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## **Workshop 1 - East European Housing & Urban Policy**

### **Housing finance efficiency in the Czech Republic**

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# Housing finance efficiency in the Czech Republic

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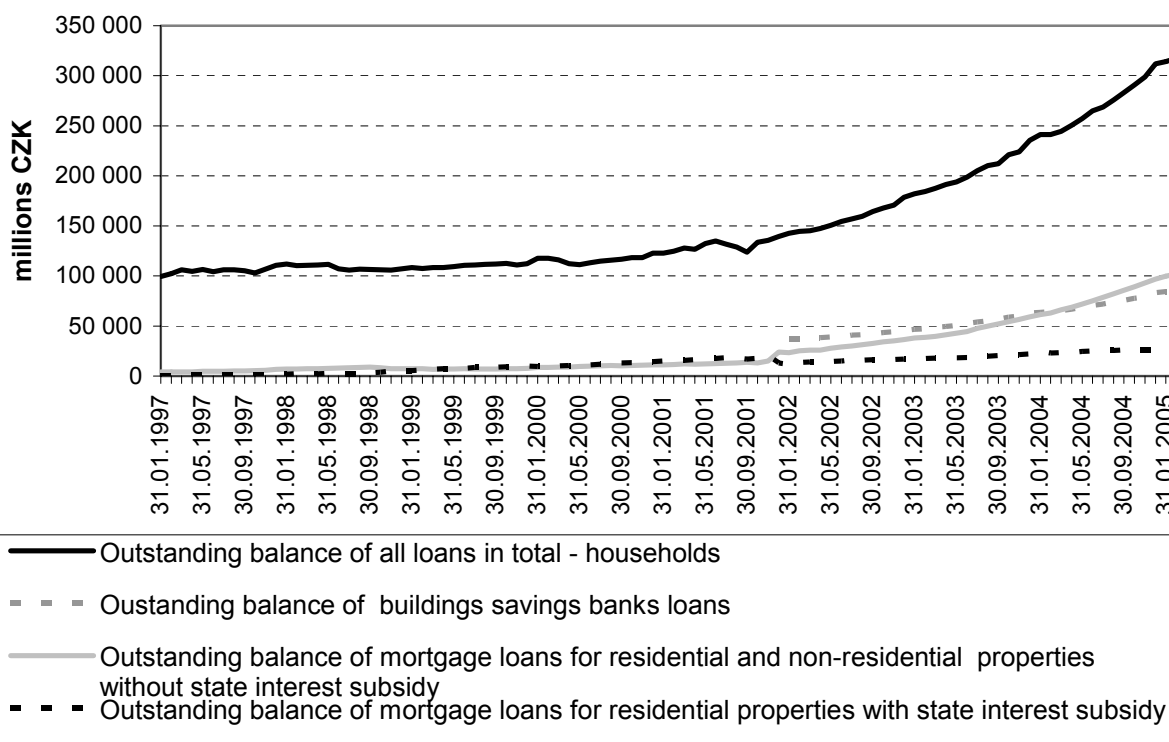
*The paper aims to analyze the housing finance efficiency in the Czech Republic, especially so called 'intermediation efficiency'. The 'intermediation efficiency' is understood as a set of institutional factors, the interest, credit, liquid and other risks, government subsidies and legislative conditions, which may contribute to higher costs of intermediating housing loans (i.e. to a decrease in intermediation efficiency). The methodology of the research among the banks providing mortgage loans and buildings savings banks in the Czech Republic was based on a combination of quantitative and qualitative surveys, including an analysis of secondary data. The purpose of the research was to get an idea about how efficient the housing finance market in the Czech Republic is as a whole, and, using the knowledge of how the housing finance markets work in the countries of the EU and of the methods for measuring efficiency used in advanced EU countries, point out its potential weaknesses and shortcomings.*

## 1. Introduction

According to the statistics (see Figure 1) provided by the Czech National Bank the level of Czech household indebtedness started to grow sharply from the beginning of 2000 (after the end of economic recession in 1997 – 1998). The increase in household indebtedness was closely connected with the growing volume of outstanding housing loans. In January 1997 the outstanding mortgage balance amounted only to 4.4 % of total volume of outstanding loans. In February 2005 this share (including the outstanding balance of buildings savings banks) has been already equal to 67.4 %. The rapid increase in levels of outstanding housing loans was connected with the economic upturn, i.e. falling nominal interest rates, inflation, growing household disposable income and growing GDP.

Figure 2 shows the relation between the total household indebtedness and GDP (in %) and the development of ratio of outstanding mortgage balance to GDP during 1995 – 2004.

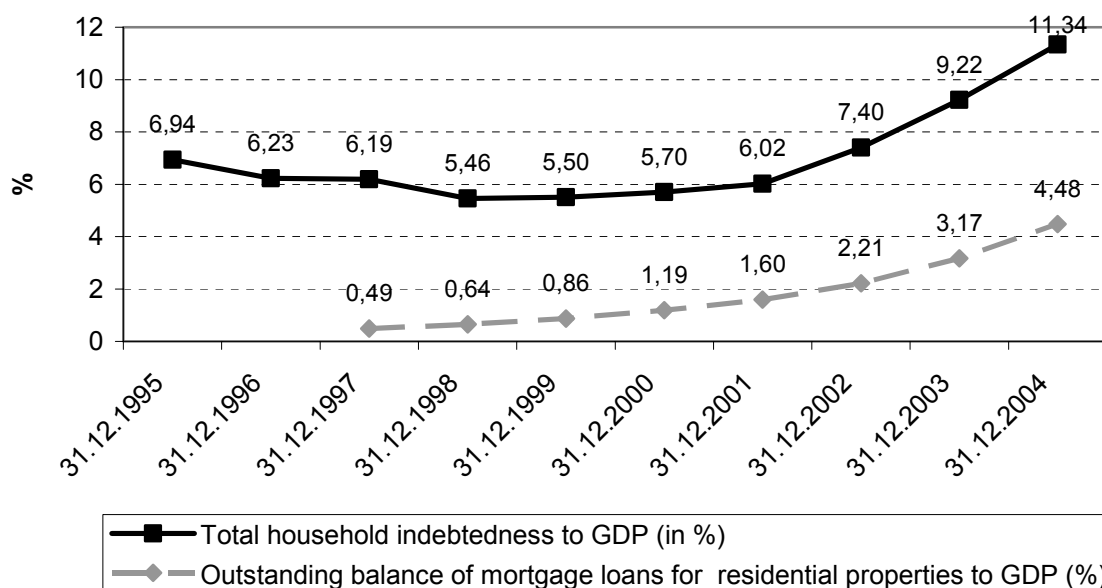
**Figure 1: The level and structure of outstanding loans granted to Czech households in 1997-2005 according to the type of loan**



Source: Czech national bank (loans to households in total (residents) in CZK and foreign currencies).

Notice: the figure presents values of outstanding loans to the end of each month, i.e. initial values plus the volume of new granted loans less the repayments of previously granted loans. The interest subsidy was directly linked to the development of interest rates in the economy, with respect to the fall of interest rates the general subsidy was cancelled in 2003. This pertains to the interest subsidy provided for mortgage loans for new housing. The interest subsidy for mortgage credit for young people up to the age of 36 was in 2004 1 percentage point and might be used to acquire older housing (at least 2 years from the official approval of a flat for use). The interest subsidy for young people was cancelled in 2005.

**Figure 2: The total indebtedness of households and outstanding mortgage balance to GDP in 1995 - 2004**



Notice: figures represent the ratio of outstanding household loans to GDP in current prices in a given year. The statistics of the Czech National Bank doesn't allow distinguish the volumes of outstanding mortgage loans for residential and non-residential properties. The outstanding buildings savings loans were not included in the calculation because the Czech National Bank provides the data only since 2002.

Source: Czech Statistical Office (GDP), Czech National Bank (volumes of outstanding loans).

