Introduction

At first glance, there appears to be no straightforward evidence of a link between the ownership structure of the banking system and the effectiveness of monetary policy. This may be the reason why we have not found any article dealing with this specific issue in the academic literature. No researcher seems to have tried to explore this topic in the context of developed countries, where data series are longer and experience is larger. It is arguably more difficult to analyse this relationship in a fledgling market economy, barely older than 10 years, where fundamental structural changes are the rule rather than the exception. The topic, however, is highly relevant for countries of central and eastern Europe, as the proportion of foreign ownership in the banking sector has by now risen far above that observed in the developed western European countries (see Table 1 and Table 2).

Table 1: Share of foreign banks in domestic banking systems in CEE (ratio of foreign banks' assets to total assets; %)

Country	1998	1999	2000	2001
Bulgaria	74.4	n.a.	n.a.	n.a.
Czech Republic	25.7	28.1	65.5	90.1
Estonia	5.1	90.0	93.0	97.5
Poland	16.6	47.2	69.6	68.4
Latvia	78.7	78.2	77.2	62.6
Lithuania	51.8	38.3	57.0	83.9
Romania	20.0	47.5	50.9	55.0
Slovakia	n.a.	28.2	42.7	81.0
Hungary	58.9	61.8	62.9	65.5

Source: European Commission (2002)[1].

Table 2: Share of foreign banks in domestic banking systems in EU countries in 1997 (ratio of foreign banks' assets to total assets; %)

Country	Share	Country	Share
Ireland	53.8	Netherlands	7.7
UK	52.1	Finland	7.1
Belgium	36.3	Italy	6.8
Greece	21.9	Germany	4.3
Spain	11.7	Austria	3.3
Portugal	10.5	Sweden	1.6
France	9.8	Denmark	0.0

Source: ECB[2].

Though the ownership structure of banks has gone through dramatic changes in Hungary over the last 10 years, resulting in overwhelming foreign control, we have

[1] Quoted in: Gros (2002).

[2] Quoted in: Gros (2002).

only very limited information about the effectiveness of Hungarian monetary policy in the period before these changes took place. This makes it very difficult to assess developments in the effectiveness of monetary policy in the period. Furthermore, in order to be able to prove and explore such a relationship, we should compare the current state of affairs with a situation where the banking system is owned by domestic private entities. Due to the 40 years of communist oppression, in Hungary, like in other countries in the region, one should go back before World War II to find such a situation; and even then the banking sector was not very sophisticated. Moreover, it is very difficult – and from a strict methodological perspective it is impossible – to separate the effects of changes in the ownership structure of the banking system from the effects of other fundamental structural changes that occurred in the Hungarian economy during the 1990s. The development of money and capital markets, deregulation, liberalisation and, last but not least, the privatisation of banks – that is the shift from state to private ownership regardless of the composition of private owners – *per se* all affected the way monetary policy worked.

That is why we have chosen to build our examination on theoretical logic and stylised facts rather than on strict empirical investigation. It is important to note in the beginning, however, that foreign entry and the privatisation of the banking and corporate sectors to foreigners had no real alternative in the transition process. Similarly, there was not too many viable options for decision makers about which monetary instruments and targets to adopt. Though timing and details were different, other countries in the region had similar experiments with monetary policy frameworks and they all privatised their banking sector. This suggests that foreign entry and the monetary setting are much more likely to be simultaneous consequences of the special economic and geographical position of these countries than one being the cause of the other.

The structure of our study is the following: In Chapter I, we review the history of the transition process and give a detailed description of the transformation of the Hungarian banking system and its ownership structure. In Chapter II, we attempt to draw up the stylised effects of foreign ownership of banks. In Chapter III, we look at the different monetary policy transmission channels, and assess what effect bank ownership structure can have on them. In Chapter IV, we conclude.

I. Economic transition and structural changes

After 40 years of communist rule, in 1989 Hungary chose to transform its ailing economy steered by central planning into a modern, western-like business environment where market forces are the main co-ordinating mechanism. That was the beginning of a landslide economic transformation which during the past 13 years has led to a steady decrease in state control over the economy, so that today more than 80 per cent of GDP is produced by the private sector. This process started with rapid liberalisation and deregulation , accompanied by the creation of a series of new legislation (on accounting standards, bankruptcy procedures, company and banking regulation) indispensable for laying down the micro foundations of a market economy. However, the functioning of the newly born market economy was still throttled by huge capital shortage and a vicious circle of mutual indebtedness of state-owned firms which led to severe liquidity shortages as well. This period saw Hungary plunging into a heavy recession because of the loss of eastern markets, low competitiveness, the lack of fresh know-how and the backwardness of technology.

There was simply no viable alternative to the creation of an appropriate legal environment and massive privatisation. Because of the overall shortage of capital facing the Hungarian economy, the state had to reconcile itself to selling its equity stakes to foreigners. It was one of the bright moments in recent economic history when policy makers totally embraced the importance of corporate governance issues and decided to sell state property mainly to professional investors and, to a lesser extent, to financial investors. The privatisation process came to a halt by 1997. Meanwhile the macroeconomic indicators (especially those pertaining to external balance) deteriorated sharply by 1994. There were serious concerns that the economy might fall back into the debt trap, and "Hungary Inc. goes bankrupt". The second freely elected government, therefore, chose to implement drastic austerity measures in order to stabilise the economy in 1995. Although these measures have since become the subject of intense debate, the economy unquestionably showed a markedly better performance during the subsequent years. Privatisation, stabilisation and massive FDI inflow contributed to significantly higher GDP growth in Hungary than in the EU.

Meanwhile, the openness of the Hungarian economy increased further due to entry by export oriented multinational companies into the Hungarian market. Currently 60 per cent of Hungarian foreign trade is conducted with the EU (and particularly with EMU members). Today Hungary has a well-functioning market economy with fully liberalised capital transactions and a highly developed banking system. This economic transformation of breathtaking speed could not have taken place without the active participation of foreign capital. It is especially true in respect of the banking system. The Hungarian banking sector, "born" in 1987, was much too short of capital in the early 1990s to safely serve the interests of its clients. Privatisation of banks deserves special credit for the fact that Hungary is in a position to negotiate about EU membership and to expect an early EMU-entry.

Evolution of the Hungarian banking sector and its ownership structure[3]

One of the most important early economic reforms at the dawn of Hungarian transformation was the creation of the two-tier banking sector in 1987, which meant the separation of banks operating as the functional arms of the NBH earlier.[4] Three banks were separated this way from the NBH. In addition to these, two functional banks (MKB and ÁÉB) that had already existed received a licence to conduct full commercial banking activities. In 1988, Postabank was founded in order to use the retail capacities of the Hungarian Post Office and to create a competitor for the until-then-lonely OTP in retail banking (there were of course the thrift institutions, but they had a very little market share). In 1989, the legal separation of the retail and wholesale (commercial) activities was abolished, and these latter were transformed into commercial banks as well. Genuine competition, though, was first experienced in the wholesale segment (it developed only slowly however). In the retail business, there were no real new entries because of the large costs of creating a retail network and the

[3] This section is mainly based on Várhegyi [2002], which provides an excellent description of the evolution of the Hungarian banking system.

[4] After World War II and the communist take-over, Hungarian banks were nationalised. Most of them were eliminated, only those with special functions remained: the NBH as the central bank, the OTP as the „retail" bank, the MKB as the bank for financing foreign trade, the State Bank of Development for financing state projects, and ÁÉB for handling the foreign currency operations of Hungarian people.

preponderance of OTP and Postabank (this power can be attributed to the "habits" of people).

The members of the banking system in the period 1987–1989 therefore originated from 3 sources:

1. In order to satisfy the financial needs of the western joint-ventures that were founded in Hungary in the '70s, which the relative openness of the economy made possible, the NBH founded joint-venture banks with the participation of foreign western banks (CIB, Citibank, Unicbank). This helped modernisation by bringing in know-how and qualified bank staff.
2. The banks that separated from the NBH and were founded by itself in 1987, among which the credit stock was divided according to industries (which strongly determined the early stages of their activity) (MHB, BB, OKHB +ÁVB, Innovation funds).
3. Already existing funds, founded by company alliances to help company financing, were transformed into banks (IEB, Mezőbank, Agrobank, Corvinbank, Investbank, Ybl Bank, Iparbank).

