

CHAPTER 2. HOUSING FINANCE IN HUNGARY

by

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1. Macroeconomic Overview

The Hungarian policymakers are fully aware of the net gains that the single currency can bring to the Hungarian economy, and therefore support the adoption of the euro. At present, the government, based on the convergence program submitted in December 2004, considers 2010 as a feasible target date for euro adoption.

During the last years, however, Hungary has somewhat drifted away from the fulfilment of the Maastricht criteria. In terms of inflation, the hike in the indirect tax rates in early 2004 resulted in yearly average inflation above the previous years, though significant disinflation started later in the year. Long bond yields rose significantly in 2003, followed by a gradual decline in the second half of 2004. The ESA 95 deficit of the general government reached 5.3 per cent in 2004, an improvement compared to 2003, still government debt increased to 60 per cent of GDP in 2004.

GDP growth accelerated to 4% in 2004, together with the improvement of its structure. Positive developments in the external business environment have contributed to the pick-up in Hungarian exports, which, in turn, has led to a robust rise in output and an upturn in corporate investment activity. These developments and a slowdown in household consumption influenced the pattern of growth favourably: the export sector and fixed investment are the driving forces of growth, replacing domestic consumption, and leading finally to an improving external balance.

Household consumption growth in 2003 was above 7 per cent as a result of high real wage increases in the private sector and the relaxed fiscal stance. Both household consumption and real wage growth decelerated significantly in 2004, returning to a sustainable path after the shocks of the previous years. The easing of the labour market tightness also contributed to the marked slowdown of nominal wage growth registered in the second half of 2004.

Household investments also showed a remarkable increase due to a subsidised housing loan scheme (see next chapter for more details). Business investments, following external demand, were weak until mid-2003, but have accelerated markedly since then. There was a particularly strong pick-up in manufacturing investments in the second half of 2003, and it remained buoyant in 2004.

The current account deficit is expected to reach 8.9 per cent of GDP in 2004, showing only a slight improvement from the previous year. As a result, the whole-economy external financing requirement remained high. The major causes behind this development are the substantial rise in the external financing requirement of the corporate sector due to brisk investment activity and the still high external financing requirement of the government sector. The household sector which had the lowest net saving in 2003 for a decade, improved its position during 2004. The financing of the current

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account deficit also showed an improvement last year, FDI inflows financed nearly half of the deficit in the first three quarters. In light of the still existing vulnerabilities the sustainability of external balances is primarily dependent on the future development in the government sector financing requirement and, therefore, on the credibility of fiscal consolidation targets.

After declining to below 4 per cent by mid-2003, inflation started to pick up in the second half of the year, reaching 5.7 per cent by December 2003. The rise was discernible in core inflation, as well as among goods exogenous to monetary policy (e.g. food prices) and administrative measures. Accelerating core inflation was fuelled by nearly all macroeconomic factors both on the demand and the cost sides. Particularly unfavourable was the rise in non-tradables inflation, suggesting a pick-up in inflation expectations. The main reason for the CPI rise in 2004 was indirect tax increases, although demand and supply factors also contributed to the increase in inflation in the first half of the year. Disinflation gained momentum in the second half of 2004. The rapid decline in inflation from its 7.6 per cent peak was partly associated with a fall in firms' and households' inflation expectations. On balance, it seems that the increase in indirect taxes did not have a lasting upward influence on inflation expectations.

Table 1. Key macroeconomic indicators

Economic indicator	Relative to previous year (%)			
	2001	2002	2003	2004
GDP	3.8	3.5	2.9	4.0
Household consumption	5.1	9.3	7.6	3.2
Gross fixed capital formation	3.1	8.0	3.4	11.6
Export	9.1	3.7	7.6	14.1
Import	6.3	6.2	10.4	14.8
Consumer prices	9.2	5.3	4.7	6.8
Real household income	5.3	5.5	4.3	3.4
General government deficit (ESA 95 methodology) *	4.1	9.3	6.2	5.3
Current account deficit*	6.0	7.1	9.0	8.9**

* As a percentage of GDP ** Estimate (Inflation Report 2005 February) Source: MNB