Despite the fact that the household indebtedness in the Czech Republic has been quickly risen since 2000, as shown above, the final values are still low in comparison with the situation in other developed EU countries (see Table 1). The share of outstanding loans for residential purposes from the total outstanding loans granted to households almost doubled between 2002 and 2004 but it is still quite far from the average ratio known from other EU countries. It is necessary to mention, that in the Czech Republic mortgage loans could not have been used for equity withdrawal (or release) till 2003, whereas in EU countries equity withdrawal mortgages are common already for almost one decade.

**Table 1: The household indebtedness in the Czech Republic and EU countries in 2001 – 2004**

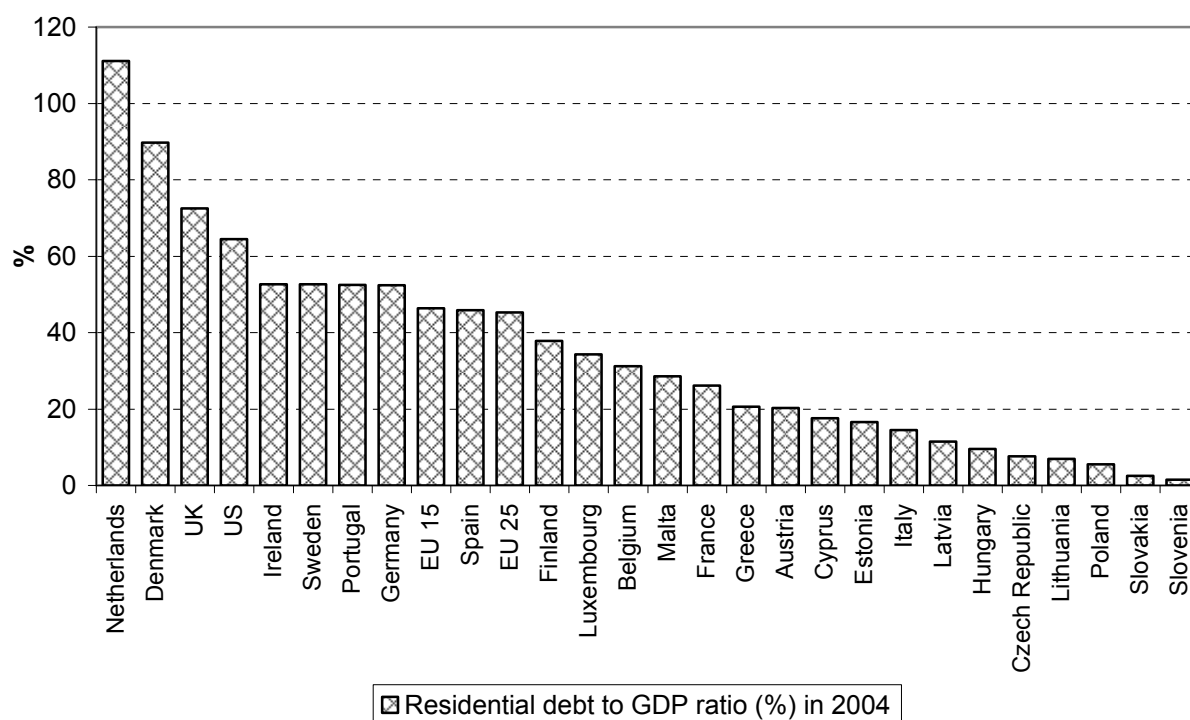
	2002		2003		2004	
	CR	EU	CR	EU	CR	EU
household loans / total loans	19.9	44.8	24.7	45.5	30.8	47.1
<b>household loans for residential properties / total loans</b>	<b>11.0</b>	<b>27.2</b>	<b>15.1</b>	<b>27.9</b>	<b>20.4</b>	<b>29.2</b>
consumption household loans / total loans	5.8	6.5	6.4	5.7	6.8	5.8
household loans / private consumption <sup>*)</sup>	14.6	89.2	18.4	92.5	22.9	96.2
consumption household loans / private consumption <sup>*)</sup>	4.3	12.8	4.8	11.6	5.1	11.8

Source: own computations according to Monthly Bulletins of European Central Bank, Czech Statistical Office data and Czech National Bank.

<sup>\*)</sup> In the case of Czech Republic expenditures on individual household consumption in current prices.

The level of household indebtedness following from mortgage loans for residential purposes on country GDP in comparison with the situation in selected European countries (Figure 3) is also relatively low (7.6%). Though there is a boom on mortgage market now, the interest in mortgage financing among Czech citizen was for a long period of transition marginal and substantially postponed. Though macroeconomic performance is probably the main reason for this, the question is, whether it was caused also by other, socio-cultural factors.

**Figure 3: Residential Debt to GDP ratio**



Source: European Mortgage Federation („European mortgage markets continue to boom in 2004“, Press Release from 12 October 2005).

To answer the question we analysed data from the *Housing Attitudes in the Czech Republic 2001* survey (quota survey, 3,500 respondents) realized by the Socio-economics of Housing team at the Institute of Sociology, Academy of Sciences of the Czech Republic. The respondents in the survey were asked, if they actually use or if they consider use of the mortgage loan in future for purchasing of own house or dwelling. The share of people actually using or consider use of the mortgage loan in the future not surprisingly rose with household income. However, there was a significant share of people from households with relatively high incomes, who do not consider the option to take a mortgage loan. Therefore we formulated and tested a hypothesis that besides the economic situation of the household some other (socio-cultural) factors could play a role in respondent’s decision to take a loan or not. We found out that there exists a significant share of people who do not live in owner-occupied housing (i.e. they are not homeowners or relatives of homeowners), who prefer homeownership as “ideal” tenure, who could afford to take a mortgage loan for the purchase of an average house or a flat (i.e. with household incomes sufficient to obtain an “average” mortgage loan) and who do not consider this option for future. Based on this finding we reached the conclusion that socio-cultural factors in the Czech Republic have a significant influence on decision-making of households relating to the use of mortgage loans. However, with respect to the lack of comparable international data we were unable to test if the significance of non-economic factors in decision-making related to housing loans is among Czech population stronger than in other countries.

Study of the CNB (Czech National Bank) from 2004 (Pašaličová, Stiller 2004) examining the effect of monetary policy on household consumer decision-making concluded that the decisive factor influencing Czech household consumption is disposable income. The authors of the study used data on household consumption expenditures and consumption loans granted to households in 1996 – 2003 and used the methodology described in Bondt (1999).

The influence of real interest rates and the mortgage credits supply (measured by the interest margin defined as a difference between the average interest rate of loans granted to households and risk-free interest rate) on the consumption expenditures of households was very weak. The authors also concluded that significant influence on households' decisions to take a loan had sharply falling nominal interest rates rather than real interest rates, even if in real terms the loan repayments rose under these conditions.

## 2. Objectives, methodology, data

This paper is focused on an evaluation of “intermediation” efficiency of housing finance system in the Czech Republic, that is, tries to answer the question what factors on the institutional side, the management of interest, credit, liquidity and other risks, government subsidies and legislative conditions, make the costs of granting housing loans (i.e. loans from mortgage banks and from building savings banks) higher. The goal of the paper was to get an information of how efficient is the mortgage market in the Czech Republic, and using knowledge about the way housing loans markets work in the advanced countries of the EU, together with efficiency testing methods used in EU countries, to point out its potential weak points and shortcomings.

The research methodology was based on a combination of quantitative and qualitative surveys, including analyses of secondary data. During the quantitative questionnaire survey the major representatives from all commercial and savings banks providing housing loans were asked to fill in a short questionnaire containing information that is not easily accessible from the official statistics like number of completed transactions, total amount of loans granted, average interest rates on housing loans (now and in the past), average age of clients (now and in the past), the final use of credits, type of credits granted, forms of loan funding, the solvency requirements for granting various types of credit, the values of the loan-to-value ratios (average and maximum), the operational costs of the bank, the methods used for evaluation and revaluation of mortgages, default rates, the size of credit fees and prepayment penalties, etc.