Bank consolidation

The banking system that was born in 1987 was far from being healthy. As was noted earlier, the banks that separated from the NBH apportioned its credit stock among themselves according to a map of industries, which was a very false decision considering risk diversification. In addition to this, the inherited credit stocks were of very bad quality. The situation was further aggravated by the heavy recession the economy experienced (between 1987 and 1991 the level of GDP fell by 15%). In addition, the already mentioned chains of mutual indebtedness among companies and the capital shortage was further exacerbated. Managements of the separated banks were not prudent enough, and they were mainly interested in credit expansion, which met the interests of the companies[5]. The credits extended in this period served not the financing of viable projects but the mere survival of companies. This deteriorated further the bad quality of the corporate credit stock. The situation required a solution in order to be able to avoid a company bankruptcy–bank crises spiral (credit crunch). Obviously, the long-term solution would have been privatisation, but it was impossible to market banks teetering on the brink of crisis, incapable of achieving reasonable revenues. So, the government had no other choice than to consolidate the troubled banks with capital transfers (which meant the allocation of government securities in exchange for the bad credit stock). The process of consolidation lasted from 1992 to 1995, and in fact all of the banks were given some kind of capital injection. It cost the state HUF 425 billion, at 1994 prices. In retrospect, the bank consolidation was a good and necessary step, although if it had been accomplished earlier and with more efficiency it would have cost much less.

[5] The chances of making good credit decisions were abridged by the fact that, in order to decentralise ownership, the state spread the equity portfolios of state-controlled banks among state-controlled companies, thus these could put significant pressures on the management of their banks.

Bank privatisation

By 1994 the number of Hungarian banks doubled, mainly due to Bank FDI[6], since until then there was no privatisation in the banking sector. In 1994, the newly elected government started the process which almost ended by the end of 1997, and only banks performing special governmental functions remained in state ownership (see Chart 1 and Chart 2,the State Development Bank, EXIMBANK, an export financing bank and FHB, a mortgage bank)[7]. As a result of the process, state ownership fell below 10% (in terms of total assets based market share), while foreign (majority and minority) owned banks' share rose to 91%. The share of foreign investors in the banking system's overall equity rose to 66%, the rest remaining under state control. The private sector's share in total bank equity in Hungary is not significant. Explanation for this is the capital shortage of domestic entities already mentioned. Apart from banks, pension funds and insurance companies tend to be the owners of a healthy banking system. But in Hungary insurance companies suffered from serious capital shortages, and the only highly capitalised pension fund at the time of privatisation was the state fund (TB). This was allocated a portion of state shares of the two large retail banks, but it failed to be a good owner (see the crisis of Postabank). Therefore, the only alternative option remaining was to sell the banks to foreign entities and to offer the state-owned stakes to the public on the stock exchange, but the consolidated banks were not strong enough to sell them to small investors.[8]

The state's proceeds from the privatisation of banks amounted to USD 300 million, whereas through the "FDI channel" USD 500 million flowed into the Hungarian banking system. Despite these numbers, the market share of privatised banks amounts to 63% (in terms of total assets), while the banks founded from FDI have a share of 28%. These events have led to a very strong foreign presence in the Hungarian banking system, where 32 out of the 42 banks is under the majority control of foreign investors, and 1 has a minority foreign presence[9].

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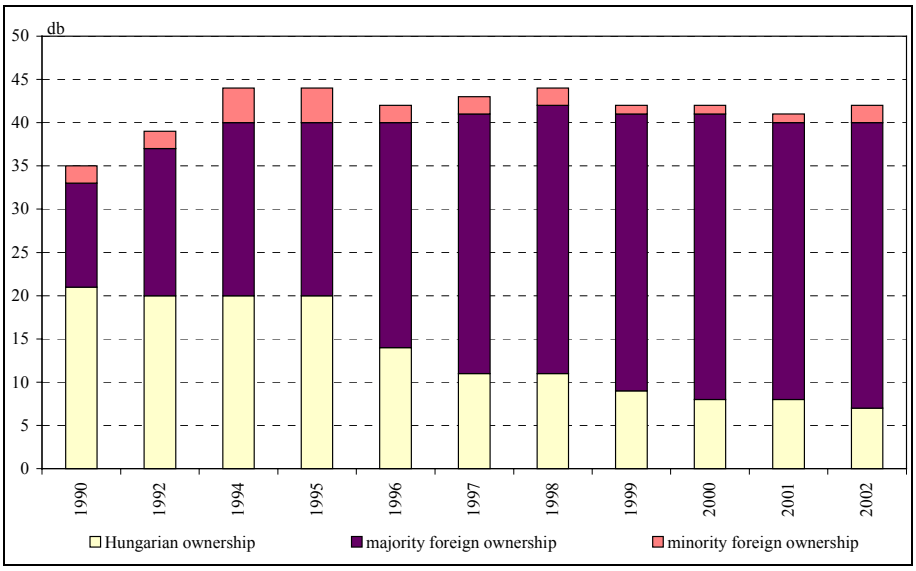
[6] BNP, Commerzbank, Credit Lyonnais, Hypovereins Bank, ING, Volksbank, Daewoo Bank, Porsche Bank, Nomura, Creditanstalt.

[7] The group was broadened by the saved Postabank (which experienced a crisis), which was a partial, not intended re-nationalisation.

[8] The only banks that had a credit stock healthy enough to afford selling their stakes to small investors were the two large retail bank, because they did not participate in the allocation of bad loans in 1987.

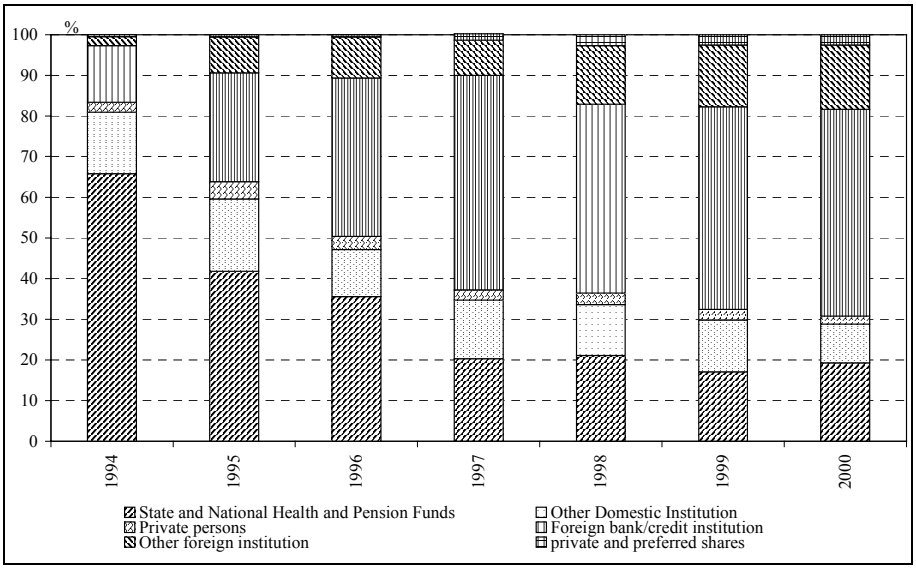
[9] OTP, the largest bank in Hungary, which has a market share of 23%.

Chart 1: Number of Hungarian banks by owner



Source: PSZÁF reports.

Chart 2: Ownership structure of the Hungarian banking sector



Based on equity; source: Várhegyi (2002)).