2. Evolution of the Hungarian Mortgage Market

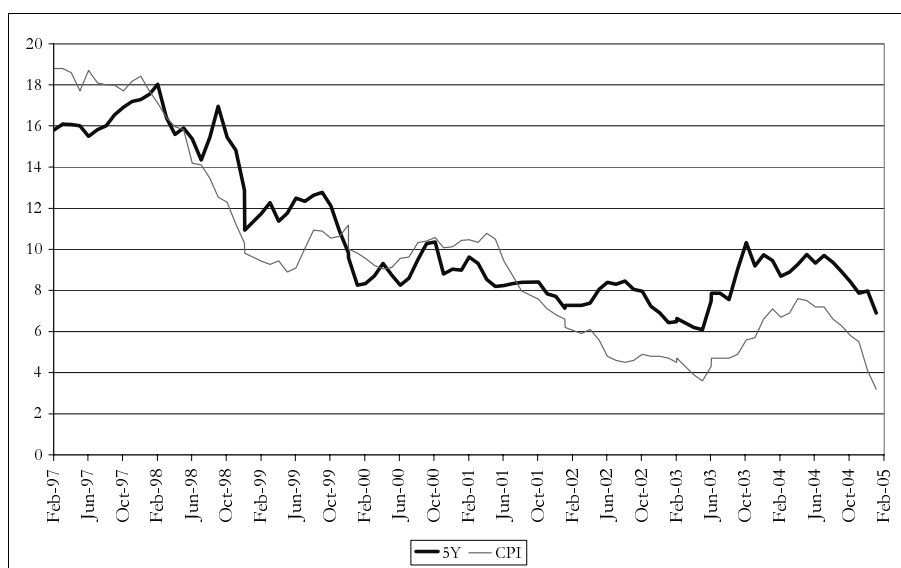
At the beginning of the transition in the early 1990s, there was no mortgage market to speak of in Hungary. Although there was a considerable amount of subsidised housing loans during the socialist regime, the government decided to abolish the subsidy on account of the rising budget deficit, which attended the collapse of the centrally planned economy. Following the legal disputes over the termination of the subsidy for existing, long-maturity loans, the subsidised housing loans were converted into market-rate loans, significantly increasing the debt servicing obligations of households. However, debtors were given the option to repay the debt with a highly advantageous discount. Since many households chose the prepayment option, the outstanding amount of housing loans decreased to less than HUF 150 bn by 1991, equivalent to 6 per cent of GDP. It decreased further in nominal terms, becoming insignificant, from a macroeconomic point of view, for almost a decade.

There were basically no new housing loans during the years when inflation was high and volatile. In 1991, the inflation rate peaked at 35 per cent, remaining above 15 per cent until 1998. In light of this, and considering the 1/3 prudential limit on debt service/disposable income, households could thus not raise loans exceeding their 2-year-income¹, even with nominal interest rates close to 15%. High and volatile rates of inflation in the first half of the '90s also led to the shortening of business contracts.

Economic agents did not want to get tied down to long nominal contracts. This was particularly true in the financial markets. Even the Hungarian government could not issue long-term forint bonds; the 5-year government bond appeared in the market only in 1996. Considering that mortgage loans cannot have maturities longer than benchmark government bonds, the short yield curve also significantly constrained the potential growth of the mortgage market. In short, a confluence of factors hampered the growth of the mortgage market in the first years of the transition: high and volatile inflation, as well as low household demand for mortgages owing to declining real wages and rising unemployment.

Economic consolidation began in the mid '90s. This was accompanied by increasing credibility in the stability oriented economic policy. As a result, long yields and the inflation rate declined continuously from 1997, parallel with the gradual extension of the benchmark government yield curve to longer maturities of 10 and 15 years in 1999 and 2001, respectively. These developments created the requisite financial environment for the full functioning of a mortgage market in Hungary.

Chart 1: Evolution of the 5Y benchmark rate and inflation



Source: MNB

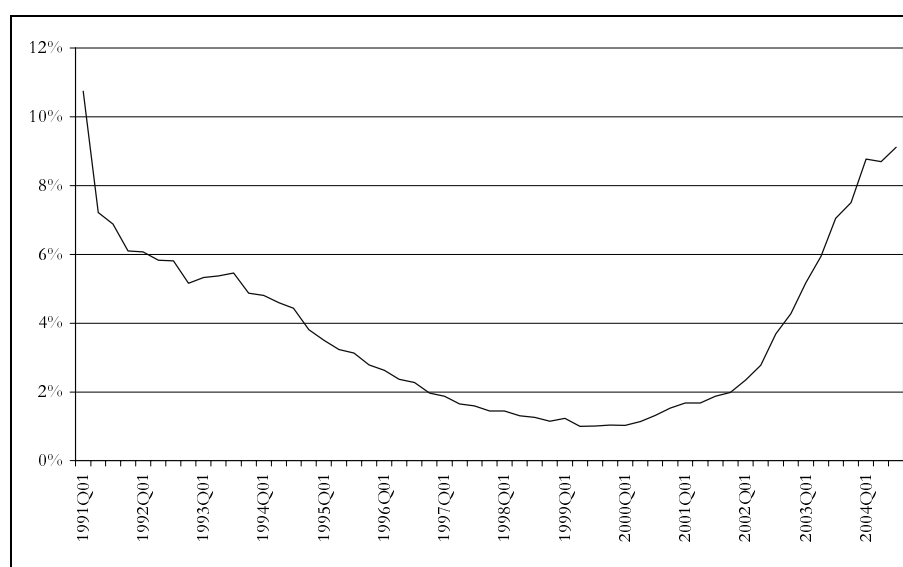
Alongside these developments was the establishment of the legal framework for the Hungarian mortgage market. In 1997, the Parliament passed the Act on Mortgage Institutions. In line with this, new regulations in related areas, such as loan origination, foreclosure and prudential limits, were harmonized with the EU legal framework. However, despite improving macroeconomic and financial conditions and the institution of a legal and regulatory framework, the mortgage market remained stagnant until 2000 when the government introduced mortgage-related subsidies.