The qualitative part of the research was conducted later on by a roughly one-hour interview, during which major representatives of banks were asked to answer more detailed semi-standard questions on mortgage loan processing in their respective banks. The main goal of the qualitative survey was to get the better overview of mortgage industry performance. The questions for the qualitative research were developed with the use of studies by Diamond and Lea (1992) and UNECE (2005); they attached following areas:

- 1) **Funding** – what are the main sources for funding housing loans, why is the particular predominant type used, what are the costs of funding and what could contribute to reducing those costs, to what degree do the banks experience insufficient resources for funding and/or have problems acquiring them on financial and capital markets. In other words, the question was, whether financial institutions granting housing loans in the Czech Republic see any specific obstacles preventing the accumulation of cheap capital that can be used to fund housing loans and/or obstacles preventing the effective allocation of capital according to the will of investors.
- 2) **Credit risk** generally refers to the breach of the agreed loan terms by a client. The research examined an effort of banks to minimise this type of risk and approaches of the banks how to secure themselves against it (e.g. by means of higher interest margins, mortgage insurance, prepayment penalties, differentiation of interest rates for loans

with different LTV etc.). According to foreign studies (Diamond and Lea 1992, UNECE 2005) evidence of a high credit risk is poor access to housing loans combined with a high LTV, a conservative approach to granting loans to only a relatively limited number of clients, and excluding first-time buyers of owner-occupied housing from the market in connection with their lack of an adequate volume of resources of their own to obtain a housing loan and acquire owner-occupied housing (*down payment*).

- 3) **Interest risk**, i.e. the risk stemming from unfavourable developments in market interest rates. The subject of research in this case was examining to what extent banks in the Czech Republic pass on the interest risk to their clients and to what extent they use various types of interest risk management (adjusting the structure of assets and liabilities from the perspective of sensitivity to shifts in interest rates, by means of forward transactions). Diamond and Lea (1992) cite as the efficiency criteria in this sphere in particular access to a wide range of mortgage products with different interest rate settings (variable, fixed), different repayment terms and prepayment options.
- 4) **Liquidity risk**, i.e. generally the ability of the bank to obtain additional sources to fund growing demand for housing loans. With regard to liquidity criteria the banks were asked how bound they are by the liquidity rules established by the central bank and whether a relaxation of those rules would in their opinion help make mortgage more widespread and less expensive. In addition, the research surveyed the existence of an option (and the interest in such an option) to sell part or an entire portfolio of outstanding loans to the third party (use of secondary mortgage market facilities).
- 5) **Operation costs**, i.e. the costs associated with obtaining resources and granting housing loans as a criterion of intermediary efficiency. The level of costs is usually indirectly affected by regulatory measures and market and institutional structures. Foreign studies (Diamond and Lea 1992, UNECE 2005) have shown that potential sources of inefficiency in this sphere may be an oligopolistic market structure, the absence of behaviour designed at maximising profit, high costs connected with the process of loan procurement (e.g. the costs of assessing a client's credibility, the degree of consultancy necessary for granting a loan and the related qualification requirements for the relevant bank employee and the level of his/her salary, etc.) and the low level of standardisation of products.
- 6) **Government intervention** (or generally any kind of external regulatory intervention, not necessarily just from the government) – in short, how much government subsidies serve to distort the market from the perspective of representatives of commercial and building savings banks, how much they are beneficial, and what would be the optimal role of the state according to their opinion.

The analysis of secondary data mainly involved a study of annual reports of banks, specialised domestic and foreign studies and articles specialising in financial issues. Both the quantitative and qualitative surveys were carried out in June and July 2005.

The universal banks can provide mortgage loans if they receive special licence from the Czech National Bank. There are eight universal (commercial) banks in the Czech Republic that have the licence for mortgage financing. Additional two banks have such a licence and they are specialized exclusively on mortgage financing - mortgage banks; loans are funded by emissions of mortgage bonds there; the vast majority of banks are thus universal banks, i.e. they provide also retail banking operations. With the exception of two banks having relatively small share of the market (from the perspective of the volume of outstanding mortgage loans) the representatives of all other banks, including leading mortgage lenders, were kindly participating in the survey.

In the case of building savings banks there was very low willingness to take part in the survey, and we only managed to make successful contact with three out of the total six banks operating in the Czech Republic. The building savings banks were at the time of our survey under investigation of Czech Antimonopoly Bureau. The reason of this investigation was a suspicion of the oligopoly behaviour. This was the main reason why they refused to participate in the survey.

**Market-Based Housing Finance Efficiency in the Czech Republic**

***Mortgage loans and mortgage banks***

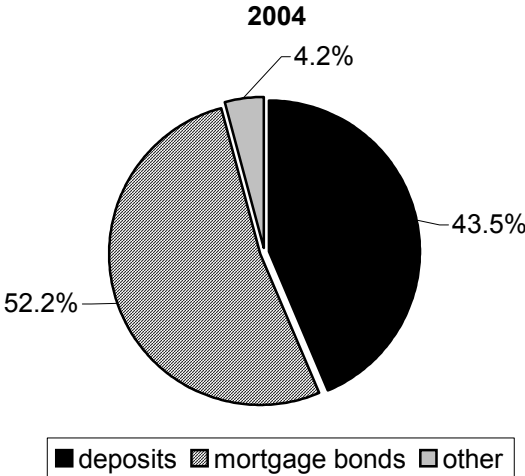
According to data of the Czech Banking Association the number of mortgage loans granted to citizens reached 137,275 with total nominal value of CZK 154.4 billions up to the end of 2004. Mortgage loans for residential purposes form 91.6% (i.e. 125,690 loans) from the total number of mortgage loans and 88% (CZK 135.9 billions) from total loan volume. The outstanding mortgage balance amounted to 77.5% of the principal of granted loans. In the first quarter of 2005 banks granted 8,406 mortgage loans with total volume of 11.1 billions CZK.

**a) Funding**

In the field of funding the Czech mortgage loan providers are not experiencing a lack of resources or a need for additional financial tools (except mortgage bonds, deposits and equity) that could enable them to obtain additional cheap sources. In order to make mortgage loans less expensive it would help to reduce the yield required by investors into mortgage bonds. According to the comments of some representatives of mortgage banks, Czech investors do not yet appreciate the higher security of the mortgage debenture bond (although the quantitative analysis did not confirm this analysis).

Short-term money (i.e. deposits) is according to the opinion of providers of mortgage loans cheaper than emissions of mortgage bonds, therefore universal banks providing retail banking are in favourable position in comparison to specialized mortgage banks. The structure of financial sources used by the Czech mortgage lenders shows Figure 4.

**Figure 4: Structure of financial sources used for financing of mortgage loans (weighted average) in 2004**

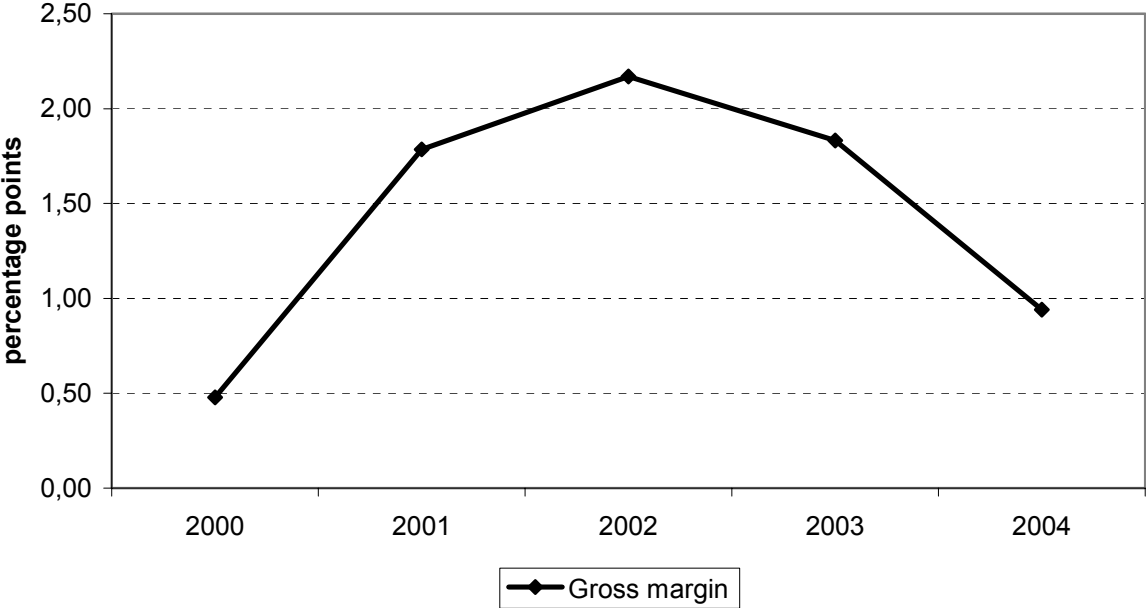


*Source: Mortgage loans in the CR survey, own calculations.*  
 Note: The weights were the banks' shares in the total amount of residential loans granted to citizens up to 31 December 2004.