Table 3:Share of foreigners in the Hungarian banking sector by country in 2000 (based on total assets of majority foreign-owned banks)

Country of parent	**Total market share of Hungarian subsidiaries in 2000 (%)**
Germany	16,8
Austria	11,2
Italy	10
Netherlands	7,6
US	7,6
Belgium	7,5
Russia	3,9
France	2

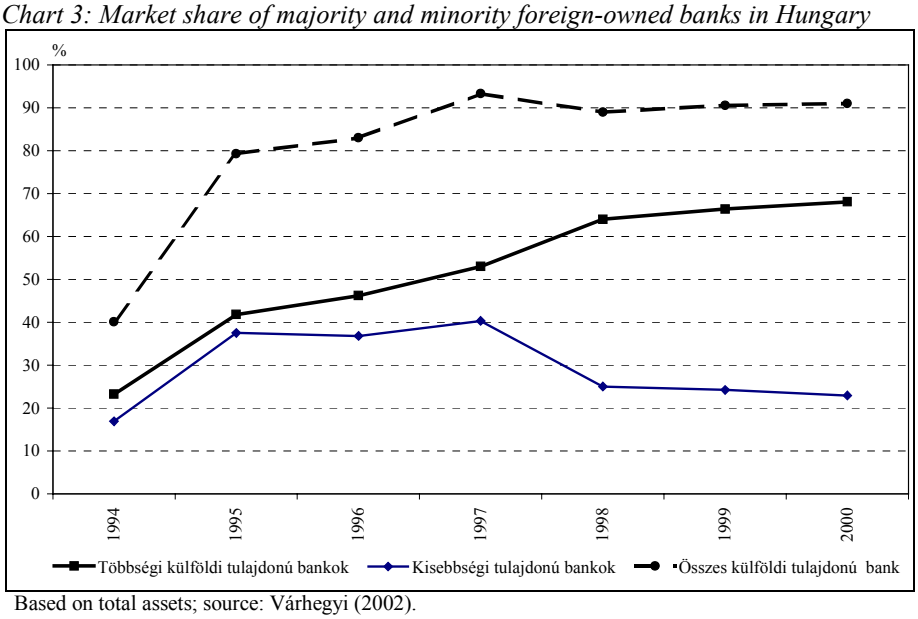
Korea	0,6

Source: Várhegyi (2002).

Stabilisation

After the privatisation programme ended (1997), a period of stabilisation followed in the Hungarian banking system, which entailed intensifying bank competition and improvements in efficiency and profitability. Growing foreign ownership could be demonstrated in the foreign-owned banks' market share (see Chart 3).

Chart 3: Market share of majority and minority foreign-owned banks in Hungary



Based on total assets; source: Várhegyi (2002).

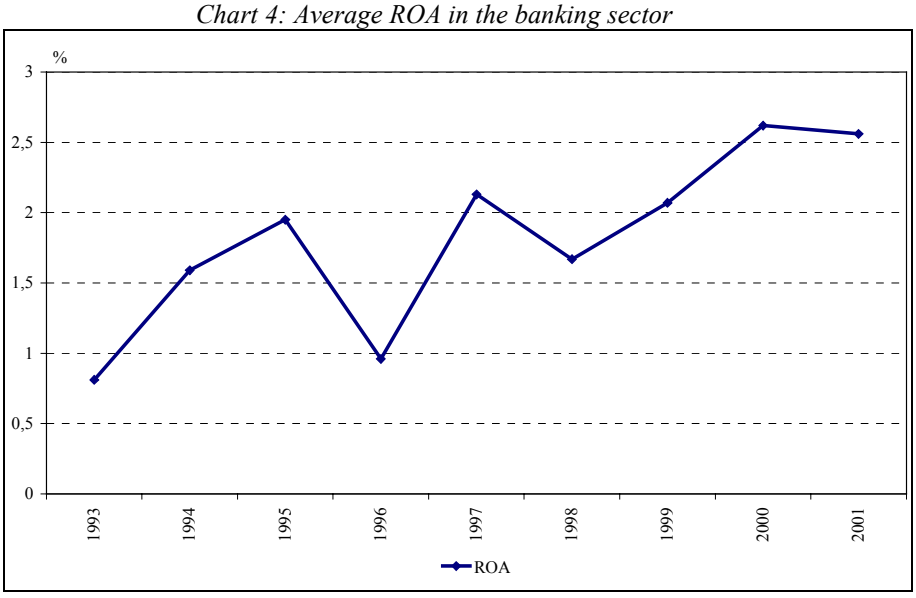
This enhanced bank market competition and the overall quality of banking services. Although the fall in market concentration stopped in 1999, this served competition because the appearance of strong, large banks brought true competition to the previously OTP-controlled retail market.

The strengthening of banking competition has not entailed a fall in the number of banks which is still very high relative to the size of the market. Therefore, there is a consensus among experts that number of banks will fall, because of acquisitions, mergers and pull-outs.

The ROA of the Hungarian banking system showed a rising trend in the '90s (see Chart 4), examining individual profitability; however, it shows that a bank operating under foreign control is not a guarantee for market success[10]. Rather, the profitability of Hungarian banks was determined by management's familiarity with market trends and its strategic skills.

[10] The largest losses within the stabilised banking system was suffered by ABN AMRO Hungary and the KBC owned K & H Bank, to which the solution was the fusion of the two banks (as their mothers merged as well).

Chart 4: Average ROA in the banking sector



Evolution of the monetary policy framework in Hungary

Until the end of the 1980s, Hungarian monetary policy was characterised by the extensive use of selective credit controls. In the one-tier banking system, the central bank allocated refinancing credit according to the monetary policy plan based on wider policy considerations about the development of the different sectors of the economy. In an environment characterised by slack and queuing [Kornai 1982], selective credit controls exerted a relatively strong influence on corporate behaviour. Since the inception of the two-tier banking system and especially since the early 1990s, the NBH has shifted toward a monetary policy based on market discipline and indirect instruments. This by itself weakened the link between monetary policy decisions and goals. Due to changes in the wider economy, and especially to privatisation of banks and enterprises and the increasing dominance of multinational companies in production and exports, monetary policy has probably lost a great deal of its effectiveness. Consequently, the effect of exchange rate and interest rate movements on the economy might have become stronger, though still less important than in the most developed countries.

II. Stylised effects of foreign ownership

A higher share of foreign ownership in a country's banking sector can lead to significant welfare gains through higher cost efficiency, more intense competition, wider and more sophisticated supply of financial services and a healthier and more stable financial system.

Cost efficiency and competition can affect the monetary transmission through its effect on interest rate margins and leverage. A wider product range and more tailor-made financial services can generate additional demand and eventually lead to higher credit growth. Healthier banks can insulate their clients better from the effects of monetary policy changes.

Profitability and cost-efficiency (private vs state ownership)

Both theory and economic history suggest that there is a great difference between private and state ownership, as state-owned companies often have soft budget constraint [Kornai (1982)] and thus react differently to changes in the operating environment. Privately owned businesses are more cost-sensitive and therefore are usually more efficient. The entry by foreign banks into the former state-controlled economies, including Hungary, is likely to have exerted its effect on bank behaviour mainly because of the appearance of profit-maximising, cost-sensitive private owners and not because these private owners happened to be foreigners. Private owners induce changes at privatised banks that lead to increased efficiency.

Adopting the risk-management techniques and procedures of the parent bank helps to reduce the risks run by the bank while presuming the parent's assistance in case a financial distress lowers the bank's overall default risk. This can lead to a significant improvement in the rating and in turn to a *reduction in the costs of external financing*.

Improving corporate governance, changes to the organisational structure and cuts in employment can lead to a dramatic *decline in operational costs* and an increase in overall cost efficiency. This in turn allows the bank to operate profitably with a *narrower interest rate margin*. Narrower margins mean that banks can supply more favourably priced products, which induces competition.

All this leads to a more rational, cost-sensitive and profitable banking system that has of course (indirect) implications for the effectiveness of monetary policy.

Competition

Entry by foreign banks, either via privatisation or FDI, results in fiercer competition in the banking sector. Although in theory the lowering of barriers to entry can lead to stronger competition by itself, in practice it is better to actually see new competitors entering the market. The concentration of market share usually eases by the appearance of large foreign banks. The effects of tough competition can reduce markedly the interest rate spread banks can sustain. This makes the link between interest rate policy and bank rates stronger.

As domestic banks have to compete with large international banks with better reputation and much higher capital, they may incur higher costs. Claessens, Demirgüc-Kunt and Huizinga (2001) investigated empirically these propositions and found that the presence of foreign-owned banks led to lower profits, non-interest income and overhead expenses for the domestic banks. They took this as a sign that foreign competition forces domestic banks as well to improve efficiency.

Efficiency gains come from different sources. Import of the know-how of several bank-systems (credit authorisation procedures, treasury regulations, etc.) and products (complex financial services) increases the quality of bank services and makes the bank more competitive. Competition forces banks to expand their balance sheets relative to their capital base, i.e. to increase their *leverage*. If leverage is higher than a given level of interest rate margin, then it will be consistent with a higher ROE.

Another effect that results from the privatisation of the banking sector is the increase in the supply of capital, which is a new situation for state-owned banks (usually) suffering from capital shortage and bad quality loans. Higher capital makes it possible

to seize new clients and gain market share. According to the current Hungarian regulation, for example, outstanding assets vis-à-vis any one client must not exceed 25 per cent of banks' risk adjusted capital (RAC) and total large-risk assets cannot exceed 8 times the RAC. The larger the capital of a bank and the less risky its assets are, the more opportunities there are to satisfy the demand of large customers. Though syndicated loans are now common in the case of large customers, capital can still be a limit if capital-adequacy is too low.