In 2000, more than 10 years after the loan subsidies were abandoned in the last years of the socialist regime, the government introduced interest subsidies to long mortgage loans for new housing constructions. The main rationale for instituting the new housing policy measures was the fact that the number of new housing constructions had been declining throughout the '90s. This decline was, to a large extent, due to the lack of house financing: households could rely only on their savings to finance housing investment.

These early measures promoting only new housing constructions did not have a major macroeconomic impact. However, they did give impetus to the previously inert mortgage market. In 2000, the households' mortgage/GDP ratio started to post some growth. To further foster this growth, although

to a smaller extent, the government extended the subsidy to buying existing dwellings as well. Meanwhile, macroeconomic conditions had also become favourable: the inflation rate dropped below the 7 per cent target at end-2001, while the yield curve showed a steep negative slope, reflecting investors' confidence in the profitability of the convergence play strategy in the Hungarian government bond market. The new government measures, along with the favourable macroeconomic conditions, resulted in a gradual increase in mortgage loans, with an average of HUF 15 bn of new loans granted in 2001. However, the outstanding stock by the end of the year still did not exceed 2% of GDP.

Chart 2. Mortgage/GDP in Hungary



Source: MNB

The year 2002 brought dramatic changes to the mortgage market. Government subsidies directly targeting households were increased significantly at the beginning of the year. Moreover, through subsidies linked to funding costs, bank margins climbed to 8 per cent. Meanwhile, the subsidy scheme was exhibiting a rather unusual feature: the interest burden of households was not sensitive to market rates; all interest rate risk was with the central budget. The most general mortgage type was a 15-20 year loan, with the interest rate fixed for 5 years, and a cap on interest paid by households at 6 per cent for existing dwellings and even lower for new constructions. These rates were even significantly lower than benchmark government yields at that time.

This subsidy scheme was clearly not going to be sustainable. Under this scheme, even households, which would otherwise not have considered taking on a mortgage loan in the near future, were applying for loans simply to take advantage of the favourable conditions. This resulted in such a sudden and significant rise in mortgage loans that, by the middle of 2002, the mortgage market had started to post exponential growth. In the second half of the year, the volume of new loans originated in 2 months exceeded the total volume originated in the previous year. However, the government was slow to respond. It decided to cut the subsidies substantially only in December 2003, amidst serious concerns of the external and internal stability of the Hungarian economy.

During the heavily subsidised period households had the incentive to borrow more than what they needed for housing purposes. The main reason for this was the combination of the previously binding liquidity constraint on households and the generous subsidies made available for existing dwellings.

The existence of the ‘borrow more effect’ involving housing transactions can be illustrated with an example. Households who would like to purchase a more expensive apartment sell their old one and take out a mortgage loan with the highly advantageous interest rates. On the aggregate level, if the transaction involves only existing dwellings, there is no change in the net financial position of the household sector, as the mortgage loan equals the increase in the savings of the seller. However, due to the low interest rate, the household taking up the mortgage might consider taking out a bigger loan to finance consumption, for instance, to furnish the new apartment. If LTV and debt service/income ratios are at manageable levels, households could significantly ease the liquidity constraint. Calculations (MNB 2004) showed that 15-30 per cent of mortgage loans raised for existing housing could have financed consumption during 2001-2003. The estimation was based on the unexplained consumption growth by standard factors such as income, financial and housing wealth, and the consumer confidence index.

The tightening measures in December 2003 primarily attempted to cut the budget expenditures on interest rate subsidies. Given the lower subsidies for the new loans, the profit margin of the banks decreased parallel with the significant increase in the interest burden of the households. Furthermore, the changes to the subsidy scheme brought two new features: mortgage rates became partly linked to market rates, and the difference between subsidies for new and existing housing widened from 1 to around 3 percentage points.

From the monetary policy point of view, the most relevant impact of the tightening measures was the establishment of the link between the mortgage rate faced by households and the market rate. The reason why tightening measures had immediately a great impact on the demand for new loans may be attributed not only to the fact that subsidies were significantly cut but also to the unfavourable market developments. As concerns about the external and internal equilibrium of the Hungarian economy increased in 2003, the long segment of the yield curve started to increase significantly, putting an end to the yield convergence that characterised long yields in the previous years.

As a natural consequence of the tightening measures and the high long rates, loan origination dropped significantly in 2004. At the same time, new products appeared in the market: foreign exchange-denominated mortgages. Faced with the high forint mortgage rate, a growing number of households opted for mortgages with a lower nominal rate, notwithstanding the imminent exchange rate risk.

The following table summarises the direct macroeconomic effect of interest expenditure through disposable income, based on the evolution of the mortgage market and the government subsidy scheme discussed above.

Table 2. Disposable income and mortgage interest payments

Year	Households' disposable income (bn HUF)	Mortgage interest expenditure (bn HUF)	Interest/Disposable income (%)
2001	8913	18.4	0.21%
2002	9742	53.4	0.55%
2003	10863	95.4	0.88%
2004*	11950	132.2	1.11%

* Forecast

Source: own calculations

The monetary transmission channel through interest payments of mortgage loans is rather limited in Hungary; mortgage loans have a weak direct impact on households' disposable income. There are a number of reasons explaining the situation. Despite the dynamic growth of the past years, the

outstanding stock of mortgage loans is still low compared to those in developed countries. The central bank interest rate affecting the yield curve has only a minor impact on the interest burden of mortgage loans due to the features of the government subsidies which were effective until 2003. Apart from the government subsidies, the fixed rate mortgages dominating the Hungarian market resulted in a delayed effect of interest rate changes, similar to many eurozone countries.

