



Local Government  
and Public Service  
Reform Initiative

# Housing Finance

*New and Old Models  
in Central Europe,  
Russia, and Kazakhstan*

*Edited by*

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# Contents

Acknowledgments .....	v
Overview.....	vii
List of Contributors .....	xi
List of Tables and Figures .....	xv
<b>PART I. INTRODUCTION .....</b>	<b>1</b>
<i>József Hegedüs and Raymond J. Struyk</i> Divergences and Convergences in Restructuring Housing Finance in Transition Countries .....	3
<b>PART II. FRAMEWORK ELEMENTS OF EMERGING FINANCE SYSTEMS .....</b>	<b>41</b>
The Role of Housing Finance in the Housing Policy of Transition Countries.....	43
<i>Mark Stephens</i> Home Purchase Affordability and Mortgage Finance .....	63
<i>Raymond J. Struyk</i> Thinking about Subsidies to Housing Finance .....	79
<i>Douglas B. Diamond</i> Risk Management and Mortgage Portfolios: Some Applications for Emerging Markets .....	99
<i>Robert Van Order</i> Housing Finance in Transition Countries: Finding Bills on the Street .....	127
<i>Robert M. Buckley and Robert Van Order</i>	

<b>PART III. CASE STUDIES—TRANSITION COUNTRIES.....</b>	<b>149</b>
Development of a Commercial-bank-based Housing Finance System in Poland .....	151
<i>Jacek Łaszek</i>	
An Evaluation of the Hungarian Mortgage Program 2000–2004.....	177
<i>József Hegedüs and Eszter Somogyi</i>	
Housing Finance in Slovenia: The Key Role of the National Housing Fund.....	209
<i>Andreja Cirman</i>	
The Long-lasting Impacts of Earlier Housing Policies on Housing Finance in Romania .....	221
<i>Ileana Budisteanu</i>	
Residential Mortgage Lending Risk Management and Affordable Housing Market Development in Russia.....	237
<i>Elena Klepikova and Natalia Rogozhina</i>	
Mortgage Lending and Risk Management in Kazakhstan .....	255
<i>Dr. Friedemann Roy, Aset Mananbaev,     and Murat Yuldasev</i>	
<b>PART IV. CONTRAST—GERMANY .....</b>	<b>277</b>
Mortgage Lending and Risk Management in Germany .....	279
<i>Dr. Friedemann Roy</i>	
<b>PART V. COMPARATIVE TABLES, SELECTED BIBLIOGRAPHY, AND INDEX.....</b>	<b>309</b>

# Acknowledgments

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With the encouragement and support of Gábor Péteri, then Research Director at the Local Government and Public Reform Initiative, the Open Society Institute took over the implementation of this project, together with FHB Mortgage Bank in Hungary, an external donor that allowed the inclusion of an international data comparison as an annex to the book.

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Finally, we express special thanks to Gojko Bezovan (Croatia) and Daniela Grabmüllerová (Czech Republic) who have provided wide-ranging data on their respective countries, rendering the in-depth regional comparison complete.



# Overview

The transition from a centrally planned to a market-oriented economy in post-communist states has taken much longer than most observers anticipated. However, as a consequence of years of privatization and decentralization, the so-called “East European housing model” has now disappeared. Even so, efficient market relations (especially in the housing finance system) have developed very slowly, and this has made any attempt to introduce major social housing programs unfeasible: in the absence of readily available mortgage finance, the state has continued to help middle-class families address their housing problems. If housing is not affordable to the majority of households, the influence of fiscally constrained social housing programs is correspondingly limited.

Several positive changes took place in the 1990s with respect to the legal and institutional framework of the housing finance system in the region. However, the creation of efficient, market-oriented housing finance systems in the countries of Eastern Europe and the Commonwealth of Independent States remains a work in progress.

The objective of this volume is to summarize the experiences of different countries in the region in developing a housing finance system from the perspective of basic housing issues. This anthology, following an introduction that compares developments across the region, consists of three parts: (a) five “framework presentations,” each describing a certain challenge in mortgage lending and ways of addressing it, e.g., its use to address housing affordability issues or managing risks to banks associated with mortgage lending; (b) a series of country case studies, each of which describes developments in one country and focuses on how it addressed the challenges described in the framework papers, and (c) a special case study on Germany providing a “contrast” to the transition countries showing the main features of a well-established housing finance system. Appendices at the end of the book provide further information for researchers.