Bank health and financial stability

The appearance of foreign owners usually leads to significant improvements in the overall soundness of the banking system by enhancing risk management techniques. It has a beneficial effect on loan quality and places more emphasis on the aspects of prudence in decision-making. Furthermore, the latest, most sophisticated risk management methods quickly spread through the whole banking system as supervisory authorities demand them from weaker banks as well, and rating agencies rush to downgrade banks using the earlier methods [Mishkin (1996)].

The probability of financial crises lessens as foreign ownership increases in the banking sector, because parents are typically more diversified than their domestic subsidiaries, even if the domestic bank's assets are relatively well diversified across different customers and sectors of the domestic market. The advantages of higher diversification stem from the fact that the foreign parent is not, or only to a smaller extent, exposed to domestic shocks. When shocks occur to the domestic economy, and especially in the case of financial distress or credit crunch, the parent can provide liquidity or capital for its subsidiary, making its operation more stable and reliable, as cutbacks in lending activity or painful withdrawals of outstanding credits can be avoided. Foreign financing from the parent, in the form of inter-company loans, serves as a kind of an emergency credit line in these cases and sustains the liquidity of the bank. In the case of Argentina and Mexico, Goldberg, Dages and Kinney (2000) support this argument. They found that credit growth of foreign-owned banks was higher and less volatile than that of domestic banks.

It should be noted, however, that in the case of symmetric shocks to the domestic and foreign economy diversification might yield much lower benefits, and capital injections or liquidity transfers may not be feasible.

Diversification can have unwanted consequences as well. Asymmetric shocks to the country of the parent bank can also have an influence on the domestic economy. Peek and Rosengren (1997)[11] describe a proper example of this situation for the US. Japanese banks gained considerable market share in the US credit market in the 1980s and, following the collapse of stock prices and the consequent deterioration in their capital base in the 1990s, these banks cut back their lending activity mainly in the US, insulating their domestic clients. This behaviour was stronger for branches and weaker but still significant for subsidiaries. Though the Hungarian regulation is not conducive to branches and thus all foreign interests are legally subsidiaries, some of the smaller banks operate just like a branch. If the parent is in financial difficulty, then inter-company loans could dry up, leading to reduced lending activity and shrinking loan portfolio of the subsidiary. In extreme circumstances, the parent can even drain

[11] Quoted in: Hull (2002).

the financial resources of its subsidiary, for example, if it desperately needs to improve its capital adequacy [Hull (2002)]. In the face of heavy global losses in the banking sector due to sluggish economic activity and unprecedented corporate governance problems, there are examples in the Hungarian banking sector for a parent curtailing its subsidiary's activity and even tapping its financial resources. However, these are marginal examples and bear no serious consequences for total lending.

As foreign-owned banks become dominant in an economy, the lender-of-last-resort function of the central bank diminishes in importance. This partly reflects the above-mentioned decrease in the probability of financial crises. Another, probably even more important consideration is that the bailout of a foreign owner is politically very unpopular [Mishkin (2001)]. For small countries such as Hungary, it is also a relevant aspect that the loss of prestige stemming from a bankruptcy of a subsidiary may count more than the cost of bailout even if the subsidiary is large by domestic standards. One should not put too much emphasis on this argument, however.

To sum up, foreign owners' entry into the financial system can affect the effectiveness of monetary policy in both directions. It can enhance the transmission of central bank rate changes through bank rates by strengthening competition and cost-sensitivity. Foreign entry can also lead to healthier, less risky, well-capitalised and more liquid banks, which have access to alternative forms of financing. This allows banks to "disregard" domestic monetary conditions to some extent and to wield their customers as well, thereby reducing monetary policy effectiveness. It is obvious, however, that for the economy as a whole, foreign entry into the banking sector is beneficial because financial stability is good for all.

III. Transmission channels and the ownership structure of the banking sector in Hungary

Theories of monetary transmission and their relevance for the Hungarian economy

Monetary policy affects the real economy through numerous channels. [Mishkin (1996)] gives a comprehensive description of the different types of transmission channels. The importance and effectiveness of the various transmission channels could vary from country to country. Typically, they differ depending on the overall economic development of countries and on the depth and liquidity of their money and capital markets.

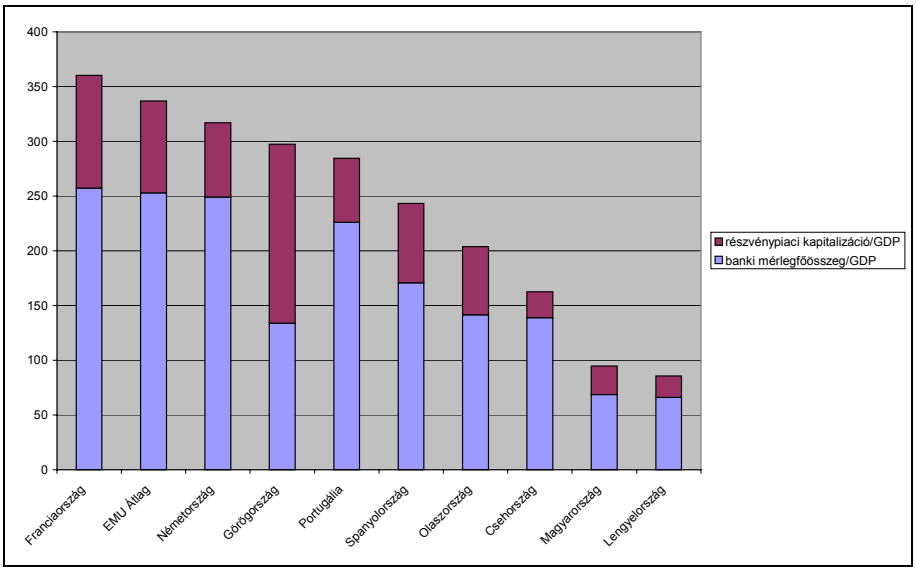
In the United States, for example, the equity price channel plays an important role in the transmission due to its wealth effects, while its role is not that significant in Europe. The importance of the housing price channel is high in countries with a high share of private ownership of residential real estates, where mortgage financing is common and the mortgage-backed securities market is mature. The importance of the exchange rate channel is generally high in small open economies. We provide a description of the role of each channel in the Hungarian monetary policy in the subsequent chapters.

The capital-market or equity-price channel

The Hungarian financial system is bank-based, i.e. direct capital market financing is less important compared to bank financing, unlike the general practice of the Anglo-Saxon countries whose financial system is referred to as market-based. Besides, the Hungarian capital market is quite underdeveloped compared to other continental European markets, as it is well reflected in the low stock market capitalisation to GDP ratio (Chart 5), the small turnover of stock trading and the weak presence of small investors on the stock exchange.

In Hungary, therefore, the wealth effects of the various asset prices are irrelevant. One might expect, moreover, that the weak performance of the Hungarian Stock Exchange (BSE) in 2001-2002 worsened the case even further. Thus, foreign ownership in the banking sector did not have a significant impact on this channel.

Chart 5: Depth and structure of financial intermediation (1999, in the case of CEE3 2000)



Sources: OECD, IFS, Word Bank, national central banks.