In light of the rapid evolution of the Hungarian mortgage market in recent years, it is worth making a brief comparison with the structures prevailing in other OECD countries. The developed countries can be divided into three types of mortgage regimes, namely fixed callable, fixed non-callable and variable. The following table, grouping the countries according to mortgage regimes, summarises the major characteristics of the housing and mortgage markets in mainly EU countries, including Hungary.

Table 3. Key mortgage and housing indicators in developed countries (2001) and Hungary (2003)

Countries	Dominant type of mortgage	Mortgage/GDP	Average LTV	Owner occupation
Denmark	Fixed callable	67%	80%	59%
US		58%	78%	68%
Germany	Fixed non-callable	47%	70%	39%
Netherlands		74%	112%	53%
France		22%	60%	58%
Italy		10%	55%	69%
Hungary		8%	30-40%	92%
UK	Variable	60%	70%	68%
Ireland		30%	60-70%	78%
Portugal		47%	70-80%	64%
Spain		32%	80%	85%

Source: ECB, MNB

The first observation that can be drawn from the table is that, despite their similarities in recent macroeconomic framework (low inflation, co-ordinated and stability-oriented economic policy), sound and liberalised financial systems, and a high standard of living, developed countries exhibit a surprisingly wide range of key indicators.

Highly efficient and mature financial markets should be able to provide mortgage loans that have fixed interest rates for up to 10-15 years and should have the flexibility that is needed for the early repayment of long mortgage loans. Both the US and Denmark have above-average owner-occupation rates, as well as a very high mortgage/GDP ratio, indicating the significant role of mortgages in the economy.

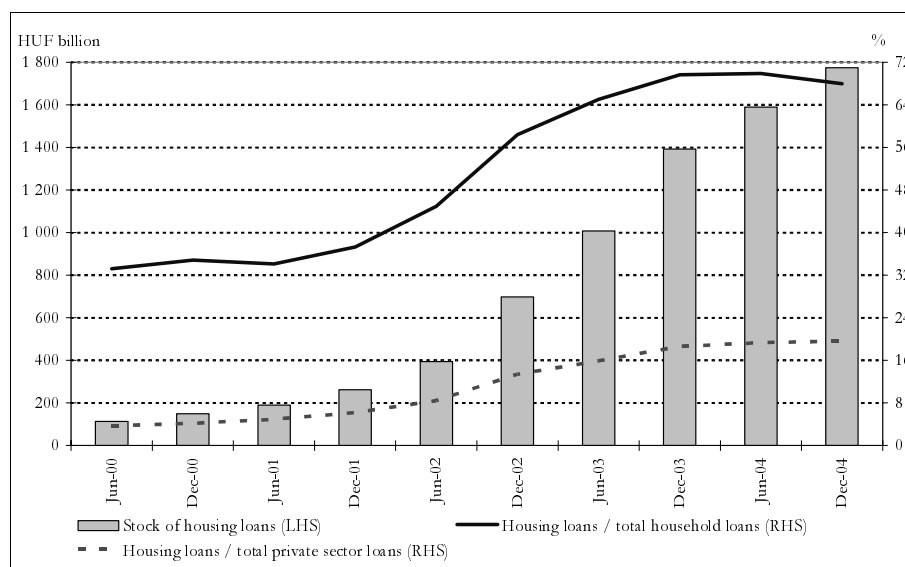
The second group consists of countries where the majority of mortgage loans have fixed interest rates, but early repayment is constrained by high fees. Most of the continental European countries belong to this category. In some of these countries mortgage loans do not play a very significant role in the economy: the ratio has been traditionally low in France and Italy, at 22 per cent and 10 per cent of the GDP, respectively. Hungary also belongs to this group and the mortgage indebtedness of the Hungarian households is already close to the level of Italian households. It has to be noted, however, that due to the rapid increase in the dominantly variable rate FX mortgages, the Hungarian market is also moving towards variable rate dominated regimes.

The mortgage markets in the third set of countries are characterised by variable interest rates. Apart from the UK, the fast growing mortgage markets of Portugal and Spain are also dominated by variable rates. These eurozone members benefit from low interest rates, considering that, prior to the nominal convergence, high interest rates generated liquidity constraints for the majority of the households. In Portugal, the mortgage debt/GDP ratio was 47 per cent in 2001, equal to that of Germany, while a decade earlier, it was comparable to that of Italy. This rapid growth is, to a great extent, similar to the Hungarian dynamics in recent years.