The first chapter by Mark Stephens provides a conceptual framework for examining the *relationship between housing policy and housing finance* in transition economies. It concludes that the development of housing finance systems cannot be treated as a purely technical exercise and that economic objectives will become more important as transition economies are integrated into wider regional and global economic systems.

The issue of *housing affordability* is discussed by Raymond Struyk in the second chapter. The chapter argues that the standard affordability indices have the virtue of simplicity, but that this simplicity carries a high price. For one, it masks the roles of the multiple factors that determine both household purchasing power and dwelling unit

prices. A second problem is that the indices are generally point estimates—they report on the situation for the “typical household”—and therefore provide little information on the situation for those at other points in the income distribution. Third, there is inconsistency in the results across indices for particular cities and countries. Given these facts, the results from the more data-intensive mortgage underwriting accounting models are strongly preferred for analyzing a country’s or region’s housing affordability.

Based on generally ill-defined “affordability problems,” the Eastern European and CIS nations have enacted an array of *housing subsidy schemes* to lower the cost of homeownership. In the third chapter Douglas Diamond gives an overview of the rationales for subsidy in general and evaluates the efficiency and effectiveness of the specific set of subsidies employed in Central and Eastern Europe since 1995. He concludes that a more critical and comprehensive analysis of housing finance subsidies (and subsequent reform) is needed as the region moves into a second decade of such subsidies.

The fourth chapter by Robert Van Order argues that well-designed *risk management of the mortgage portfolio* is key for an efficient housing finance system. The chapter concludes that for a bank or other financial institution it is not the risk of individual assets that matters; rather it is the way in which they are combined to affect the risk of the overall portfolio that is most important. Balancing credit risk and interest rate risks is a major portfolio management problem, in part because the two interact: things that help manage interest rate risk, such as issuing variable rate mortgages, can make management of credit risk more difficult.

The fifth chapter by Robert Buckley and Robert Van Order addresses questions about the appropriate *public role in emerging mortgage markets*, particularly the extent to which policymakers can or should *identify innovations* that go on to become the key elements (“pearls”) of a well-functioning financial system. The authors suggest that rather than relying on the private sector to spontaneously innovate and effectively “show the way,” most public innovations were designed to do the opposite: control private actions or stimulate them within well-defined parameters. Given the situation in transition countries, it is reasonable to expect mortgage finance innovations to have beneficial effects. However, it will be difficult to say in advance what will work. What, in fact, is the sort of innovation that suits the particular environment in such a way that it will be broadly diffused? This suggests providing incentives—at a minimum a well-functioning legal and institutional background, perhaps supplemented by subsidies or guarantees.

The second and third parts of the book consist of country case studies selected to cover the range of mortgage finance development in the region and a western example as a reference case from the European Union.

The *Polish case study* by Jacek Łaszek shows a relatively developed mortgage market in the region, one that has been growing since 1994. Still the market is small in scale as compared to advanced EU countries. Major factors of successful development have been economic stabilization, decreasing inflation and interest rates, growing optimism



of consumers, privatization of the banking sector, a market-oriented housing policy, and international programs provided by the World Bank and USAID. Today, the market is characterized by strong competition with declining margins and increasing loan affordability. Future challenges, resulting from rapid portfolio growth, are better supervision and risk management as well as more access to the capital market.

The *case study on Slovenia* by Andreja Criman analyzes the *role of a public agency, the National Housing Fund*, which emerged as the most proactive institution in housing policy. The fund has had a dominant position in the provision of housing loans for households and non-profit housing associations. The chapter shows the effect of the National Housing Savings Scheme on the mortgage finance system. Its success made it possible for the fund to reduce its lending to individuals and to concentrate on the supply side. Nevertheless, its activities have caused some distortions in the development of the housing finance market. Today, the fund operates as a provider of financial resources mainly for the non-profit sector and as an investor in housing—in order to boost housing construction.

The *case study on Hungary* by József Hegedüs and Eszter Somogyi analyzes the effects of a *subsidy program supporting mortgage finance* launched in 2002. As a consequence of the program the ratio of the outstanding loans to GDP increased from 2 to 10 percent. The chapter looks at both the reasons and consequences of the mortgage program, especially its present and future budgetary costs and the distortions it caused. The authors argue that this short-term, policy-driven housing program was neither fiscally nor socially sustainable.

