became larger and monetary policy became more strict. Apparently, these measures had some effect on reducing the deficits. At the same time, inflation increased (table 6).

Hungary made important progress in the area of banking supervision and prudential regulation. The Banking Law of December 1991 established minimum capital requirements of 1 billion forint for a commercial bank, and smaller amounts for savings banks and specialized financial institutions (Van den Berkmortel 1994). These requirements were high compared with other countries in transition (Thorne 1993). The law also introduced the Basle standards for the capital asset ratio. All financial institutions had to have a risk-weighted capital asset ratio of 8 per cent by January 1993, but individual exemptions could be made. According to the law, the ownership of one single owner could not exceed 25%, which meant that state banks had to be privatized. The share of loans extended to one single borrower also could not exceed 25%, but here the government (as borrower) was exempted. The law also specified three types of dubious outstanding loans and stipulated the percentage of provisions that had to be made for each type. Finally, the creation of a deposit ensurance fund was foreseen in which financial institutions are obliged to participate. The fund, created

at the end of 1992 gives protection for deposits up to a maximum of 1 million forint or about $9,000 (Anderson et al. 1996, 68).

Hungary also introduced a rather strict bankruptcy law in 1991. In the first three months, 2000 enterprises had filed for bankruptcy. Although the law helped banks to be tougher on loss making firms, the large number of bankruptcies created an additional burden for them. In 1993, the law was mitigated (Várheghyi 1994). The number of enterprises that filed for bankruptcy was 6000 in total until December 1995 (Business Central Europe 1995/1996).

With respect to the intervening variables, financial discipline on the large state commercial banks was low until 1992 (Apolte 1991, Thorne 1993). After the introduction of new accounting rules, the banking laws and the bankruptcy laws financial discipline has probably increased. The presence of foreign banks has probably increased competition among banks, first in lending. This has probably exerted downward pressure on lending rates. Recently, foreign banks are also becoming active in attracting household deposits. Although direct competition from foreign banks for deposits is only now beginning, deposits in foreign currency have been allowed since 1990. Interest rates on foreign currency deposits cannot be far out of line with foreign currency deposits abroad (Dittus 1994, 357-358). Along with increased competition, financial displine on banks is also increasing. Payment discipline is improving in general. The inter-enterprise credits that amounted to 6.8% of GDP in 1992, are estimated at 1 or 2% of GDP in 1996 (Business Central Europe 1995/1996).

We can conclude that financial liberalization was introduced gradually in Hungary between 1987 and 1993. Given the overview of preconditions, it went ahead without most preconditions being fulfilled (table 7). Competition in banking was limited, although it increased gradually thanks to the presence of foreign banks and to the gradual reduction in banking specialization. When bad loans were properly reported (1992) they proved to be high. The fiscal deficit was low until 1992 but high since then. As of 1993 this high deficit provoked high interest rates of government securities and as of 1995 it also led to large reserve requirements. Banking regulation and supervision began in 1992 and had a positive influence on bank's financial discipline. In fact, 1992 was the year in which banks became more subject to a market environment. Since the other preconditions (P1-3) were not fulfilled by then, the domestic banks suffered from high costs. Given the increased banking discipline, we can expect high lending rates as of 1992, low deposit rates and a large spread. But the presence of foreign banks and the availability of foreign currency deposits can be expected to exert downward pressure on lending rates and upward pressure on deposit rates, respectively.

Although until 1995 reserve requirements or taxes do not constitute a burden on profitability of domestic banks, and the holding of government securities may in fact generate profits, domestic banks are hindered by the large stock of bad loans. This will hold, in particular, for the largest Hungarian banks which grew out of the former divisions of the

NBH, and much less for smaller and foreign banks. For this reason, large banks wil have higher costs and lower profitability than smaller banks, and foreign banks will have lower costs and higher profitability than domestic banks.

Table 7. Hungary: Overview of preconditions

P1. Competition in banking
SPE high
CONDE high but decreasing
CONAS high

P2
BAD_{t0} high, decreasing in 1994

P3
FD high 1992-1995
RRQ low 1992-1994, higher 1995
r_{gov}-r_{ib} negative until 1993, then zero

INF high 1990-1995
CADEF low 1990-1992, high 1993 and 1994
OVER high 1992-1994

P4.
CARLAW as of 1992
LAWS as of 1992
DEPINS as of 1992

Intervening variables:
DISC: increased as of 1992
FOR: some presence since 1987 and gradually increasing participation of foreign banks

On balance, the real lending rate is probably too high, and allocative efficiency will be affected. This will result in relatively high capitalization rates, a large share of government securities in banks' assets, a relatively large share of loans to commercial activities and a low share for small and medium enterprises. The large banks will have higher capitalization rates and more government securities. They will also direct a smaller share of loans to small and medium enterprises than smaller banks. Foreign banks probably have much lower capitalization rates and less government securities in their asset portfolios.