The final margin between (weighted) average costs of funding of mortgage loans (i.e. rates on mortgage bonds, deposits, own capital) and the average cost of mortgage loans granted in 2004 (i.e. the average mortgage interest rate) is surprisingly low - equal to between 1.07 and 1.35 percentage points<sup>1</sup>. The average level of gross margin, which was calculated as the difference between the average weighted<sup>2</sup> interest rate from mortgage loans granted by banks in 2000–2004 and the average annual gross yield of government five-year bonds during the same period was 1.44 percentage points, with the margin falling over time to a value below one percentage point in 2004 (see Figure 5). From a comparison of this value with values of gross margins in countries with advanced mortgage markets (see Table 2) it can be claimed somewhat cautiously that the Czech mortgage loan market is relatively efficient and that its efficiency in the monitored period increased. It is necessary to notice that the comparability of figures in Table 2 is somewhat disputable, because Diamond and Lea (1992) calculated gross margins for selected developed countries for the period of the 80s and the beginning of 90s, whereas the figure for the Czech Republic relates to the period 2000–2004. The situation on the housing and mortgage markets in these two periods was significantly different. However we were unable to find more actual relevant data for the purpose of comparison.

**Figure 5: Gross margin as the difference between the interest rate from mortgage loans granted and gross yield on five-year government bonds**



Note: The so-called gross margin was calculated in the Czech case as the difference between average weighted<sup>3</sup> interest rate from mortgage loans granted by banks in the individual years between 2000 and 2004 and average annual gross yield of state five-year bonds during the same period.

<sup>1</sup> We used two methods of calculation of the spread between the price of funds used by banks for financing mortgage loans and the average cost of mortgage loans (i.e. average interest rate). In the first case were cost of deposits approximated by 5 years interest swap (the spread was 1.07 percentage points in this case). In the second case we used as an approximation of (alternative) costs of deposits average yield to maturity of 5 year government bonds (the spread was 1.35 percentage points in this case).

<sup>2</sup> The weights were the banks' shares in the total amount of residential loans granted to citizens up to 31 December 2004.

<sup>3</sup> The weights were banks' shares in the total amount of residential mortgage loans provided to citizens up to 31 December 2004.

**Table 2: Comparison of gross margins among selected countries**

<i>Country</i>	<i>Interst and maturity of mortgage loan</i>	<i>Benchmark</i>	<i>Period</i>	<i>Gross margin (basic points)</i>
<b>Denmark</b>	Fixed (20 years)	10 year government bond	1986-91	128
<b>Germany</b>	Fixed (10 years)	10 year government bond	1982-91	147
	Variable	Yield curve	1982-91	215
	Fixed (10 years)	5 year government bond	1982-91	-221
	Variable	1 year government bond	1982-91	276
	55/15/10	10 year government bond	1987-91	-
	65/15	Yield curve	1982-91	-
<b>France</b>	Fixed (15 years)	10 year government bond	1987-91	232
	Fixed (15 years)	10 year government bond	1986-90	234
<b>Great Britain</b>	Variable	Yield curve	1987-91	165
	Variable	3 months government bond	1987-91	151
<b>USA</b>	Fixed (30 years)	1 year government bond	1982-87	223
			1988-91	207
	Variable	10 year government bond	1988-91	-
<b>Czech Republic</b>	Fixed (5 years)	5 year government bond	2000-2004	144

Source: Diamond and Lea 1992, own calculations (Czech Republic).

## **b) Credit and interest risks**

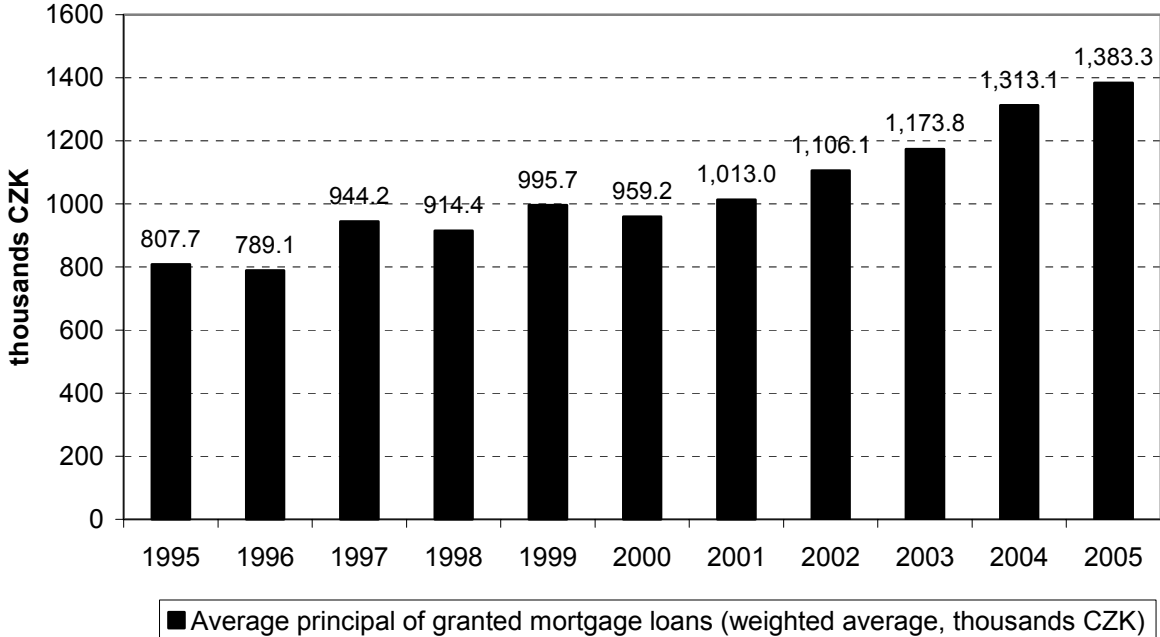
Czech mortgage lenders, unlike the situation in countries with advanced mortgage loan markets, do not offer practically any advantages targeting so-called first-time buyers (i.e. people who are acquiring their first owner-occupied housing). The solvency criteria are applied more or less across the board to all applicants, and the banks are trying to make loans accessible only by means of added security (a co-applicant), the supply of a broad range of interest rate fixings, and various promotional activities in the form of discounts on the fee for a setting up a loan. This fact makes loans less accessible, especially to young people, who, as the *Housing Attitudes Survey 2001* shows, constitute the main body of potential clients for mortgage lenders. The complexity of the market (the variability of different loan products) and the effective assessment of risk (the projection of some of the client's "weaknesses" into the risk premium when the interest rate is being set) are weak, and therefore for many potential clients loans continue to remain unaffordable. The average age of mortgage loan applicant is around 36, and it does not appear to have gone down significantly in recent years. The question arises as to how effective are the tools that banks use to increase mortgage loan access to a wider circle of clients (especially younger ones).