The *case study on Romania* by Ileana Budisteanu represents a less developed housing finance system, where the *government housing policy* has been dominated by a strong bias toward owner-occupancy, a *laissez-faire* attitude toward the existing stock, and neglected development of a proper rental sector. Affordability and access to housing has been constrained both by macroeconomic volatility and by restricted options and immobility in the existing stock. Positive economic developments, starting in 2000, stimulated the rapid development of housing mortgage infrastructure. Recent development shows a promising mixture of specialized institutions and instruments co-existing and competing in an evolutionary process.

The *case study on Russia* by Elena Klepikova and Natalia Rogozhina starkly illustrates the importance of macroeconomic stability. Although development of the legal framework and the training of banks was underway by 1993, significant mortgage lending only began a year after Russia's August 1998 economic crisis. Spurred by dynamic household income growth in the past several years, banks have responded with impressive yearly loan volume increases, thanks in part to the steady improvement since 1996 in the legal basis for primary and secondary operations. Russia's initial secondary market operator, the government-owned Agency for Housing Mortgage Lending, has driven lending outside of Moscow and St. Petersburg by purchasing loans, thereby helping banks manage

interest rate and liquidity risks. At this stage there is a variety of vehicles being used to channel funds from capital markets and offshore banks to the mortgage sector.

The *case study on Kazakhstan* by Friedemann Roy, Aset Mananbaev, and Murat Yuldasev describes and analyzes mortgage lending and risk management. Kazakhstan, like the other former Soviet republics, entered the transition period with no tradition of mortgage lending. The chapter focuses on the role of the *Kazakhstan Mortgage Company* (KMC) within the development of capital markets and the housing sector's access to them. Such access has made a considerable contribution to mortgage market development. KMC's operations are subject to an array of risks (interest rate risk, liquidity risk, exchange rate risk, and prepayment risk). Recently KMC was converted from a low risk entity into a high risk one that may require state assistance to remain viable.

A contrast to the Central and Eastern European transition economies is described in the chapter on the *German mortgage system* by Friedemann Roy. The chapter is aimed at analyzing and assessing the mortgage lending market in Germany: conditions of the housing market, individual lending instruments (the *bauspar* system, *pfandbriefe*, two-tier models) and the existing risks and risk management techniques. Despite well-established credit, interest rate, and liquidity management instruments, the long-term future for mortgage lending looks bleak. This is mainly due to a shrinking population and the resistance of households to make housing investments for fear of unemployment—a fear generated by Germany's stagnating economy.

This anthology illustrates that, with a common origin, a great variety of different housing finance systems emerged, each reflecting the historical, economic, and political realities of a particular country. The specific attributes of each new housing finance system can be explained by the combination of the influences of existing institutions ("path dependence"), the efficiency of "knowledge transfer," and the role of local politics. Looking at the main funding structures, the cases studied in this book demonstrate that different countries are following different models (characterized by the relative shares of contract savings, commercial banks, mortgage banks, and secondary institutions). This is not a surprise if we look at the European housing finance systems that essentially follow the same diverse pattern. Even in a single country we can find different models, for example, Germany, where in effect different housing models compete with each other.

There are no simple explanations as to why a certain country has chosen a particular model. For example, the reason the Polish market has been closed to the big *bausparkasse* banks; why the Slovenians based their institutional development on the Housing Agency, or why mortgage banks in Hungary became so important. It would be difficult to explain the various developments through the specific cultural, social, and economic needs of each country. Even as path dependent and situational elements were important arbitrary factors played a role. Moreover, one should not overlook the effects of the advice and marketing of specific models and instruments by Western aid agencies and by financial institutions and insurance companies looking to develop new markets.