The housing price channel

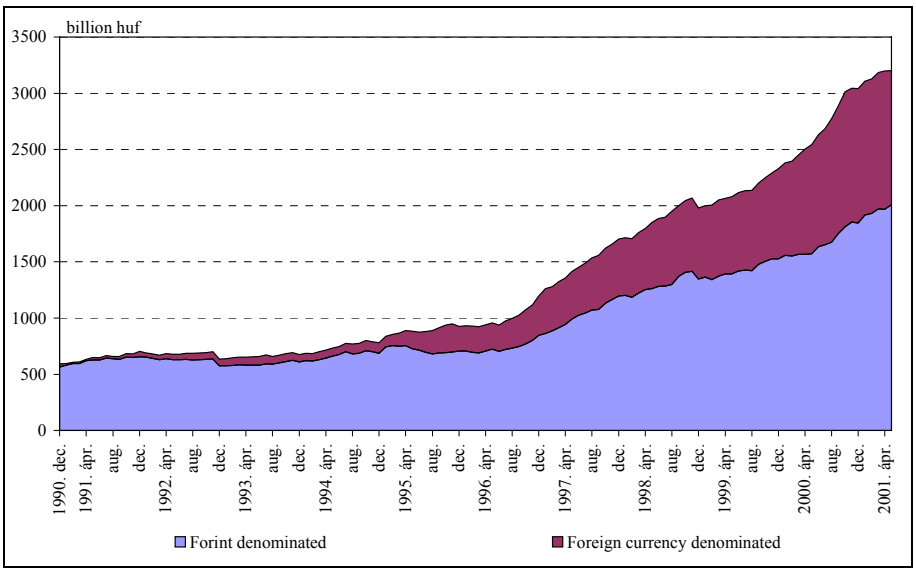
In the case of Hungary, monetary policy has no remarkable impact on real estate prices. Although mortgage-based financing is still in its infancy after its jumpstart 2 years ago, it is one of the fastest growing markets in Hungary. In the past two years, outstanding mortgage loans have experienced an amazing surge, with a real growth of 24 per cent in 2000 and one of 64 per cent in 2001. This trend seems to continue or even accelerating in 2002, which suggests that the importance of this channel will increase in the near future. Nevertheless, the total amount of market-based mortgage-loans to GDP is still very low compared to other European countries.

It is clear that the dynamic growth of mortgage loans has nothing to do with the entry by foreign banks or import of know-how of mortgage-based products. It is clearly the result of the changing government regulations, the dramatically raised subsidy on mortgage interest rates and the applicable tax allowances.

Exchange rate channel

Hungary is a very open economy, especially in relation to EU-member countries. The weight of the euro within the real-effective exchange rate index is around 90 per cent. Around 25-30 per cent of Hungarian consumption is from imported goods, and the imports to GDP ratio is exceptionally high, over 60 per cent. A relatively large portion of the stock of corporate loans (about 40 per cent) is settled in foreign exchange (see Chart 6), which strengthens the importance of the exchange rate channel even further compared to the interest rate channel.[12] And exactly this is the reason why Hungarian monetary policy used the HUF/EUR exchange rate as an intermediate target for many years before, and why it is considered to be the single most important channel today.

Chart 6: Forint and foreign currency-denominated corporate bank loans in Hungary (source: NBH)



We have not come across any studies that managed to establish a correlation between the exchange rate channel and foreign ownership of the banking sector. Should there be any such relationship, it could be an indirect one. For example, to the extent that foreign banks contributed to the openness of the Hungarian economy by attracting export-oriented companies to set foot here, they only marginally increased the importance of the exchange rate channel. But we argue that there are stronger linkages as well.

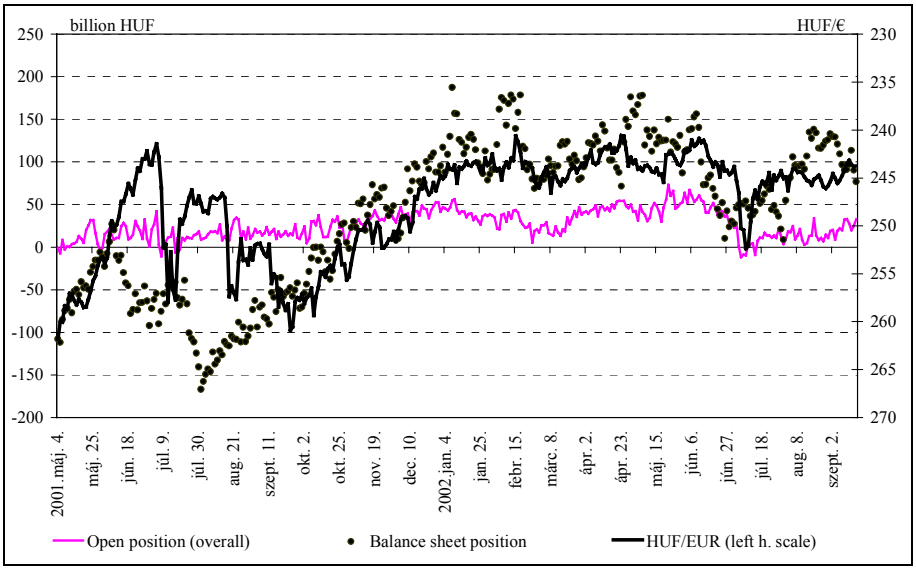
After widening the exchange rate fluctuation band in May 2001, market makers of the HUF market and firms with natural open FX positions needed effective hedging tools that were only available in a liquid and developed derivative market. Due to a lack of deep derivative markets, there was a tendency of Hungarian affiliates hedging their open on-balance sheet FX position vis-à-vis the parent banks.[13] This practice meant that the banking system took over the role of the NBH in "sterilising" FX-inflows by opening its on-balance sheet FX-position, and as a result it smoothed exchange rate

[12] It is important to note that after the widening of the exchange rate band Hungarian export and import companies should have hedged the FX risk arising from their natural currency mismatch. Anecdotal evidence shows that only very few of them actually did it, which puts even more emphasis on the exchange rate as a transmission channel (see Palócz (2001)).

[13] Of course, we do not have information about how the parent bank managed its open positions, but it could easily do it in the City (London), as there is a liquid forward and swap HUF market there.

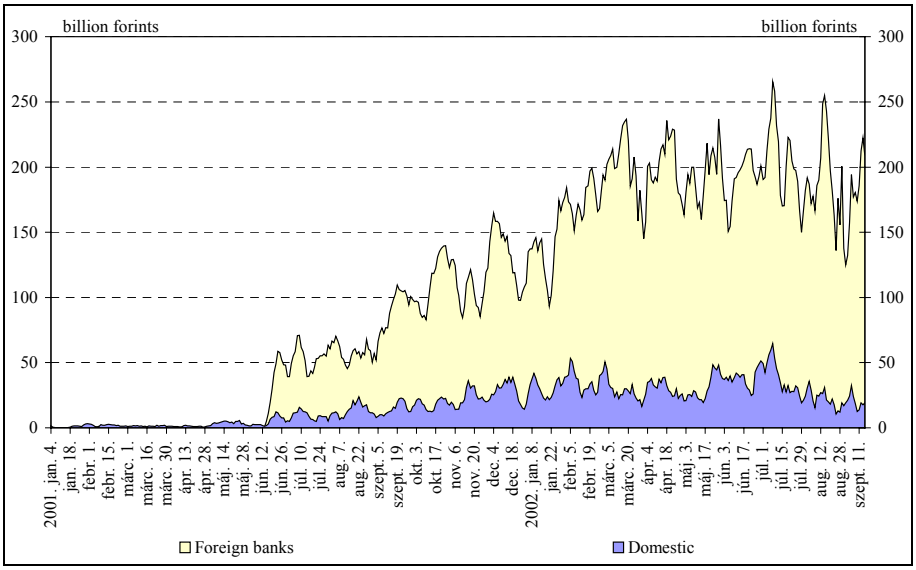
movements (see Chart 7). We do not know how a domestically owned banking system could have handled the same situation, but it is very likely that it would not have been so flexible, because of a lack of experience and because of the lower partner limits it would have been facing. This points to the conclusion that foreign entry indirectly contributed to a relatively low volatility of the HUF exchange rate. As lower exchange rate volatility is associated with higher exchange rate pass-through, extensive foreign ownership relative to a predominantly domestic one of Hungarian banks probably increased the importance of the exchange rate channel.

Chart 7: Balance sheet FX position and overall open FX position of the Hungarian banking system and the HUF/EUR exchange rate (source: NBH)



The effect of foreign banks on the Hungarian inter-bank FX market is most noticeable in the HUF-FX swap market, where daily turnover has increased steadily since the removal of controls on foreign entry into the FX and money markets (see Chart 8). The bulk of turnover goes with foreign banks (large international parent banks usually having the biggest share), which boosts liquidity and efficiency.

Chart 8: Gross daily HUF swap turnover of the Hungarian banking system with foreign banks and domestic entities (source: NBH)



Interest rate channel

Despite the fact that the effectiveness of the interest rate channel is rather low, the market interest rate as an operational target has a primary role in the operation of Hungarian monetary policy. In a floating exchange rate regime, when the main transmission channel is the nominal exchange rate, the central bank tries to reach the optimal level of nominal exchange rate through changing the domestic interest rate. The more direct the relationship between the primary rate and the short-term money-market rates, the more credible and the more effective the monetary policy is.