The Czech mortgage loan market lacks a broader spectrum of products (flexible mortgages, interest-only mortgages, equity release mortgages, etc.) combined with a more elaborate supply of consultancy services on the part of specialised institutions, which could explain to clients the principles involved in various products, their advantages and disadvantages, and would help them to obtain the loan best suited to their needs. The alternatives to the traditional and by far the mainly applied model of mortgage loan with fixed annuity payments are not adequately marketed to the public. It is evident that specialised mortgage banks in the

Czech Republic provide a wider range of products, repayment options, and generally a more individualised approach to clients compared to universal banks.

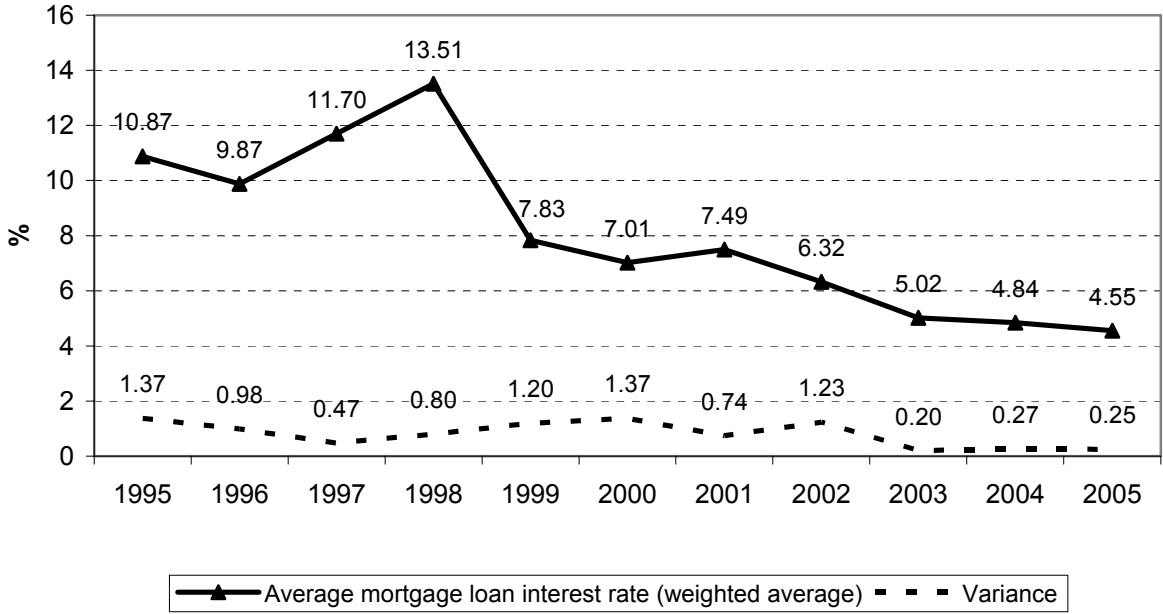
The banks generally underestimate the price risk, which is projected into the methods used to revalue mortgages, methods that are not convincing or transparent, which are usually restricted only to real estates of high nominal values or for foreclosure in the case of problem loans. It seems that banks rely on relatively conservative initial valuation of real estates (when loans are extended), high price appreciation (experience from the past till 2003) and low value of average LTV. In recent years there has been continuous and constant (without any major deviations) growth in the volume of granted home mortgage loans (Figure 6), decrease in average mortgage loan interest rates (Figure 7) and rise in both the maximum and the average LTV rates (Figure 8).

Figure 6: Average principal of granted mortgage loans during 1995 – 2005



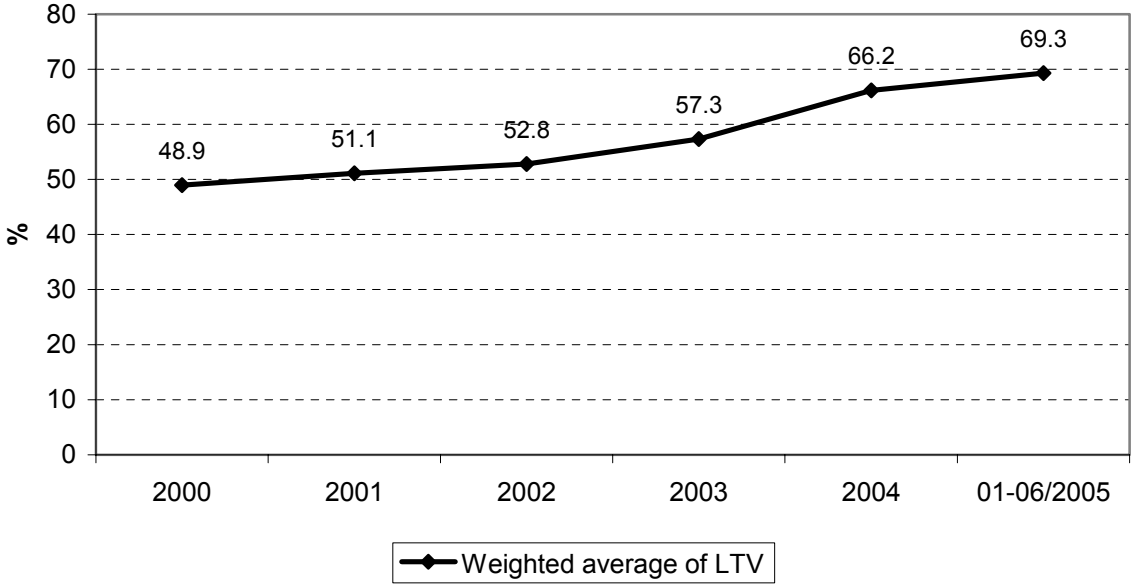
Source: Mortgage loans in the CR survey.

**Figure 7: Average mortgage loan interest rate 1995–2005**



Source: Mortgage loans in the CR survey.  
 Note: The weights were the banks’ shares in the total amount of residential loans granted to citizens up to 31 December 2004.

**Figure 8: Weighted average LTV for residential mortgage loans granted to physical persons in 2000 – 2005**

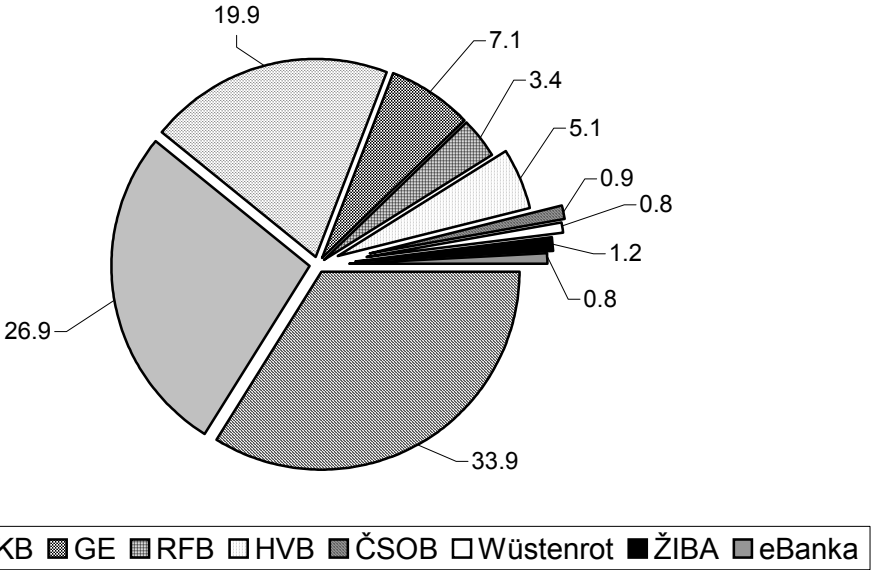


Source: Mortgage loans in the CR survey.  
 Note: The weights were the banks’ shares in the total amount of residential loans granted to citizens up to 31 December 2004.