3. Structure of Loans Providers

Banks are predominant players in the domestic housing loan market. They provide more than 90% of loans. Commercial banks with a large number of branches have been the real winners of the housing subsidy scheme. The degree of concentration is high; the Herfindhal-Hirschman index was around 3100 in December 2004.² 68% of loans to households are for housing purposes, approximating the EMU level (the average ratio of housing loans to other household loans is two-thirds to one third). The share of housing loans in total banking assets is 12%, approaching the 15% rate of the euro area.

Chart 3 Banks' housing loans and their share in household and private sector loans



Source: MNB

Next players of the housing finance market are *savings co-operatives*, which have suffered a significant loss of market share. Their market share in the aggregated volume of loans collateralised with housing real estate fell sharply from 19% in 2001 to 7% in 2004. The major underlying reason for this loss of market share was that savings co-operatives have been unable to directly participate in the subsidised housing loan scheme, as savings co-operatives are not included amongst the counterparties of mortgage banks, and can only achieve a syndicated loan agreement with mortgage banks. In 2004 foreign currency based housing loans have become the most developing segment, which co-operatives are also unable to offer, since the scope of their activity is limited and does not include the provision of FX or foreign currency based loans.

The state housing subsidy system relatively disadvantages *contract savings institutions*, which will keep to a niche market segment in the future, too. At present only two closed contract savings institutions are working, their aggregate market share is around 1%.³ The state provides subsidy through tax allowances, but its maximum amount is limited. Following the restrictions of subsidised

housing loans, the market position of contract savings institutions has ameliorated somewhat. However, the optimal loan is a strong constraint on their growth, because it is very low compared to the price of an average home is still.

Finally, *insurance companies* should be mentioned. They are entitled to engage in mortgage financing,⁴ but actually they do not provide mortgage loans on their own, and only two insurance companies act as a syndicated partner of a mortgage bank. However, their long-term cheap funds should be used for mortgage financing.

4. Liabilities Side, Financing Techniques in Hungary

Dynamic growth in assets has been accompanied by a similarly vigorous growth in liabilities. Mortgage lending, in keeping with international practice, relies mainly on such techniques of incurrence of liabilities that are different from those of traditional lending. Statutory and regulatory stipulations have also been instrumental in the development of the necessary structures. Under Hungarian law, mortgage bonds may only be issued by mortgage banks. Housing subsidy was mainly linked with mortgage bonds. Therefore credit institutions having enough other liabilities also used mortgage banks' refinancing to qualify for the government subsidy.

4.1. Refinancing Techniques of Mortgage Loans

In terms of the financing techniques adopted, the practice and procedure of mortgage lending varies from one country to another, and may be different even within one country. In the EU Member States there are two ways to finance mortgage loans through mortgage bonds:

- *Direct financing (the one-tier model)*: banks originating mortgage loans group loans themselves and issue mortgage bonds to incur liabilities. This is a widespread practice, e.g. in Germany and Denmark.
- *Indirect financing (the two-tier model)*: banks originating mortgage loans sell their loans to a third company; the latter then puts them into a 'pool' making mortgage backed security (MBS). This is widespread practice mainly in Anglo-Saxon countries.

Both of the above mentioned models are used in Hungary. One is the purchase of independent lien, a special form of indirect finance. Another is loan originated by mortgage banks on their own, which corresponds to the concept of the one-tier model. Mortgage banks play a pivotal role in both techniques and determine the structure of the housing loan market. Currently, there are three mortgage banks operating in the Hungarian banking system. No new market participants are expected to emerge even over the longer term.

4.1.1. Refinancing based on the purchase of independent lien

The underlying idea of this refinancing facility is that mortgage banks that issue mortgage bonds refinance commercial banks originating mortgage loans under independent lien (mortgage right) sales contracts. Banks repurchase independent lien at the pace loans are repaid. Mortgage bonds are collateralised through the refinancing of loans with independent lien. As mortgage loans continue to be recorded on the balance sheet of the originator credit institutions, both credit and prepayment risks are borne by the bank that originates the loan and, indirectly, by the mortgage bank involved. Mortgage bonds investors only take low risks, since mortgage loans are repaid to the mortgage bank if the partner bank goes bankrupt. The prepayment of the client to the commercial bank might not be refused. At the same time in order to protect the interest of the mortgage bond investors the mortgage

bank might stipulate in contract the refusal of the prepayment, or, calculating fees which may limit the prepayment. The commercial bank might roll over this fee to the client. Földhitel és Jelzálogbank (FHB), still partially in state ownership, has entered into a refinancing agreement with eight commercial banks. HVB Jelzálogbank, 100%-owned by its parent bank (HVB), has entered into a refinancing agreement with four commercial banks.

4.1.2. Mortgage Banks' Loans Provision

Mortgage banks finance the loans sold via their own distribution network or agents by issuing mortgage bonds. Both loans and mortgage bonds are recorded on the balance sheet of mortgage banks. Under syndicated loan agreements, credit institutions and mortgage banks form a syndicate and, as such, they distribute loans via their distribution network. When a loan is originated, a mortgage bank purchases it, so it is no longer recorded in the balance sheet of the relevant credit institution. As a result, lending risks are taken by mortgage banks. Mortgage banks issue mortgage bonds collateralised with the mortgage loans purchased.