The increasing presence of foreign-owned banks probably has more influence on the traditional interest rate channel and the credit channel than on the above-described asset-price channels, where at most a very indirect link is conjectured. Studies on the possible link between monetary policy transmission and the banking system [Alexander and Caramazza (1994), Bernanke (1993), Bernanke and Gertler ((1995), Cechetti (1995), de Bondt (1999)] draw a clear division line between the traditional interest channel and the lending channel. The traditional interest rate channel impinges on the liabilities of the banks, whereas the lending channel works through the asset side of banks' balance sheets. The lending channel terminology places more emphasis on asset-type decisions of banks, and also on its direct impact on enterprises' investment decisions.

The importance of these two channels in Hungary will be discussed in detail in the following chapters, with special attention given to points where foreign ownership within the banking sector might have an impact.

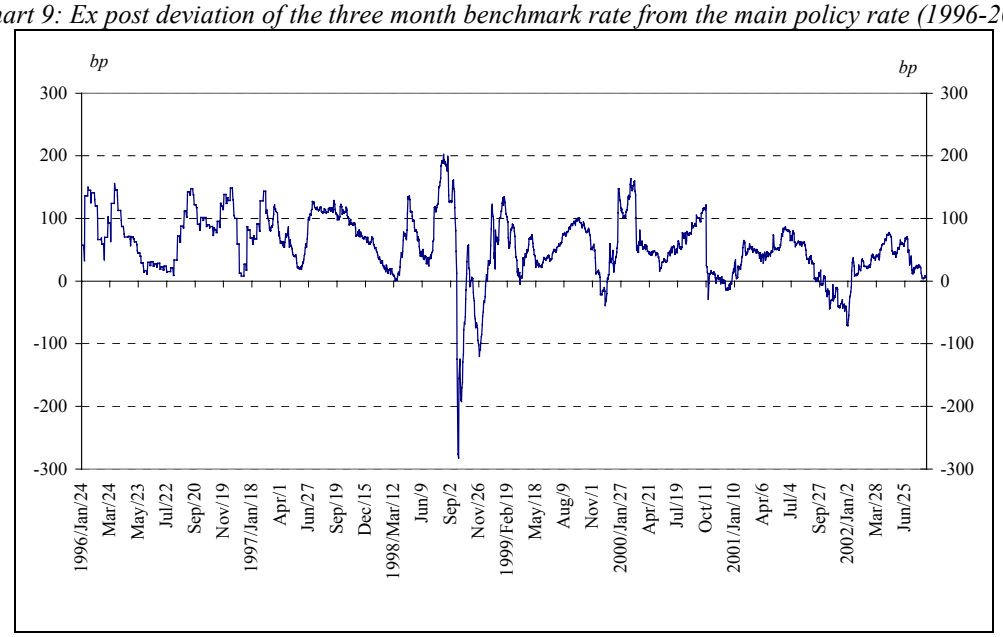
The short term interest rate transmission mechanism

The process of interest rate transmission can be divided into three phases, out of which only the first two is relatively directly influenced by the quality of the banking sector. The three phases are the transmission of central bank rate to money-market rates, the transmission of money-market rates to bank rates and the effect of bank rates on household and corporate behaviour. This latter, however, is not affected by the quality of the banking system, or the influence is only vague and indirect, therefore we concentrate on the first two phases.

The relation between central bank and short-term money market (government securities market and inter-bank) rates.[14]

The effectiveness of the short-term interest rate transmission mechanism can be "measured" by the volatility of the difference between the rate of the main monetary policy instrument and a short-term money-market rate. If there are no expectations of an interest rate change, then the deviation should not change. The more stable the connection between these variables, the more effective the transmission mechanism is.

Chart 9: Ex post deviation of the three month benchmark rate from the main policy rate (1996-200)



Note: In the calculation we assumed rational expectations. We calculated the difference between the three month treasury bill rate and the virtual effective primary rate. If market participants foresee all the monetary policy changes correctly, then the difference shows the imperfections of the transmission mechanism.

The "rapid and reliable" transmission mechanism has several preconditions:

- *A well functioning inter-bank money market, professional liquidity management*

  A higher volatility of very short-term, say overnight, money-market rates is undesirable for the central bank if it affects longer-term interest rates as well. In this case, the daily liquidity situation can affect the operating target of the central bank, which means that the transmission mechanism is distorted. Analysis of market data showed, that when the overnight rate persistently deviated from the

[14] This phase of the interest rate channel was quite strong even in the transition economy of the 1990s when Hungary experienced huge structural changes. The central bank was able to influence short-term treasury bill market rates effectively through its policy rate (see Chart 10). This was possible because of the relatively mature treasury bill market, at least compared to other segments of the money markets, and the dominant position of banks in this market. At the beginning of the transition, government securities were one of the most important asset types on banks balance sheet. Later, the introduction of the primary dealer system, a standard issuance calendar and the lengthening of the maturity spectrum all contributed to the development of the government bond market. The more efficient government securities markets made the correlation between central bank rates and money market interest rates even stronger.

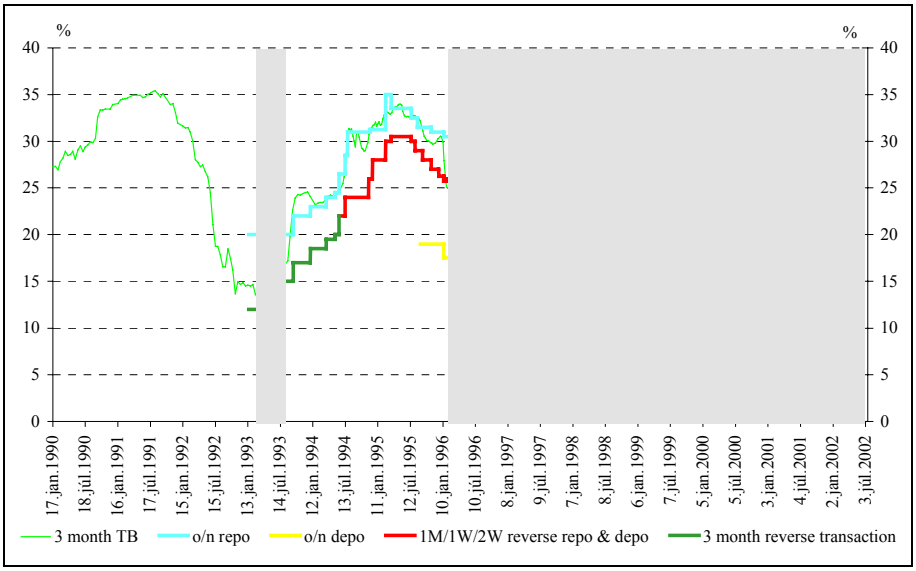
primary rate, the longer-term rates were also changing[15]. The development of the inter-bank money market depends on the extent of competition, the cost-efficient operation of commercial banks, the degree of concentration, etc. The increase in the number of market participants, and the presence of private capital (increase in cost sensitivity) in the market both contribute to the development of commercial bank liquidity management and the deepening of money markets.

- *Commercial banks' rapid portfolio reallocation, the rapid adjustment of bank rates*

  The stable relationship between short-term money market rates and the policy rate of the central bank is ensured through several market mechanisms. For example, if the short-term yield on government securities declines, commercial banks sell their own holdings and increase the relative supply of securities. The non-bank participants of money markets can sell their securities, and they can deposit or lend (repo transactions) the money to commercial banks. For the above-mentioned channels to function effectively, there are several preconditions regarding banks' behaviour. First, banks should rapidly reallocate their portfolios. Second, they should rapidly adjust their credit and deposit rates to the main policy rate. These preconditions are closely linked to market co-ordination, and so to private capital and the presence of competition.

Altogether, we think that the appearance of foreign capital has several good effects on the functioning of a short-term money market, as the presence of private capital, incoming know-how and strengthening competition altogether lead to an increasing price elasticity and to a really market co-ordinated market.

Chart 10: NBH interest rates and the short-term money-market rate



Grey areas represent times of liquidity surplus when the central bank usually implements monetary policy through reversed, liquidity absorbing instruments (e.g. reverse repo, deposit).

Source: NBH.

[15] Áron Gereben: The Interbank Money Market in Hungary (NBH Occasional Papers 7).

Transmission between short-term treasury bond yields and commercial bank credit and deposit rates.