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# List of Tables and Figures

## TABLES

Table 1.1:	Share of public sector and urbanization level at the beginning of the 1990s .....	6
Table 1.2:	Housing quality around 1990.....	7
Table 1.3:	Housing privatization .....	9
Table 1.4:	Average estimated price of different housing unit types in 2004.....	13
Table 1.5:	Average estimated annual income of different working position in 2004.....	14
Table 1.6:	Average prices and average household incomes and estimated price-to-income ratios .....	14
Table 1.7:	Housing Affordability Index, 2004 .....	15
Table 1.8:	Ratio of stock of outstanding loans to GDP .....	18
Table 1.9:	Primary and secondary institutions and their starting year of operation.....	19
Table 1.10:	Indicators of credit and prepayment risks and their management.....	24
Table 1.11:	The three most typical loan products by country, 2003.....	27
Table 1.12:	Loan-related subsidies.....	32
Table 2.1:	Real GDP per capita in transition countries, 2002 .....	47
Table 2.2:	Levels of home-ownership in transition countries .....	48
Table 3.1:	Affordability indices for Budapest and Moscow, 2003 .....	71
Table 3.2:	Characteristics of housing microfinance, mortgage, and microenterprise finance loans.....	75
Table 5.1:	Effects of LTV and origination year on annual default rates.....	110

Table 6.1:	Outstanding mortgage debt in selected countries.....	130
Table 7.1:	Commercial housing loans vs. basic sector indicators and macroeconomic ratios.....	155
Table 7.2:	Largest estimated mortgage loan portfolios in the Polish housing sector .....	162
Table 7.3:	Indexed vs. traditional housing and mortgage products on the market.....	164
Table 7.4:	Changes in the basic mortgage credit conditions in the years 2001–2004, as exemplified by three market leaders .....	168
Table 7.5:	Average creditworthiness of households in 2002.....	171
Table 7.6:	Household global creditworthiness .....	172
Table 7.7:	Current demand for mortgage loans, housing needs, and sector needs .....	172
Table 8.1:	Macroeconomic indicators, 1990–2003 .....	182
Table 8.2:	Basic indicators of housing conditions in Hungary, 1960–2000.....	184
Table 8.3:	Changes in the condition of the demand-side mortgage subsidy .....	190
Table 8.4:	Changes of the subsidies-to-bond issues related to housing loans .....	191
Table 8.5:	Affordability indicators in Hungary (1999, 2003) .....	199
Table 8.6:	Housing subsidies, 1998–2003.....	204
Table 8.7:	Changes in the magnitude of social policy allowance.....	206
Table 9.1:	The National Housing Savings Scheme vs. bank loans.....	217
Table 10.1:	Size of the mortgage market, 2001–2002 .....	230
Table 10.2:	Main types of housing finance.....	231
Table 11.1:	Residential mortgage loan products offered by major primary lenders in Russia.....	241
Table 11.2:	Factors preventing the development of mortgage lending in banks.....	247



Table 12.1:	Basic economic indicators (1999–2005) .....	258
Table 12.2:	Selected mortgage lending programs.....	263
Table 12.3:	KMC lending program.....	267
Table A.1:	Population, housing stock, housing quality, housing markets, and housing production in Russia, Romania, and Poland (ca. 1990 and 2000).....	311
Table A.2:	Population, housing stock, housing quality, housing markets, and housing production in Kazakhstan, the Czech Republic, and Croatia (ca.1990 and 2000).....	314
Table A.3:	Population, housing stock, housing quality, housing markets, and housing production in Hungary, Slovenia, and Germany (ca. 1990 and 2000) .....	317
Table A.4:	Exchange rate [USD] in 2002 and 2003 in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany.....	320
Table A.5:	Housing stock and tenure structure in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (ca. 1990 and 2002).....	321
Table A.6:	Primary and secondary institutions and the year of establishment in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany .....	323
Table A.7:	Number of loans and loan volume in commercial banks, mortgage bond issuers, and mortgage banks in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2002).....	324
Table A.8:	Number of loans and loan volume in Bausparkassen, secondary institutions, and state agencies in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2002).....	326
Table A.9:	Ratio of stock of outstanding (residential mortgage) loans over GDP in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2000–2003).....	328
Table A.10:	Typical mortgage products in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004) .....	329

Table A.11:	Credit risk and prepayment risk in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	334
Table A.12:	Interest rate risk in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	336
Table A.13:	Mortgage subsidies in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	337
Table A.14:	House prices, rents, and income in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	340
Table A.15:	House prices for selected types of housing in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	342
Table A.16:	Salaries for selected types of professions in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004).....	343