Dynamic efficiency will also be hampered by the high lending rates, and in addition by the high inflation rate. The share of long-term loans and loans to new firms will be low, and the share of loans for consumption will be high. Here, differences between groups of banks are also likely to appear. Large banks may still have a large proportion of assets in long-term

loans, but will direct a smaller proportion of loans to new enterprises. For foreign banks the share of long-term loans remains to be seen. Domestic savings will probably be affected by the uncertainties of the transition period and by the high inflation rate. Low deposit rates will affect the volume of time deposits.

Stability of the banking sector is probably still a remote goal. Stability is positively influenced by the laws introduced in 1992. But in that year, the extent of specialization was still high which will have led to a high share of interbank loans. The extensive bad loan problem in 1992 is unlikely to be solved rapidly in the next years. The low profitability for large domestic banks will probably cause continuing low capital asset ratios. Given the current account deficit in 1993 and 1994, and the overvalued exchange rate, the share of short-term foreign liabilities is probably high which further endangers stability of the financial sector.

4. THE OUTCOMES

In this section we attempt to present data on the indicators for operational efficiency, allocative efficiency, dynamic efficiency and stability. I used two main sources: a recent *Monthly Report* of the National Bank of Hungary, and the results of a study of the Annual Reports of 1991 and 1992 of the 35 banks operating in Hungary, reported in an unpublished MA thesis (Van den Berkmortel 1994). For most indicators, data could be obtained.

Table 8 shows real lending and deposit rates. The real lending rate was still low and negative in 1991, but increased substantially in 1992. It was highest in 1994. Real deposit rates were negative in all years except 1994. The high figures for both rates in 1994 are perhaps due to an unexpected fall in the inflation rate in that year. The spread between both rates became very high in 1992 but then decreased somewhat. The increase in lending rates and in the spread could be expected from the increased financial discipline on banks in that year, in combination with the lack of fulfillment of the preconditions which led to high banking costs. After 1992, the preconditions improved somewhat, in particular as banking competition is concerned.

The lending rates of the four large commercial banks are separately given by the National Bank of Hungary and represented in table 9. As can be expected, they were higher than those of other banks, at least until 1995. In that year "large banks" also came to include the large (former) savings bank and the Postbank. The spread of large banks was also larger than that of smaller banks. The difference was three percentage points in 1991-1993, but then decreased gradually.

Table 8. Interest rates[a]

	1989	1990	1991	1992	1993	1994	1995
producer prices (ind.)	15.4	22.0	32.6	11.5	10.8	11.3	30.2
consumer prices	17.0	28.9	35.0	23.0	22.5	18.8	28.2
s.t.lending rates			35.5	28.8	25.6	29.7	32.2
deposit rates			31.1	17.6	17.2	23.6	26.1
real lending rates[b] (LR)			0.5	5.8	3.1	10.9	4.0
real deposit rates[b] (DR)			-3.9	-5.4	-5.3	4.8	-2.1
spread (SPR)			4.4	11.2	8.4	6.1	6.1

[a]End of December.
[b]Price rises of consumer prices have been deducted from nominal rates.
Source: National Bank of Hungary, Monthly Report 1996, 4 (April).

Table 9. Nominal interest rates and spread, of large[a] and other banks, loans up to one year

	1991	1992	1993	1994	1995
Lending rates:					
Large banks	36.1	30.9	26.9	30.1	31.7
Other banks	34.7	26.5	24.8	29.5	31.7
Deposit rates:					
Large banks	30.0	18.0	16.9	23.1	26.3
Other banks	31.7	17.2	17.5	23.8	26.5
Spread:					
Large banks	6.1	12.9	10.0	7.0	5.4
Other banks	3.0	9.3	7.3	5.7	5.2

[a]Large banks are the four largest commercial banks (not including the savings bank) and since 1995 the six largest banks, including savings bank and Postbank.
Source: National Bank of Hungary, Monthly Report, April 1996.