A significant correlation between short-term money market rates and bank rates can only be identified after 1995 in Hungary [Árvai (1998)]. Before 1995, credit rates did not follow the downward trend of market rates, due mainly to a high risk of write-offs and due to the harshly expansionary monetary policy. Because of the lack of competition within the banking sector and the relatively underdeveloped capital markets, there was no real force to support such a correlation. It was not a viable option for commercial banks to lower and keep down their deposit rates because of the easy substitution between local and foreign exchange deposits, while at the same time the yields on their government bond portfolios started to decline. Consequently, there was hardly any other choice but keeping credit rates high in order to maintain profitability.

The effectiveness of monetary transmission improved after the 1995 stabilisation, because the risk of heavy write-offs diminished and competition in the banking sector started to intensify as a result of bank consolidation and privatisation. With the arrival of foreign strategic investors, the hegemony of the two major local retail banks (OTP and Postabank) started to break up gradually; first in the corporate segment and later in the retail markets as well. This, combined with the beneficial effect of the disappearance of other barriers and distortions, led to a steady decline in the spread between money-market and commercial bank interest rates. Therefore, in this respect foreign entry into the banking sector – although indirectly through the increase of competition among banks – improved the transmission between market and bank rates (see Chart 11). Thus foreign entry into the banking sector had a positive effect on the effectiveness of monetary policy by enhancing competition in Hungary as well.

Chart 11: Average interest rate margin in the Hungarian banking sector (source: NBH)

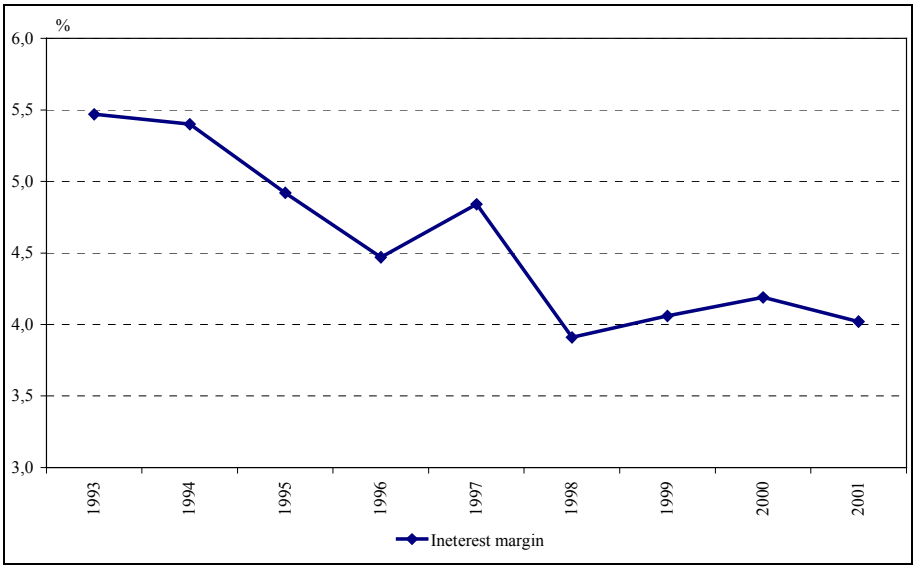
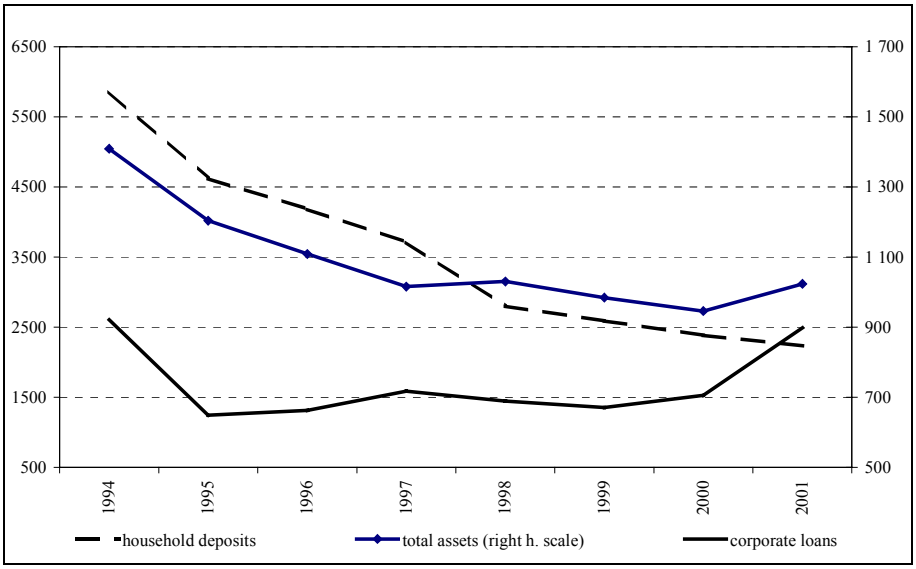


Chart 12: Concentration (Herfindahl index) of household deposits, corporate loans and total assets in the Hungarian banking system (source: NBH)



The traditional interest rate channel

The traditional interest rate channel of monetary policy transmission affects the economy through the link between the real interest rate and household and corporate savings and investment decisions. In this regard, the importance of real rates derives from their effect on the decisions about inter-temporal allocation. If the ex ante real rate starts to increase, e.g. because of the introduction of a tighter monetary policy, current consumption becomes more expensive relative to future consumption in the consumer's preferences. This would induce a rational consumer with a well-behaved normal utility curve to increase his savings and lower his consumption (substitution effect). At the same time, the higher real rate raises interest income from real assets and part of this upsurge is probably consumed almost instantaneously (income effect). A third effect of the higher real interest rate is that it reduces the discounted present value (net worth) of fixed-income assets (wealth effect), which also has a negative impact on current consumption.

While central bank policy changes are reflected relatively quickly in commercial bank rates, the traditional interest rate transmission does not work efficiently in the third phase due to the weak correlation between bank rates and savings-consumption decisions.

Neither before the privatisation of the banking sector nor afterwards had the classic interest rate channel any significant effects in Hungary. This is mainly due to the low monetisation of the Hungarian economy, and the dominant position of multinational companies in Hungary's production and exports. In multinational companies, financial planning and budgeting takes place at the global or regional headquarters taking all forms of financing options into account and optimising at the global or regional level. This usually makes swings in local economic business cycles and local interest rate changes irrelevant.

The lending channel of monetary transmission

The influence of foreign ownership in banking on monetary policy effectiveness derives mainly from its effect on the interest rate transmission mechanism and, within that, in the so-called lending channel. The lending channel states that bank credit is special, it does not perfectly substitute for other forms of financing. The bulk of borrowers, households and small and medium-sized enterprises are dependent on bank credit, because it is too costly or impossible for them to issue debt certificates on the capital markets or to get access to international financing. If bank credit is scarce, these borrowers are forced to scale back their consumption or investment. Banks are specialised to continuously monitor and evaluate their clients' financial situation and to analyse their credit history, so that banks are more efficient in dealing with problems of asymmetric information, incomplete contracts and moral hazard than other institutions. This enables banks to channel funds from lenders to borrowers at much lower transaction costs than if they tried to engage in business relationships with each other directly on the money and capital markets [Alexander and Caramazza (1994)].

Bank credit affects the economy through two basic channels – the bank lending channel and the balance-sheet channel [Mishkin (1996)].

1. Monetary policy directly affects banks' lending activity by changing the cost of reserves. An increase in interest rates leads to higher cost of reserves and induces banks to hold less reserves, which in turn leads to shrinking deposit and credit stocks. As credit supply dries up, those borrowers dependent on credit are forced to revise their financing and investment decisions [Cecchetti (1996)].

HERE – Table: breakdown of financing for Hungarian enterprises (retained earnings, trade credit, foreign bank loans, domestic bank loans, inter-company loans)

2. According to the balance-sheet channel, monetary policy affects banks' lending activity through its effect on the net worth of borrowers. A hike in interest rates reduces the cash-flow and thus net worth, i.e. the discounted present value of future cash-flows, of companies, given that they have to make higher interest payments. Banks have to deal with asymmetric information when they engage in lending, whereby a lower net worth of enterprises increases the likelihood of adverse selection and moral hazard. For example, companies would feel enticed to hide their projects' true underlying risk profile if a monetary tightening reduces their net worth serving as collateral for the loan contract. As banks are aware of this behaviour, they demand a higher risk premium and curtail lending.