## FIGURES

Figure 1.1:	New construction by regions .....	10
Figure 3.1:	Income distributions for Budapest and Moscow .....	71
Figure 3.2:	House-price distributions in Budapest and Moscow .....	71
Figure 5.1:	The ups and downs of property prices.....	105
Figure 5.2:	House prices over time .....	106
Figure 5.3:	Equity levels over time.....	107
Figure 5.4:	Expected losses over time.....	108
Figure 5.5:	Default probability vs. house-price appreciation .....	114
Figure 6.1:	Size of housing finance systems in high-income countries.....	132
Figure 6.2:	Private bond capitalization (developed countries) .....	135
Figure 6.3:	Funding Europe's mortgage loans .....	136

Figure 7.1:	Housing loan portfolio in Poland, 1994–2004 .....	154
Figure 7.2:	Interest rates on housing loans in Poland, 1994–2004 .....	166
Figure 8.1:	New construction and building permits between 1989 and 2002 .....	183
Figure 8.2:	Outstanding housing loans, 1990–2003 .....	185
Figure 8.3:	Interest rates on housing loans and CPI, 1988–2002 .....	186
Figure 8.4:	Real return on deposits and housing in Hungary, 1989–2002....	186
Figure 8.5:	The government bond rate, 1999–2003 .....	189
Figure 8.6:	Loans issued in 2002 .....	193
Figure 8.7:	Changes in the housing loans of the household sector .....	194
Figure 8.8:	The type of housing investment used by the issued loan, 2001–2003 .....	195
Figure 8.9:	Subsidies in the chapter of the Ministry of Finance .....	198
Figure 8.10:	PIT deduction related to mortgage payment, 1999–2002 .....	200
Figure 8.11:	Average size of PIT deduction by income .....	200
Figure 8.12:	GINI-curb of subsidy allocation among households according to income groups .....	201
Figure 8.13:	Share of households who claim PIT deduction by income .....	201
Figure 9.1:	Dwellings completed in the 1975–2000 period .....	212
Figure 9.2:	House prices in Ljubljana, 1995–2004 .....	213
Figure 9.3:	Average banking interest rate on housing loans and one-year deposits .....	218
Figure 12.1:	Transition economies: credit/GDP ration and financial sector reform .....	259
Figure 12.2:	Changes in interest rates, 2000–2004 .....	261
Figure 12.3:	Institutional infrastructure of the mortgage market .....	264
Figure 12.4:	Model of KMC facility .....	266
Figure 12.5:	Growth of KMC mortgage portfolio (2001–May 2004) .....	268
Figure 13.1:	Homeownership rates in selected countries in Europe (2003) ...	283
Figure 13.2:	Construction output in Germany (1999–2004) .....	284

Figure 13.3: Development of house prices in Germany, the USA, and the UK .....	285
Figure 13.4: House prices and interest rates in Germany and the UK, 1986–2002 .....	286
Figure 13.5: Average prices of single-family owner-occupied dwellings in Germany .....	287
Figure 13.6: Outstanding residential loans and market share of German banks, 2003 .....	291
Figure 13.7: The <i>bauspar</i> system .....	293
Figure 13.8: Issuance of <i>pfandbriefe</i> through a mortgage bank.....	294
Figure 13.9: Two-tier model—the approach of co-operative banks .....	296
Figure 13.10: German RMBS volumes in comparison to lending volumes of mortgage banks and <i>bausparkassen</i> , 1998–2003.....	297

# Introduction



# Divergences and Convergences in Restructuring Housing Finance in Transition Countries<sup>1</sup>

*by József Hegedüs and Raymond J. Struyk*

## 1. INTRODUCTION

Even 15 years after regime change, transition countries have not yet developed efficient new housing finance systems. Housing has essentially developed as a consequence of economic transition, and, despite expectations, has not become an “engine of change.” Changes in the housing system<sup>2</sup> can be interpreted as “corollaries” of the restructuring processes in the political and economic systems such as housing privatization, banking reform, company laws, etc. Explicit housing policies served more as “shock absorbers” (Struyk 1996) and not as strategies to develop a new housing model.