With respect to profitability, several indicators can be used. A first indicator is profits before and after taxes. Other indicators are the return on asset ratio (ROA) and the return on equity ratio (ROE). Data on these indicators are available for 1991 and 1992 (Van den Berkmortel 1994). The 1992 figures for all banks are much lower than the 1991 figures, reflecting the introduction of the new accounting rules and the new Banking Act. Banks were then forced to increase provisions for dubious loans. With respect to the profitability we compare large, medium and small banks. The five large banks, with assets of 100 billion forints or more in 1991, are all state banks. The group of medium-sized banks includes two former state banks, the Postbank and a small savings bank, but also eight other (private) banks including some joint ventures. Small banks, with an asset size of less than 20 billion

forints in 1991 include the specialized financial institutions are all private banks. Of the 20 small banks there are 8 foreign banks or joint ventures.

Table 10. Profitability indicators, large, medium and small banks, in bln Hungarian forints, unless otherwise indicated.

	Large		Medium		Small		Total	
	1991	1992	1991	1992	1991	1992	1991	1992
Profits before tax	14.9	-2.8	11.2	5.9	3.8	-2.2	29.9	0.9
Tax liability	6.4	2.3	2.4	1.4	1.0	0.6	9.8	4.3
Profits after tax	8.5	-5.1	8.8	4.5	2.8	-2.8	20.1	-3.4
Dividends paid	4.1	0.1	2.5	1.6	1.4	0.6	8.0	2.3
Dividends/after tax profits (%)	48.2		28.4	35.5	50.0		39.8	
Return on assets (%)	0.9	-0.2	3.0	1.5	2.5	-1.3	1.4	0.0
Return on equity (%)	14.2	-2.9	36.4	16.3	11.0	-6.7	17.6	0.5

Source: Van den Berkmortel (1994).

Table 11. Profitability indicators: Hungarian owned banks, joint venture banks, and foreign owned banks, in bln Hungarian forints, unless otherwise indicated.

	Hungarian		Joint venture		Foreign		Total	
	1991	1992	1991	1992	1991	1992	1991	1992
Profits before tax	20.4	-4.7	6.6	1.8	2.9	3.8	29.9	0.9
Tax liability	8.5	2.8	0.8	0.7	0.5	0.8	9.8	4.3
Profits after tax	11.9	-7.5	5.8	1.1	2.4	3.0	20.1	-3.4
Dividends paid	5.0	0.6	1.5	0.7	1.5	1.0	8.0	2.3
Dividends/after tax profits (%)	42.0		25.9	63.6	62.5	33.3	39.8	
Return on assets (%)	1.1	0.2	4.3	1.2	3.5	4.0	1.4	0.0
Return on equity (%)	15.3	-3.8	26.0	6.3	25.7	27.7	17.6	0.5

Source: Van den Berkmortel (1994).

In keeping with expectations, the profitability of the large banks is low and proved negative in 1992 (table 10). Small banks also had losses in 1992. Medium banks performed better. The figures on ROA and ROE show the same picture: only the medium-sized banks could maintain positive figures in 1992.

Joint ventures and foreign banks proved to have much better profitability records than Hungarian banks (table 11). This is also in conformity with expectations. These results are also reported by Sabi (1996) on the basis of a study of the Hungarian Financial and Stock Exchange Almanac 1993-1994 for 33 banks in 1992 (and for some banks 1993). The higher profitability of foreign banks, including joint ventures, compared to Hungarian banks proved to be statistically significant.

Real lending rates were high, especially in 1992 and even more in 1994 (table 8). This will probably have affected the efficiency of the allocation of credit. Dittus (1994, 347) calculated the extent of interest capitalization of Hungarian banks. He estimated net interest payments by applying average lending and deposit rates to the outstanding loans and deposits of enterprises. The ratio between net borrowing of enterprises and net interest payments gives an indication of the extent to which banks financed their clients' interest payments (table 13). In 1990 and 1991 the ratio was positive, but in 1992 it was highly negative. Enterprises were paying back on earlier loans in that year. In 1993 the ratio was positive again: banks financed about half of enterprises' interest payments. Dittus (1994) concluded that the high lending rate, the high spread and the low capitalization rates in 1992 can be ascribed to changes in bank behaviour. The new banking and accounting rules have led to more financial discipline: made banks more prudent in lending and more concerned with profitability. In our view, some changes in bank behaviour may have occurred, but the fact that the capitalisation rate increased again in 1993 means that prudent behaviour is not yet general.