When foreign ownership gains ground in an emerging country, this has two opposite effects on the economy. By contributing to higher efficiency and lower transaction costs, foreign entry enables new, previously liquidity constrained households and enterprises to get access to bank credit, thereby potentially increasing the weight of the lending channel and, as a consequence, the effectiveness of monetary policy. To the extent that foreign ownership leads to a healthier and less risky banking sector, which is more impervious to external shocks, it indirectly weakens the importance of the lending channel. Although for borrowers credit is as special as always, banks partly could insulate them from changes in the monetary policy stance as they, apart from central bank funds, can turn to alternative forms of financing and thus alter their lending activity less or more slowly.

Easing of liquidity constraints

Monetary policy decisions usually have a stronger effect on households and small and medium-sized enterprises. In Hungary, however, the level of monetisation is still very low and a large proportion of households and SMEs are liquidity-constrained. As a result, they are unable to follow their optimal saving-investment path through piling up debt and the effect of real interest rate on inter-temporal allocation is largely irrelevant.

For households bank credit is generally the only form of financing available, so they are very dependent on it and their reactions to monetary tightening are relatively powerful [de Bondt (1999)]. Árvai and Menczel (2000) performed a research studying the savings decisions of Hungarian households. They came to the conclusion that, in transforming Hungarian economy, the effects of the real interest rate described above were offset or overtaken by other factors influencing saving decisions. These include increased expectations of non-interest income and the prevalence of precautionary motives in saving decisions due to the general instability of the macroeconomic situation, high and variable inflation, and high risk of financial assets.

Small and medium-sized enterprises are also dependent on bank credit as they usually have no access to international money and capital markets, unlike big or multinational companies. Stiglitz (1993) notes that the supply of financial services for the small and medium sized enterprises may deteriorate, as foreign banks would concentrate on large multinational customers. In Hungary, in contrast, there is a significant presence of foreign co-operative banks (DG, Erste) which usually place greater emphasis on financing SMEs. However, SMEs are still more liquidity constrained than large companies. In Hungary, SMEs employ 69 per cent of the workforce, and their contribution to GDP is about 45 per cent[16], while at the end of 2001 loans to SMEs were only 35 per cent of total lending to enterprises and entrepreneurs. As competition becomes fiercer and banks are looking for new market segments to expand, the focus on SMEs increases. Total lending to SMEs grew by 30 per cent in 2000, though the global recession hit this market segment as well. Credit guarantor firms have boosted their activity in recent years and, by lowering the riskiness of SMEs, contributed to higher bank lending to the sector [Árvai (2002)].

Alternative forms of financing

The effectiveness of the lending channel hinges upon the health and stability of the banking sector. Less sound banks are more dependent on central bank funds and therefore react more strongly to changes in the policy rate than liquid and profitable banks with a wide and loyal customer base, which can readily tap international and capital market sources of finance. Bean, Larsen and Nikolov (2002) also state that liquidity is a very important factor in the effectiveness of the lending channel.

In the past twelve years there have been several changes in the liquidity situation and liquidity management of the National Bank of Hungary (NBH). The rapid development of financial markets made possible for the NBH to operate indirect instruments from the beginning of the 90s. Since the introduction of the crawling peg system (1995), the NBH has operated in a structural liquidity surplus. In this situation,

[16] Source: http://www.gm.hu/fomenu/vallalkozasok/htm/kkv-szech.htm.

the primary tool of the NBH is a deposit-side instrument. Although the whole market has a liquidity surplus, banks are in different liquidity positions. Those with relatively larger deposit collecting activity (saving banks) typically have huge liquidity surpluses. Others, typically foreign owned commercial banks, "suffer" from liquidity shortages. At the beginning of the development of the banking sector, the Hungarian retail bank market was inherited by two domestic owned bank (OTP and Postabank), and the market remained rather heavily concentrated. That is why it is difficult to compare the liquidity management of foreign and domestic owned banks.

The greater and more liquid the primary and secondary markets for commercial paper and stocks are in a country, the higher the probability that alternative sources of financing are relevant and the role of bank credit is less important. In Hungary, the commercial paper market is still in its infancy, so profits and foreign financing are the only alternatives to bank credit. Until recently, regulation prohibited non-bank enterprises to take on a loan directly from a foreign bank, leaving internal financing as the only alternative to bank loans.

HERE – Table: stock market capitalisation and turnover

IV. Conclusion

As we already mentioned in the Introduction, the effects of foreign ownership on the effectiveness of monetary policy are a neglected field of research. It is probably due to the acute problem of the lack of appropriate data, the complex interdependencies with other structural changes and the limited number of case studies. In the case of Hungary, an emerging economy with huge structural changes and with no control group for foreign-owned banks, even outlining stylised facts about the impact of ownership change in the banking sector is a very difficult task, where the researcher has to make careful statements. We have tried – though we are not sure we have managed – to outline the basic facts about the Hungarian economy and banking system and that might have relevance for the topic.

The picture drawn is of course ambivalent. On the one hand, the entry by foreign banks has undoubtedly improved the health, prudence and capital strength of the Hungarian banking sector. This has probably had a deteriorating effect on monetary policy effectiveness because of the availability of alternative forms of finance that are less affected by domestic monetary conditions. On the other hand, the large and well capitalised foreign banks have boosted competition in the banking market, which has helped to lower the interest rate spread and margins of banks, thereby improving the transmission of central bank rates to bank rates.

The question raised in the title of this paper remains an academic one. Being an emerging country without capital rich domestic investors, Hungary had no other choice than privatising its banking system to large foreign banks, but this way it is impossible to separate the effects of foreign ownership and private ownership.

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Hungarian Bank	Assets	Foreign Owner	Ownership (%)
Országos Takarékpénztár és Kereskedelmi Bank	2 126 437		
Kereskedelmi és Hitelbank Rt.	1 130 451	KBC. ABN-Amro	
Magyar Külkereskedelmi Bank Rt.	903 275	Bayerische Landesbank	
CIB Közép-európai Nemzetközi Bank Rt	768 433	BancaIntesa	
Bank Austria Creditanstalt Magyarország Rt	539 986		
Raiffeisen Bank Részvénytársaság	464 105	Raiffeisen	
Postabank és Takarékpénztár Rt.	363 243	–	
Magyar Fejlesztési Bank Rt.	342 388	–	
Általános Értékforgalmi Bank Rt.	321 102	Gazprom Bank	
Budapest Hitel- és Fejlesztési Bank Rt.	317 454	GE Finance	
Citibank Rt	299 819	Citibank	
Erste Bank Hungary Rt	272 262	Erste Bank	
ING Bank (Magyarország) Rt.	192 086	ING	
Inter-Európa Bank Rt.	173 614	Sanpaolo IMI	
Commerzbank (Budapest) Rt	145 580	Commerzbank	
Magyar Takarékszövetkezeti Bank Rt.	137 451		
EXIM Bank	112 649	–	
Magyarországi Volksbank Rt	101 577	Volksbank	
Westdeutche Landesbank Hungaria Rt	98 070	Westdeutche Landesbank	
BNP Paribas Hungária Bank Rt	86 151	BNP Paribas	
KONZUMBANK Kereskedelmi Bank Rt.	83 079	–	
Deutsche Bank Rt.	68 023	Deutsche Bank	
Merkantil Bank	59 367		
OTP ltp.	54 081		
Credit Lyonnais Bank Magyarország Rt.	46 295	Credit Lyonnais	
Daewoo Bank (Magyarország) Rt	41 593	Daewoo	
FHJB	35 220	–	
FUNDAMENTA ltp.	32 481		
Porsche Bank Rt.	31 132		
Lakáskassza ltp.	23 678		
Cetelem	20 646	Cetelem	
Opel Bank Rt.	18 717		
Rabobank Hungária Kereskedelmi Bank Rt	17 508	Rabobank	
Dresdner Bank (Hungária) Rt.	14 060	Dresdner Bank	
Hanwha Bank Magyarország Rt	12 334	Hanwha Bank	
Nemzetközi Kereskedelmi Bank Rt.	11 395	–	
Société Générale Hungária Bank Rt	10 834	Société Générale	
HJB	9 895		
Credigen Bank Részvénytársaság	9 766	Credigen	
Polgári Kereskedelmi Bank Rt	3 954	–	
Otthon ltp.	3 826		
HYPO Vereinsbank Hungaria Rt	0	HVB	