The market leader, OTP Jelzálogbank, which is 100%-owned by its parent bank (OTP), only originates housing loans under a syndicate agreement with its parent bank. FHB originates housing loans through agents and via its own distribution network, and has entered into a syndicate agreement with sixty-five co-operative banks.

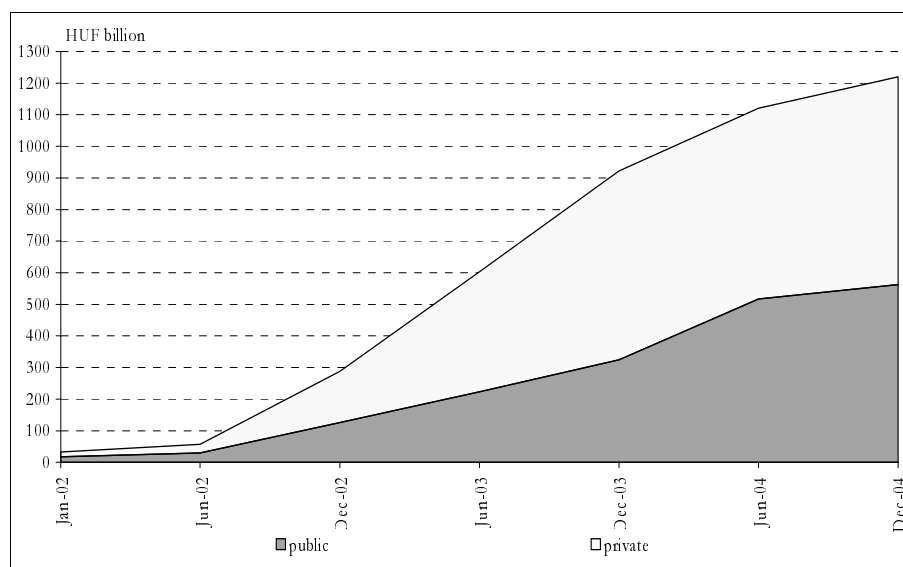
4.2. Financing based Loans

The market share of mortgage-based loans is still low due to the boom of subsidised housing loans. Given the lower housing subsidies in 2004 foreign currency denominated products has started to grow sharply. Mortgage-based loans are mostly financed by traditional liabilities, which are mostly short term client and foreign bank deposits. The share of bonds within commercial banks' liabilities is for the time being minimal (1-2%). Therefore an increase in maturity transformation carried out by commercial banks has accelerated in recent years.

5. Mortgage Bond Market

Since 2002, in parallel with the boom of housing loans, the mortgage bond market has become *the most developing segment* of the Hungarian securities market. In December 2004, the total value of the mortgage bonds issued by the three mortgage banks was more than HUF 1220 billion (EUR 4.9 billion), half of this being sold through public offerings. (Chart 4) The biggest mortgage bank mostly used to choose private offering issuance subscribed by its parent bank. In this way the financial group saves on a spread of mortgage bonds. Because the parent bank had a lot of liquidity, it partially substituted its government bonds assets by mortgage bonds and retained the spread. The amounts of series are very low, the average series introduced to the stock exchange is around HUF 14 billion (EUR 56 million). There were successful issuances abroad, which amounted to EUR 100 million/issuance. Other important characteristics of mortgage bonds are similar to those of government bonds (ratings, interest rate and payments, etc.). Mortgage banks have proved flexible in their issuance (timing of issuance, amount and maturity of bonds), which can counterbalance the low liquidity of their securities.

Chart 4 Stock of mortgage bonds by the type of issuance



Note: two parent banks' subscription is considered as private issuance.

Source: MNB

The main feature of the *secondary market* is the very low liquidity of mortgage instruments. The monthly turnover of government bonds is about 60% of total stock, while in the case of publicly issued mortgage bonds this rate is only 2%, and this turnover is mainly generated around the issuance day. The recently growing size of series has not affected the liquidity of bonds. The yield on mortgage bonds placed through public offering reveals a more advantageous picture than liquidity. The spread on mortgage bonds has decreased; recently it was 60-80 basis points higher than the benchmark government bond yield, which was not particularly high in an international comparison.