Dittus (1994) also argues that the high lending rate in 1992 cannot be due to increased financing of the budget deficit, since the deficit could be financed from the high household savings in that year. Although it is true that net household savings were high in 1991 and 1992 (table 12), the share of credit to the central government in total assets was rather high in all years. In 1993 it was highest (table 13). This means that the government deficit also added to the high costs for banks, and indirectly caused higher lending rates.

The share of small enterprises in total loans to the enterprise sector increased somewhat in 1992 but decreased again in 1995. Thorne (1993, 30) found that lending to private enterprises increased between 1989 and 1991, but at a lower rate than the private sector itself. The relative share of loans decreased for private enterprises. It is highly probable that the same trends apply to lending to small enterprises. Assuming continuing growth for small enterprises, the declining figure in 1995 implies that access to credit for small enterprises even decreased in absolute terms.

Data on the structure of assets for groups of banks are not completely comparable with the figures from the National Bank of Hungary. They do not include all credit to the government, for example, but only government bonds. Large banks turned out to hold 98.8% of government bonds in 1991, and 96.5% in 1992 (Van den Berkmortel 1994). For medium and small banks the share of government bonds in total assets is insignificant, although there is a small increase in 1992 as compared to 1991 (table 14). As we expected, foreign and joint venture banks hardly hold government bonds (table 15). It seems that large domestic banks

Table 12. Savings and investment ratios in Hungary[a], as share of GDP (in %)

	1989	1990	1991	1992	1993	1994
Gross national savings	25.0	27.3	17.8	14.4	12.1	13.4
Households	7.9	9.1	15.1	12.5	8.0	9.7
Enterprises	12.0	13.1	-0.4	1.2	2.8	5.2
Government	5.2	5.1	3.1	0.6	1.3	-1.5
Capital transfers, net						
Households				0.9	0.9	2.0
Enterprises				0.7	0.7	-0.7
Government				-1.7	-1.6	-1.3
Gross investment	26.6	25.4	20.4	15.2	19.4	21.5
Households	5.2	3.9	5.4	4.6	5.0	4.9
Enterprises	15.5	18.0	10.7	4.7	9.3	11.0
Government	5.9	3.6	4.3	5.9	5.2	5.6
Net-financial balance	-1.5	1.9	-2.7	-0.8	-7.4	-8.1
Households	2.7	5.3	9.7	8.9	3.9	6.8
Enterprises	-3.6	-4.9	-11.2	-2.7	-5.8	-6.6
Government	-0.7	1.5	-1.2	-7.0	-5.5	-8.4

[a]Excluding privatization revenues
Source: OECD, 1995, p. 27.

Table 13. Allocative and dynamic efficiency indicators, in percent

	1989	1990	1991	1992	1993	1994	1995
CAP[a]		25	30	-51	46		
GOV/total assets	40	36	35	37	41	39	33
SMALL/total enterprises	4	7	8	10	11	10	7
Long-term loans/total loans	28	25	21	21	20	21	

[a]Net enterprise borrowing as percentage of net interest due.
Source: for capitalization: Dittus (1994); for other indicators: calculated from National Bank of Hungary, Monthly Report, April 1996.

meet the bulk of the government's financing needs. It may be the case that they are under pressure to do so. On the other hand, financing the government may be less risky and more profitable for them in comparison with their lending to (often loss-making) enterprises.

Gross national savings decreased since 1990 (table 12), although there was a small increase in 1994. The major part of this decline is accounted for by reduced enterprise savings, and to a lesser extent, government savings. So the main factor behind this drop in savings seems to be the difficult financial position of the enterprise sector (and the governmnet) in the transition. Household savings were even high in 1991 and 1992, in spite of negative real deposit rates (table 8 above). Although the interest rates for deposits was negative in all years except 1994, the share of household forint deposits in total broad money (M3) reaches its maximum in 1992 (table 14). As in other studies, the low real deposit rate does not seem to be a factor in lowering gross savings, nor does it seem to have an influence on the volume of household deposits.

Table 14. Household deposits, as percentage of total broad money

	1989	1990	1991	1992	1993	1994	1995
Forint	9.3	11.2	10.3	11.6	11.1	10.0	9.6
Forex	0.8	2.4	2.6	2.2	3.7	2.8	4.3
Total	10.0	13.7	13.0	13.8	14.9	12.8	13.9
Total broad money	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Calculated from National Bank of Hungary, Monthly Report April 1996.