Prepayment penalties are intolerably high (about 10% of the outstanding principal), and under the circumstances of rising interest rates very hard to defend. These sanctions raise the cost of re-financing existing mortgage loans in the case of property sale, they reduce the competition (the client is bound to one bank throughout the entire period for which the interest rate is fixed) and motivate clients to engage in riskier behaviour (clients are “pressed” into fixed

rates for the short term so as to avoid entirely forfeiting the option of mortgage loan prepayment). Figure 9 shows the division of the mortgage market among main mortgage lenders. As we may see, three main mortgage lenders granted almost 81% of the total volume of outstanding mortgage loans. The competition between banks at present is focused mainly on obtaining new clients, while competition over clients transferring between individual banks is practically insignificant. This results in high transaction costs for clients in connection with the move to transfer from one bank to another (the need to again assess the client’s credibility, make property valuation and pay substantial fees connected with setting up a loan, etc.).

**Figure 9: Mortgage lenders according to share on total volume of outstanding mortgages at the end of 2004 (in %)**



Source: Czech Banking Association.

Due to the difficult re-financing the existing bank clients are left in a position of insecurity about how the new interest rate will be set after the agreed fixed-rate term is over. There is therefore a room both for the use of methods to provide the client with greater security and for higher competition between lenders (in the form of easing the procedure of refinancing, establishing clear rules how new interest rates will be set when the period of fixed rate finishes etc.). The default rate is low (in the period between 1995 and 2005 was around 1%). In recent years a slight rise in default rate appeared.

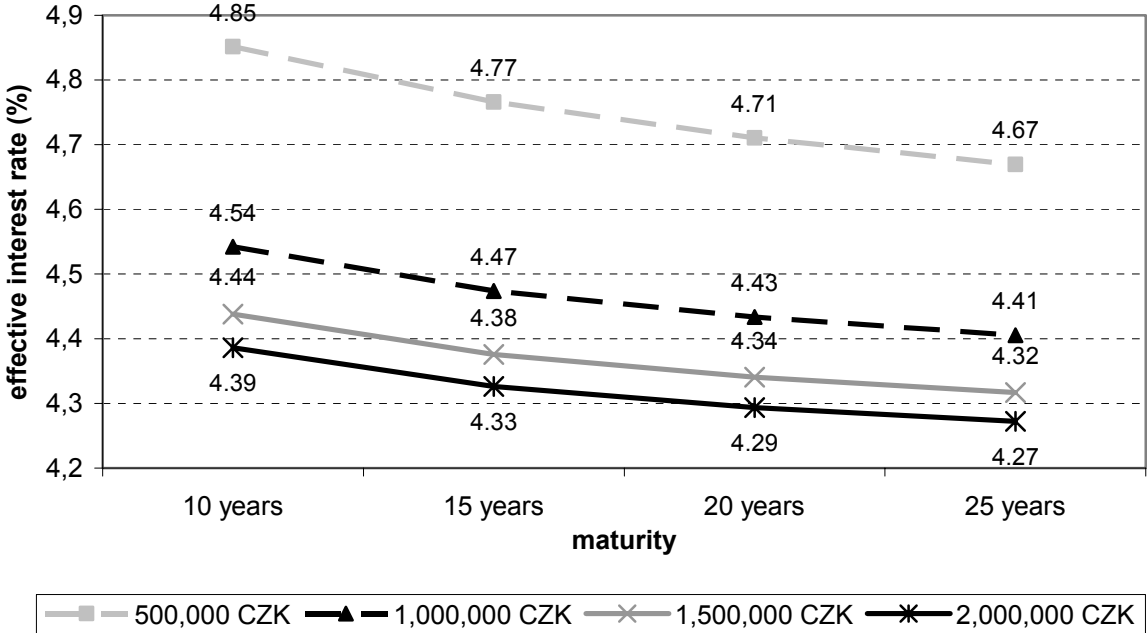
**c) Liquidity risk, operation costs and government intervention**

There is a relatively high degree of mortgage market concentration in the Czech Republic but in comparison with other transition economies it is one of the lowest. The five largest providers of residential mortgage loans (measured by their share on total volume of outstanding mortgages at the end of 2004) control 96.3% of the market, and the value of the Herfindahl index (2 359 points) is also relatively high in comparison with Western countries. However, with a dose caution it can be claimed that the mortgage market in the Czech Republic is not, given its size, seriously negatively affected by monopolistic or oligopolistic behavioural features.

The performance cost indicators improved in 2004 when compared with the situation in 2003: the ratio of operational costs to net profit decreased in average (weighted average) from 2.22 to 1.79), the rentability of average equity ROAE increased from 19.9% to 20.1%, the rentability of average assets ROAA increased from 1.2% to 1.4% and net profit per one employee increased from CZK 748.3 thousands to CZK 1,007.4 thousands. As we may see, the average values of the profitability ratios in both years evaluated attained satisfactory levels.

Taking into account the additional fees connected with setting up and administering a loan into the computation of “effective” interest rate the average nominal mortgage rate would increase by up to 0.4 of a percentage point for CZK 1 mil. loan. A substantial portion of the interest costs therefore remain, from the client’s perspective, “hidden”, which decreases market transparency and reduces the quality of the services offered.

**Figure 10: The effective interest rate on mortgage loans in relation to payment term and the level of securities**



Source: Mortgage loans in the CR survey, own calculations.

Note: figure 7 was constructed with the assumption of a nominal annual interest rate of 4.09% (corresponding to the average interest rate offered by banks in a 5-year fix and the 70% LTV in May 2005), a one-time fee for setting up the loan set at 0.8% of the loan’s nominal value, and a monthly fee of 150 CZK for operating the bank account. The tax break (the possibility of deducting unpaid interest on the loan from the taxation base in personal income tax returns) was not taken into consideration in the calculations.

According to the representatives of banks, there are two things that increase credit risk and loan costs: slow work of courts during the foreclosure and slow work of the property register (delaying mortgage bonds emissions even by several months). Representatives of mortgage lenders do not perceive building savings banks as direct or unfair competitors. Although occasionally it was mentioned that state support for building savings puts the banks into a slightly more disadvantaged position, but it was not seen as a fundamental problem. It may also be due to the fact that many lenders are members of financial groups that also contain building savings banks (a model similar to the German system of market-based financing for owner-occupied housing). The competition within these powerful financial groups can be

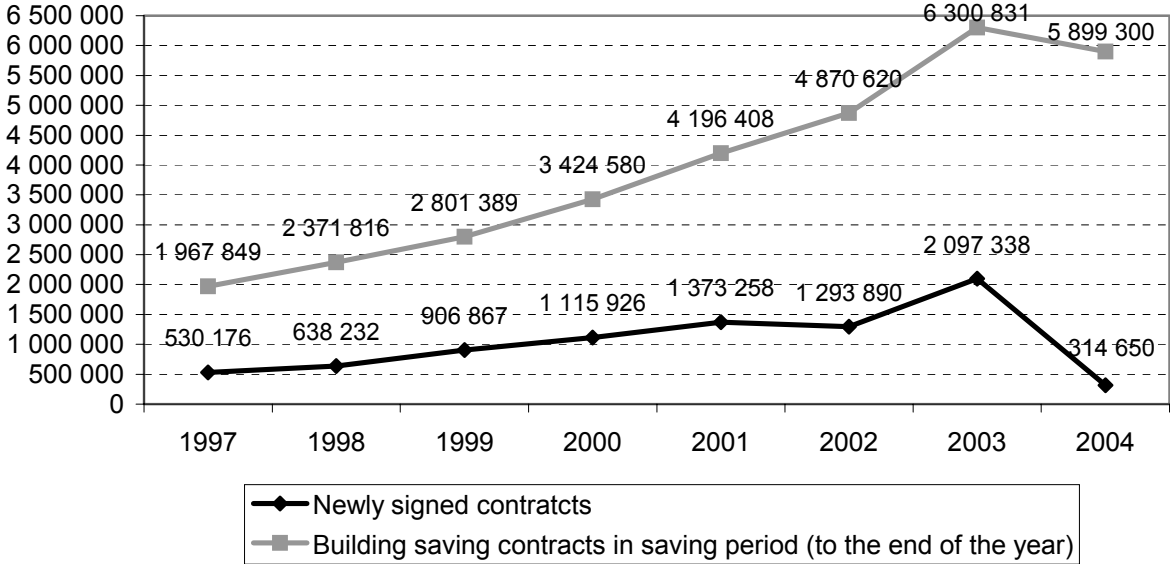
limited by the specific internal rules of the groups. Naturally this “product concentration” can produce a certain degree of inefficiency, but that particular point was not examined in the scope of this project.