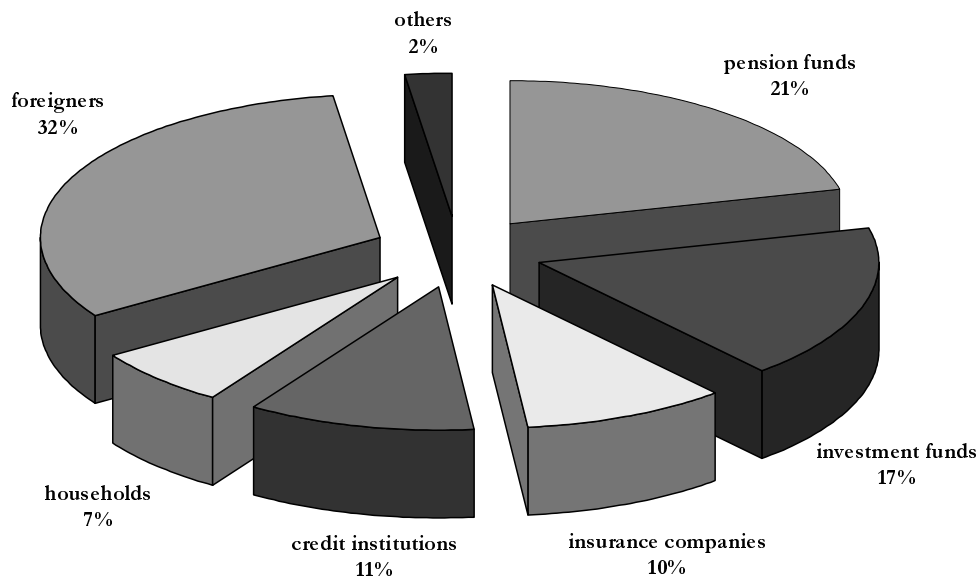
Domestic institutional investors (pension and investment funds, insurance companies) are the most important buyers of mortgage bonds; they hold nearly half of the total publicly issued bonds. (Chart 5) Owing to higher yields, this kind of investment is more attractive for them than government bonds. The future absorption capacity of domestic institutional investors is rather limited. Regulators imposed limits for institutional investors against similar types of investments or investments of the same issuer.⁵ In 2004, this constraint may become effective for some institutional investors.

Credit institutions, because of the character of their activity, are also limited to buying longer term assets. They can buy mortgage bonds at government bonds' expense. With the exception of the two parent banks, banks hold little stock of mortgage bonds.

Households may purchase publicly issued mortgage bonds, but their share is lower (7%) compared to their share in the government bond market (14%). Mortgage banks and the parent banks are intending to boost households' bonds purchasing; therefore they are designing special products for them.

From the above it is clear that issuers of mortgage bonds rely on *foreign investors*, and their share is growing.

Chart 5 Privately issued mortgage bonds by type of investor



Note: private issuance = total private issuance – two parent banks' subscription Source: MNB

6. Special, Mainly Emerging Market Risk, Foreign Currency Based Lending

A growing share of foreign currency based housing lending can generate important additional risk in the emerging countries' banking sectors. As mentioned previously, at the end of 2003 the Hungarian Government tightened the conditions of the housing subsidy scheme. Consequently, the cost of subsidised borrowing for customers increased, with a simultaneous decline in the banking sector's gross margin. As an effect of the increase in Hungarian risk premium in 2003, the difference between Hungarian currency (forint) and foreign currency interest rates rose dramatically. Therefore, subsidised loans have become considerably more expensive for customers. These two factors have directed the attention of both borrowers and lenders to foreign currency based products.

In our assumption, also reinforced by banks' experience, a significant part of loan applicants make their borrowing decision based on the monthly cost of a loan, calculated on the basis of current interest and exchange rates. Typically, they choose the credit facility which has the lowest monthly instalment, without considering additional risks. In the near term, therefore, foreign currency based - crucially CHF - loans are crowding out a large part of forint-based loans owing to their lower cost. The share of foreign currency based loans within the total outstanding housing loans *sharply increased* from 1.4% in December 2003, to 7.5% in December 2004. However the volume of the foreign currency based portfolio amounted only to HUF 145 billion (EUR 0.6 billion). A decreasing difference between forint and foreign currency interest rates should ease up this tendency.

The *direct risks* of the sector emerging from the foreign currency based lending are relatively low. However the funding risk is growing owing to the increase in maturity transformation carried out by commercial banks. Currently, it is the borrower who bears the exchange rate and interest rate risks related to foreign currency based loans in full. In the case of non-performance of high LTV loans, causing the bank's foreign currency position to open up, the bank may no longer be fully protected.

The *indirect risks* of the sector are much higher. Instalment amounts on foreign currency denominated loans may change to a greater extent and more frequently than those on forint loans, owing to the short repricing period and the immediate passing on by the bank of the exchange rate risk to the borrower. Households are unprotected in the face of such changes, as the majority of them do not have natural cover. The extent to which risks undertaken by the sector are transformed into credit risk depends on the intensity and persistence of a given interest rate and/or exchange rate change. Obviously, the likelihood of delinquency increases if the debtor determines the maximum amount of loan based on the borrowing day's interest and exchange rates. Currently, short term interest rates are extremely depressed, moving at historical lows, in both the euro area and Switzerland. Based on the yield curve, short rates are likely to increase over the medium term. The forint exchange rate may undergo a period of depreciation. The likelihood of an increase in the instalment amount is not inconsiderable.

Bank margin and collateral requirements may offset the higher credit risk related to foreign currency loans. Currently, the average margin on foreign currency based bank products is approximately double the margin on subsidised forint loans, the former banks do not have to share with a mortgage bank. In spite of all this, we do not know whether pricing is proportionate with the additional risks undertaken, owing to a lack of experience. According to information currently available, most banks set a lower maximum LTV for their foreign currency based loans. If no negative shock occurs and the debtor defaults for some other reason, then a higher collateral value may result in a lower loss ratio and, through this, it may earn a higher profit for banks.