According to the figures from the National Bank of Hungary, the share of long-term loans in total assets has decreased from 28% in 1989 to around 20% in 1991-1994 (table 13). This may affect production capacity in the future, the more so since alternative sources for investment finance are still limited. Large banks are much more active in the long-term loans sector of the market than medium or small banks (table 15). This can be seen, for example, by comparing short-term loans to customers with long-term loans to customers. The gap between the two figures, in favour of the short-term loans, is much larger with small and medium banks than with large banks. The large banks supplied 89% of all long-term loans to the private sector (Van den Berkmortel 1994). This probably means that large banks are still supplying their "old" customers with long-term loans, and that even less is available for new private enterprises.

Foreign banks and joint venture banks proved to have much less long-term loans in their asset portfolio than Hungarian banks. They engage mainly in short-term lending, both to other financial institutions and to private customers. In 1992, the increase in long-term lending of, in particular, foreign banks is remarkable (table 16). For 1992, Sabi (1996) reports that foreign banks have a statistically significant lower share of their assets in long-term loans. This finding implies that foreign and joint venture banks are not really investing in the local economy. They prefer to finance activities with a fast return.

Table 15. Structure of assets of large, medium and small banks in 1991 and 1992, in percent of total assets

	Large		Medium		Small		Total	
	1991	1992	1991	1992	1991	1992	1991	1992
Fin. institutions, short term	6.8	7.1	22.0	17.7	17.4	12.4	10.2	9.4
Customers, short term	24.4	20.1	32.0	38.2	31.1	34.6	26.2	24.4
Fin. institutions, long term	4.4	3.3	5.4	1.4	0.0	0.3	3.4	2.7
Customers, long term	19.5	20.7	5.5	7.6	6.0	7.2	16.1	17.4
Bonds	11.2	10.3	0.5	1.3	0.3	0.7	8.5	8.0
Majority and controlling shares	1.5	0.9	0.2	1.4	1.5	2.9	1.3	1.1
Other (e.g. cash)	32.2	37.0	34.4	32.4	46.3	41.9	34.4	37.0
Total[a]	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Total may not sum up to 100, due to rounding.
Source: Van den Berkmortel 1994.

Table 16. Structure of assets of Hungarian, joint venture and foreign banks in 1991 and 1992, in percent of total assets

	Hungarian		Joint venture		Foreign		Total	
	1991	1992	1991	1992	1991	1992	1991	1992
Fin. institutions, short term	8.2	7.7	29.4	22.2	19.4	26.5	10.2	9.4
Customers, short term	25.9	23.6	28.5	31.2	27.5	30.6	26.2	24.4
Fin. institutions, long term	3.8	2.9	0.5	2.7	0.0	0.2	3.4	2.7
Customers, long term	17.6	18.5	5.0	6.7	2.4	8.7	16.1	17.4
Bonds	9.5	8.9	0.4	0.4	0.9	0.5	8.5	8.0
Majority and controlling shares	0.9	1.1	1.0	1.4	0.1	0.5	1.3	1.1
Other (e.g. cash)	34.1	37.3	35.2	35.4	49.7	33.2	34.3	37.0
Total[a]	100.0	100.0	100.0	100.0	100.0	100.O	100.0	100.0

[a]Total may not sum up to 100, due to rounding.
Source: Van den Berkmortel 1994.

With respect to stability of the financial sector, the following can be said. As we saw before (table 5), the share of bad performing loans in total bank loans continued to increase in 1993 but then started to decrease. It can be expected, however, that bad loans continue to be a problem, in particular, in the large banks.

The extent of specialization in the banking system has diminished since 1987. However, in 1992 all banks were still very dependent on short-term deposits and had relatively few long-term liabilities (table 17). Large banks were in a slightly better position in this respect. Hungarian banks were even more dependent on deposits than foreign or joint-venture banks, which have a larger share of equity. Hungarian banks did have more long-term deposits than foreign or joint-venture banks (table 18). The lack of long-term deposits for foreign and joint-venture banks probably limits their investment financing. The capital adequacy ratio for the Hungarian banks is still below the Basle norm of 8% of risk-weighted assets. It was about 4% for most domestic banks in 1994 (Schröder 1995, 198). The large savings bank recently sold 30% of its shares, but the other large state banks still have to be privatized (Business Central Europe 1995/1996). This means that the position of the large state banks is still very weak. Given that they still have a large market share, this endangers the stability of the Hungarian financial sector.