**Building Savings Banks**

The analysis of the efficiency of buildings savings banks were complicated due to very limited willingness of building savings banks to participate in the survey (see above). Therefore we had to use only official data from the Ministry of Finance and secondary data, i.e. annual reports of particular building savings banks.

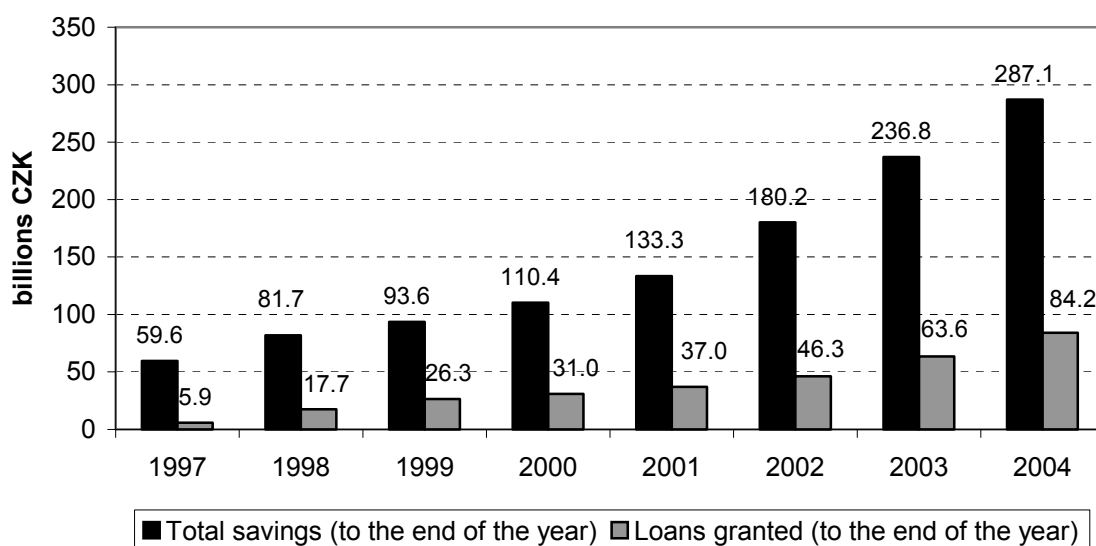
Figures 11 and 12 show basic performance indicators of building savings scheme in the Czech Republic, i.e. the number of valid building savings contracts, number of newly concluded contracts during the period 1997–2004, total volume of savings and total volume of granted loans. In 2004 the trend of growth in the number of newly signed contracts and contracts in the saving stage was interrupted as a result of an amendment to the law on building savings that came into effect in 2004 (see Figure 11). The amendment introduced the reduction of state support - until the end of 2003 the state premium to savings amounted to 25% of the annual deposit up to the maximum of CZK 4,500 and since 2004 the state support has been reduced to 15% of the annual deposit up to the maximum of CZK 3,000) and extended minimum saving period (from 5 to 6 years). However, the total volume of state support paid from the state budget rose and amounted CZK 16.1 billions in 2005 (in comparison to CZK 15.3 billions in 2004).

**Figure 11: Number of building savings contracts**



Source: Ministry of Finance of the Czech Republic.

**Figure 12: Total savings and volume of granted loans in the period 1997 – 2004**

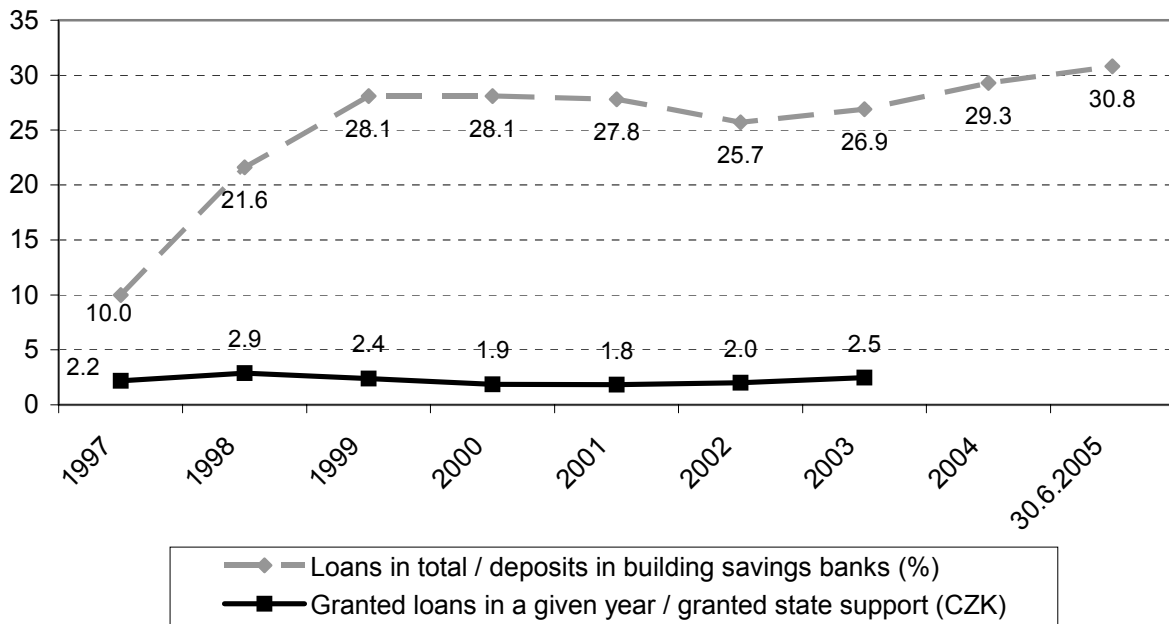


*Source: Ministry of Finance of the Czech Republic.*

The value of the coefficient of the outstanding loan-to-savings balance (the share of the balance of loan accounts to the balance of savings accounts) in the building savings sector in the Czech Republic reached 30.8% by 30 June 2005. Although from 2002 (after stagnation and a slight decline in 1999 – 2002) the value of this indicator shows an increasing tendency, it is still below the level in developed countries with similar system of housing savings (Austria, Germany), where it ranges between 70% and 80%. The reason for the low value of the loan balance in the Czech Republic may be, in addition to the short period of time since the system of building savings was introduced in the Czech Republic, the too “generous” state support, which attracts an excessively large number of clients into the system. The high public costs and not very clear and transparent outcomes of the whole systems is often defended by argument that housing savings schemes were introduced not to support housing consumption but more to support household saving behaviour.



**Figure 13: Loan activity of building savings banks**



### a) Funding

The representatives of building savings banks surveyed by qualitative research consider the interest risk to be “the most important” type of risk that building savings banks are exposed to. The fall in interest rates on the inter-bank market in the Czech Republic, the impossibility of using financial derivatives for security against the interest risk (up to 2004), and the careless interest rate policy of building savings banks in recent years led to a sharp fall in the profits of building savings banks coming from interest rate margins (and this fact was directly linked to a rise in fees on building savings).

The representatives of building savings banks consider the selection of financial instruments into which they can deposit their disposable resources to be relatively sufficient now. On the other hand, they would welcome an expansion of the range of purposes that loans can be used for (for example, to finance the purchase of secondary housing and/or other durables connected with housing, like furniture, household equipment, etc.).