However the increasing popularity of foreign currency based lending makes the banking sector *more sensitive to external shocks*, which may lead to a wave of simultaneous defaults on a large number of loans. Owing to the relative homogeneity of collateral assets, banks may be faced with difficulties in selling collateral, which, in turn, may lead to a massive increase in the loss ratio.

Various *regulatory responses* are possible to reduce the additional risks related to foreign currency lending. APRC for housing loans has been introduced, in this way consumers can take account of the additional costs of foreign currency lending. To increase debtors' risk awareness, the Hungarian Financial Supervisory Authority is requiring banks to call every client's attention to the risks related to indebtedness in foreign currency in a special leaflet before the lending process gets underway.

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NOTES

- 1 Due to the effect of high interest rate on the liquidity constraint of a household, assuming a 20-year maturity and that 1/3 of disposable income is spent on the loan amortisation.
- 2 Parent banks are assessed together with mortgage banks.
- 3 In 1997-98 three were set up. One of them is owned by a domestic commercial bank, the other two were in majority foreign ownership (German, Austrian). They merged last year.
- 4 Since January 2001, but their mortgage loan volume is limited; it can be as high as 5% of their life insurance premium reserves.
- 5 The Hungarian regulation is based on international standards.

TABLE OF CONTENTS

<i>Part I.</i>	A COMPARATIVE ASSESSMENT OF HOUSING FINANCE MARKETS IN TRANSITION ECONOMIES	
	<i>by Shigehiro Shinozaki</i>	7
Introduction.....		8
Methodology.....		8
1. Housing Markets.....		8
1-1. Demand of Housing.....		8
1-2. Supply of Housing.....		13
1-3. Country Assessments.....		14
2. Housing Finance Markets.....		17
2-1. Primary (Lending) Markets.....		17
2-2. Secondary (Funding) Markets.....		26
2-3. Country Assessments.....		33
3. Regulation and Housing Policy.....		35
3-1. Regulatory Structure.....		35
3-2. Housing Policy.....		40
3-3. Country Assessments.....		44
4. Aggregate Results and Lessons.....		46
4-1. Dynamics on Housing Finance Markets.....		46
4-2. SWOT Analysis.....		48
4-3. Lessons.....		53
5. Mortgage Insurance.....		55
5-1. System and Benefits.....		55
5-2. Mortgage Insurance Markets in Transition Economies.....		57
Conclusion.....		61
References.....		63
Annex 1. General Indicators.....		65
Annex 2. Findings from Market Survey on Housing Finance in Transition Economies.....		70
1. Primary (Lending) Market.....		70
(1) Lender and Borrower Structure.....		70
(2) Major Lenders.....		71
(3) Typical Loan Products.....		72
(4) Loan Conditions.....		73
(5) Housing Loans Outstanding.....		74
(6) Mortgage Insurance.....		76
(7) Contract Savings Schemes (CSS).....		77
2. Secondary (Funding) Market.....		78
(1) Funding Instruments.....		78
(2) Mortgage Bonds.....		78
3. Government Support (Government Subsidies).....		80
4. Regulations (Legal Framework).....		81

<i>Part II</i>	HOUSING FINANCE MARKETS IN SELECTED TRANSITION ECONOMIES	83
Chapter 1.	HOUSING FINANCE IN POLAND <i>by Karol Skiba</i>	85
Chapter 2.	HOUSING FINANCE IN HUNGARY <i>by András Bethlendi and Gergely Kiss</i>	103
Chapter 3.	HOUSING FINANCE IN CZECH REPUBLIC <i>by Daniela Grabmüllerová</i>	117
Chapter 4.	HOUSING FINANCE IN SLOVAK REPUBLIC <i>by Dana Rigaszova</i>	141
Chapter 5.	HOUSING FINANCE IN LITHUANIA	155
Chapter 6.	HOUSING FINANCE IN LATVIA <i>by Ilze Osa</i>	185
Chapter 7.	HOUSING FINANCE IN ESTONIA <i>by Jana Kask, Tarmo Klettenberg, Lembit Olev</i>	209
Chapter 8.	HOUSING FINANCE IN SLOVENIA <i>by Barbara Staric-Strajnar</i>	223
Chapter 9.	HOUSING FINANCE IN CROATIA <i>by Mladen Mirko Tepus</i>	237
Chapter 10.	HOUSING FINANCE IN ROMANIA <i>by Diana Popescu, Ion Bejan, Mihaela Kalogerakos</i>	263
Chapter 11.	HOUSING FINANCE IN UKRAINE <i>by Oleksiy Pylypets, Pavlo Matiyash</i>	269
Chapter 12.	DEVELOPMENT OF MORTGAGE SYSTEM IN KAZAKHSTAN <i>by Anuar Karpykov</i>	281
Annex A.	SUMMARY OF THE MEETING	293
	Introduction.....	293
	1. Overview of Mortgage Markets in Transition Economies.....	293
	2. Effective Housing Finance Systems for the Low-Income Market.....	297
	3. Safety and Soundness of Mortgage Markets.....	302
	4. Innovations in Mortgage Insurance.....	305
	5. Development of Different Secondary Mortgage Markets and Instruments	308
	Conclusion	311
Agenda.....		312



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