Foreign liabilities constitute a large share of total liabilities of the Hungarian banking system. Their share was 50% in 1990, and it decreased somewhat to 38% in 1995 (National Bank of Hungary 1996). Annual inflows of foreign capital are large, but a large part of it consists of foreign direct investment. The share of short-term liabilities in Hungary's foreign debt has gradually decreased in the 1990s. It was 7 or 8% in 1994 (OECD 1995, 21). Since this is rather low, the stability of the financial sector does not seem to be in danger from the external side.

Table 17. Structure of liabilities, large, medium and small banks

	1991			1992		
	Large	Medium	Small	Large	Medium	Small
Equity	5.8	8.4	23.2	5.8	9.1	19.0
Provisions	2.9	0.7	2.9	3.6	1.7	2.8
Deferred payments	2.5	3.0	2.2	2.0	2.9	1.7
Short-term liabilities	66.6	78.3	65.8	69.3	77.9	65.4
Long-term liabilities	21.5	9.5	6.2	19.3	8.4	11.1

Source: Van den Berkmortel (1994).

Table 18. Structure of liabilities Hungarian, joint venture and foreign banks

	1991			1992		
	Hungarian	J.v.	Foreign	Hungarian	J.v.	Foreign
Equity	7.1	16.5	13.8	6.2	19.6	14.6
Provisions	2.6	1.5	0.6	3.4	2.3	1.1
Deferred payments	2.5	2.5	2.9	2.2	1.3	1.1
Short-term liabilities	67.7	74.3	78.3	70.2	70.1	77.8
Long-term liabilities	20.0	5.2	4.4	18.0	6.7	5.5

Source: Van den Berkmortel (1994).

5. CONCLUSION

In the theoretical part of this paper I developed a framework for analyzing reforms in the financial sector and their results, in particular for the efficiency of financial intermediation. Operational efficiency, allocative efficiency, dynamic efficiency and stability were found to depend on the extent of fulfillment of four preconditions, on the intervening variables financial discipline and the entry of foreign banks and finally on factors related to the economies of scale and scope and the economics of information. Indicators were established for the different variables. In the second part of the paper, this framework was applied to Hungary. For most indicators, data could be found and they are presented here. Although the number of (annual) data is too limited to make statistical inferences, some conclusions on the Hungarian experience can be drawn.

The liberalization of Hungary's banking sector has been a gradual process. It started in 1987, but it took until 1992/1992 for most restrictions to be lifted and for banks to have to operate much more in a market environment. However, by 1992 the preconditions for liberalization were not yet fulfilled. The extent of specialization among banks was still high, the bad loan problem was extensive and the fiscal deficit was high. These factors increased costs for the state commercial banks. The increased financial pressure on these banks, in combination with the increasing participation of foreign banks in the Hungarian market, has led to some serious problems that need to be considered in the near future.

A first problem is the financial viability and behaviour of the large state banks. State banks still have a large proportion of bad performing loans. They have not been recapitalized to a sufficient extent. The loan consolidation and recapitalization efforts carried out so far may have generated negative incentive effects. Some banks still do not make sufficient provisions for bad loans. They are weakly monitored themselves, and can be expected to weakly monitor their clients. The fact that foreign banks have been allowed to operate in Hungary, makes it more difficult for the state banks to become profitable and to grow out of the bad loans. The better starting position of foreign banks allows them to lend to the less risky and

most profitable clients, and the state banks are left with activities with lower expected returns. Good banks seem to drive out bad banks. The lack of financial viability of the large state banks is not only a financial problem for the government (as main shareholder), but also for the financial system as a whole, since it threatens its stability.

Secondly, the allocative and dynamic efficiency of financial intermediation in Hungary is still low. The large state banks still have a majority position in the asset market. They mainly lend to their former clients, often dubious borrowers, and to the government. Not much financing is left for the private sector, for new and small enterprises and for long-term loans. Foreign banks and joint-venture banks proved to be mainly interested in short-term trade finance and in short-term lending to other financial institutions. The limited availability of finance for long-term activities and for new private enterprises points to a serious hindrance to growth, and may well partly explain the lower growth rate in Hungary compared to other Central European countries. Some government intervention may be necessary in order to ensure that private enterprises obtain more investment financing.

NOTES

1.The distinction between X-efficiency (operational efficiency) and allocative efficiency has been introduced by Leibenstein (1966). Dynamic efficiency has been used by many authors but not often in the context of financial liberalization. Fischer (1993a) is an exception, but his definition of dynamic efficiency (increase in the range of services of the financial sector) is different from the one that is used here.

2.Pinto and Van Wijnbergen (1995), for example, found this for Poland.

3.This problem will only arise if financial discipline on banks has increased.

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