Housing privatization was much more a political step to ease possible tensions created by economic hardships than a housing restructuring policy.<sup>3</sup> In most countries privatization preceded legislation on management of newly formed multi-unit residential buildings (e.g., Moldavia, Albania, Poland). Typically, no target tenure structure was set and no programs for managing affordability were designed. Management of the housing stock was left to market processes and the related ad hoc legislation trying to correct the most difficult problems.

The large state owned construction and building material companies were partitioned and privatized, and state “development” companies disappeared from the market. These were natural consequences of the structural changes in the economy, but they had an unpredicted effect on the housing sector. There was no policy to deal with restructuring the construction sector systematically.

Privatization in the financial sector was carried out with very little consideration to housing. New institutional forms became important after economic stabilization, due to pressure from the banking sector as it searched for new opportunities. Basically, there were no conscious, well-thought-out policies supporting the development of the new housing finance system.

Economic hardship (unemployment, decreasing real income) made new safety net programs necessary. Housing considerations played no or little role in designing income support programs. Most countries have introduced a housing allowance program, but they typically represent a small share (less than 10–15 percent) of total safety net cost.

Housing problems became an important social issue after the initial transition even if public policy had neglected the housing issue for years. Housing conditions worsened (no proper maintenance, low investments) and housing affordability deteriorated sharply—both maintaining housing consumption and access to housing. The poor, particularly the unemployed, pensioners, and young families with kids, were severely hit by the economic decline and cuts in housing subsidies. As a result the size of the population facing housing problems became much bigger than a housing policy relying strictly on public resources could directly address (Lowe 2003). Thus, besides direct programs to the most needy population, such as housing allowances, housing assistance was needed to make housing affordable for middle income groups. This is why developing a housing finance system is a crucial element of the emerging social housing policy in transition countries.

However, housing policy itself was fragmented within the government (shared among different ministries and different levels of government) and enjoyed no strong government support at least until the turn of the century. Thus, housing programs were mostly prepared for “desk-drawers” or for election campaigns, except when strong economic interests were attached to a program. Then, at the turn of the century, housing in transition countries again became an important question. The need for social housing programs was registered, but it took some time to realize that social housing programs are unrealistic without an efficient housing finance system.

Among the many publications<sup>4</sup> on housing problems in transition countries, there are very few systematic comparative works on housing finance systems, as Renaud noted in his recent paper (2004: 2). This is partly because of the complexity of housing and partly—probably—because of its “secondary” political importance. Very little comparative research has been conducted on housing finance, and most publications are “status reports” offered without an analytic framework. One of the weaknesses of the existing comparative works is the poor quality of the data—a consequence of the delayed changes in the governance of housing.

This book is based on a workshop organized in the spring of 2004 in Budapest on housing affordability.<sup>5</sup> To organize the book, the editors invited leading housing policy experts with experience in transition countries to discuss different aspects of efficient housing finance. The first part of the book contains these framework chapters, which cover the issues of housing policy, subsidy, affordability, risk management, and institutional options of the housing finance system. In the second part of the book, we use case studies from transition countries to illustrate the problems countries are facing in developing their housing finance system. This includes case studies from different types



of countries—some that have recently joined the EU (Poland), new accession candidates (Romania), and countries of the former Soviet Union (Russia and Kazakhstan). In the third part of the book we present Germany as a “contrast” case of a mature-market housing finance system.

The underlining idea of the book is that housing systems in modern welfare states combine the advantages of a market economy with social programs. The basic strategic question of transition countries is what kind of healthy combination of efficiency and equity can be developed in the course of structural changes.

Two approaches must be differentiated in this respect:

1. to detail what was actually done in transition countries—how different countries tried to introduce market elements and respond to social issues at the same time
2. to search for the most efficient approach to restructuring the East European housing sector.

The framework chapters address the second issue; the case studies, the first.

We have put together comparative data tables based on information from the authors of the country chapters. Our efforts in this area are an attempt to compensate for the general shortcomings and lack of reliable housing finance information.<sup>6</sup> Our other critical challenge was the fast pace of changes in the institutional setting and subsidy schemes in the region. The framework papers helped to provide a structure for defining these changes and interpreting them.