### b) Credit and interest risks

The market on building savings in the Czech Republic shows a relatively high degree of concentration<sup>4</sup>, which is slightly lower than the degree of concentration in the mortgage loan market and need not necessarily be a sign of inefficiency. The measure of concentration applied does not sufficiently take into account the size of the national market, and moreover, it was not possible to make a comparison with the measures of the concentration of the market in building savings in advanced countries (owing to a lack of necessary statistical data).

Building savings banks are aware of the price risk and therefore usually extend loans with a maximum LTV of 80%-85%. The methods used for the revaluation of mortgages with a

<sup>4</sup> The five largest building savings banks in the Czech Republic (measured from the total volume of deposits up to 31 December 2004) control 96.3% of the market. The value of the Herfindahl index on 31 December 2004 was 2,251.

higher nominal value are, however, just a non-transparent and unconvincing as in the case of banks providing mortgage loans. Between 2003 and 2004 a slight improvement occurred with regard to the profitability indicators (average own capital and average assets), and net profit per employee also increased, while the share of gross yield from fees and commissions out of total gross yield decreased. Conversely, for every crown of net profit in 2004 there was a higher amount of operational costs than in 2003. The performance of universal and mortgage banks providing mortgage loans attained better values than those of the building savings banks, especially the values for the profitability of average own capital, as demonstrated in the following table.

**Table 3: Selected indicators of the profitability of mortgage banks and building savings banks**

	<i>Mortgage banks</i>		<i>Building savings banks</i>	
	<b>2003</b>	<b>2004</b>	<b>2003</b>	<b>2004</b>
	<i>weighted average</i>	<i>weighted average</i>	<i>weighted average</i>	<i>weighted average</i>
Ratio of operational costs to net profit (%)	2.22	1.79	2.92	5.65
Net profit per employee (thousands CZK)	748.3	1,007.4	695	712
ROAA (%)	1.2	1.4	0.42	0.46
ROAE (%)	19.9	20.1	11.97	12.50
Gross yields from fees and commissions / total gross yields (%)	-	-	37.4	24.2
Share of non-standard, doubtful and losing claims for clients (%)	-	-	2.12	2.16

Note: The weights were the amounts of residential mortgage loans granted by individual banks to physical persons up to 31 December 2004 in the case of mortgage banks. In the case of building savings banks the weights were constructed according to the amount of client deposits in individual building savings banks up to 31 December 2003 (for data from 2003), or to 31 December 2004 (for data from 2004).

Source: *Annual reports of mortgage banks for 2004 and annual reports for building savings banks for 2003 and 2004.*

The default rate in the building savings sector is higher than among banks (in average about 6%-7%). In part this is a natural phenomenon, considering the higher number of loans provided by building savings banks, their lower nominal value (and therefore greater accessibility to a broader spectrum of clients) and the fact that large part of smaller loans from building savings banks is not secured by mortgage.

### **c) Liquidity risk, operation costs and government intervention**

According to the view of their representatives restructuring “within” individual building savings banks could help to reduce their operation costs. Faster registration of property registers and work of the courts could help to reduce the operation costs. The inefficient work of the register and the courts is evident in the fact that securing a loan with a pledge does not bring the client any significant interest discount in comparison with other methods of loan security. In the view of the representatives of building savings banks the level of efficiency in the building savings sector could be increased if the use of the building savings loans were made more transparent and simpler (the building savings banks have to prove that the loans were used for “housing” purposes but this specification in the law is not clear and unique). In this sphere there is a considerable degree of legislative insecurity, which significantly increases the savings banks’ costs and puts an excessive burden on their clients.

All the respondents reacted negatively to the ideas of enabling clients to move between individual building savings banks without losing state support, or paying the state premium

only to those clients who take the housing loan (currently the eligibility to state premium is included in the saving part of the scheme though savings do not have to be used for housing consumption), or implementation of income targeting for state premiums (known, for example, from Germany). In their opinion such measures would result in higher administrative costs and less transparency of the entire system, liquidity problems for savings banks, longer waiting periods for the allocation of loans, etc. This attitude could be expected as such measures would go against their interest; however high level of state expenditures into the scheme would ask probably for the additional reform of the system in the future. Surprisingly, all the respondents agreed that the level of state support for building savings in the Czech Republic is still considerably higher than in the surrounding countries where these systems also operate.

In terms of the relationship between building savings banks and banks providing mortgage loans the representatives of savings banks follow the opinion that building savings and mortgage loans are based on different philosophies, and therefore the savings banks are not interested in competing directly with mortgage lenders. At the present time they are forced to come up with “mortgage loan” products due to the unfavourable market conditions (low interest rates) and the pressure to increase the loan-savings balance. The fact that the majority of building savings banks are part of financial groups that also contain mortgage loan providers is another reason why the motivation for competition between the providers of the two types of products is not very pronounced.

## **Conclusions**

The market on housing finance (i.e. mortgage market and market on building savings) in the Czech Republic shows a relatively high degree of concentration in comparison with markets in developed EU countries, but in comparison with other transition economies it is one of the lowest. With some caution it is possible conclude that the high degree of concentration does not have to be necessarily a sign of inefficiency. There are clear signs of strong competition on the mortgage market like growing volume of granted loans, increasing LTV, broader spectrum of offered products and falling margins. The efficiency of the housing finance market in the Czech Republic may be negatively affected due to the fact that mortgage lenders and building savings banks are often members of one financial group (a model similar to the German system of market-based financing for owner-occupied housing). The competition within these powerful financial groups can be limited by the specific internal rules of the groups. Naturally this “product concentration” can produce a certain degree of inefficiency, but that particular point was not examined in the scope of this project.

The relatively high degree of competitiveness of mortgage lenders is employed only on recruitment of new clients. The transitions of clients among different lenders are rare because of high transaction costs (connected with the need of repeated proving of credibility, charges for new appraisal of the security and for granting of the loan in the new bank). The borrowers face large uncertainty in setting interest rate after the agreed fixed-rate term is over. There is therefore a room both for the use of methods to provide the client with greater security and for higher competition between lenders (in the form of easing the procedure of refinancing, establishing clear rules how new interest rates will be set when the period of fixed rate finishes etc.).

The banks generally underestimate the price risk, which is projected into the methods used to revalue mortgages, methods that are not convincing or transparent, which are usually

restricted only to real estates of high nominal values or for foreclosure in the case of problem loans. It seems that banks rely on relatively conservative initial valuation of real estates (when loans are extended), high price appreciation (experience from the past till 2003) and low value of average LTV. This fact could present a significant future threat in the light of the growing average and maximum LTV. In this context is necessary to mention a lack of reliable housing price index in the Czech Republic, which could be used by banks for revaluation of mortgages and for identification of current and possible future house price trends.

The current system of state premium on building savings scheme remains questionable; it seems to be too generous and inefficient. The expenditures on state premium constitute the largest part of the total sum of state budget expenditures on housing in the Czech Republic. Despite the positive effect of state support in promoting saving behaviour it is unclear, what is the share of public expenditures used for housing purposes. The value of the coefficient of the outstanding loan-to-savings balance remains low in comparison with other developed countries with similar system of housing savings (Austria, Germany).

Despite several shortcomings described in this paper the “intermediation” efficiency of financial institutions providing housing loans in the Czech Republic could be considered, at least in comparison with other Central and Eastern Europe countries, at relatively high level. With the use of methodology of Diamond and Lea (1992) we can with some caution say that gross margin in the Czech Republic is comparable with gross margins in selected developed countries. However, the lack of broader spectrum of financial products in mortgage banking, the existence of high prepayment penalties, missing support for first-time buyers, slow and inefficient work of courts and property registers, and still very generous state subsidy to the building saving sector together with the low value of the coefficient of the outstanding loan-savings balance there could be seen as the most apparent drawbacks of the current state of the market-based housing finance system in the Czech Republic.

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