## 2. TRANSITION AND THE HOUSING SECTOR

### Legacy: The East European Housing Model

The main characteristics of the East European housing model (Hegedüs and Tosics 1996) were single party political control over the housing sector, the subordinate role of market mechanisms, lack of competition among housing agencies (bureaucratic coordination), and broad control over the allocation of housing services (huge, non-transparent subsidies). However, under this model several “sub-models” emerged from the responses of individual countries to challenges in the process of developing the socialist economy (Turner et al 1992). While the main characteristics of the model could be interpreted as a structural explanation, the divergences of the model were considered theoretically as policy options taken by individual governments.<sup>7</sup> The structural conflicts (“cracks”) were managed by different methods, e.g., introducing strict control mechanisms (Bulgaria, Russia, East Germany) or allowing quasi-market processes (Yugoslavia, Hungary).

Differences in the models could be characterized, for example, by the tenure structure (state-owned rental, cooperative housing, and owner occupation) or by the different housing finance schemes under the state controlled bank sector.

The state rental sector was financed directly from the budget, but other tenure forms like cooperatives and owner occupation in multi-unit buildings were financed partly through state banks accompanied by a substantial capital grant. Family houses were financed through “self-help schemes” with limited state loans.

The difference between the degree of urbanization and the share of housing accounted for by the public rental sector is an indicator of the need for housing finance in the centrally-planned economies before transition. Urban areas were under stronger planning control (less possibility for private or self-help housing investment) and under greater demographic pressure (industrialization, etc.). Thus the public rental sector was typically an answer to the urban housing problem; in rural areas private ownership was more prevalent. However, different countries used different solutions.<sup>8</sup>

*Table 1.1*

Share of public sector and urbanization level at the beginning of the 1990s [%]

	Share of public rental, 1990 (1)	Urbanization level 1997 or 1999 (2)	Difference between (2) and (1) (3)
Russian Federation	67.0	73.1	6.1
Albania	35.5	46.1	10.6
Slovenia	31.0	50.8	19.8
Romania	32.7	55.0	22.3
Serbia and Montenegro	22.2	51.5	29.3
Slovakia	27.7	57.0	29.3
Croatia	24.0	54.3	30.3
Poland	31.6	61.9	30.3
Czech Republic	39.1	74.7	35.6
Hungary	23.0	63.0	40.0
Bulgaria	6.6	67.7	61.1

*Source:* UN–ECE 2000, 2002.

Differences between countries were partly due to exogenous factors such as the organizational development of the party and the state, economic, and social policy, and partly due to the endogenous development of the housing institutions. The outcomes of different policy options—even among countries with the same level of GDP—were quite different in terms of the quality and quantity of housing.

*Table 1.2*  
Housing quality around 1990

	Russia	Romania	Poland	Czech Republic	Croatia	Hungary	Slovenia
Density	1990	1990	1998	1991	1991	1991	1991
Floor area per person	16.4 m <sup>2</sup>	11.6 m <sup>2</sup> *	17.1 m <sup>2</sup>	16.6 m <sup>2</sup>	23 m <sup>2</sup>	28 m <sup>2</sup>	22.0 m <sup>2</sup>
Person per room	n.a.	1.1	1.43	1.04	3	0.87	n.a.
Households per dwelling	1.6	0.95	1.12	0.95	0.95	1.05	1.01
Proportion of vacant units	n.a.	4.4%	n.a.	9.1%	1%	4.5%	3.9%
Infrastructure							
Dwellings with piped water	63%	53.1%	84.2%	96.9%	87.4%	79%	96.6%
Dwellings with piped sewage	61%	50.6%	71.5%	68.1%	80.4%	44.2%	n.a.
Dwellings with district heating	64%	39.1%	n.a.	n.a.	24.6%	17%	11.9%
Dwellings with other central (e.g. block) heating	51%	10.1%	61.4%	77.6%	n.a.	25.1%	36%
Dwellings with individual modern heating	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dwellings with fixed bath or shower	57%	51.6%	71.5%	92.1%	75.7%	79.1%	87%
Substandard housing	1.30%	0.2%	33%	8.6%	19.6%**	21%	12%

*Notes:* No data available for Kazakhstan.

\* 1992.

\*\* Housing missing indoor toilets or; central heating in 1991: 24.6%; in 2001: 36%.

*Source:* Case studies.

In conclusion, despite some differences there were common elements in the housing systems in the region that give meaning to the term “East European housing model,” e.g., housing estates, poorly-maintained public housing, and rationed “elite” houses for the *nomenklatura*.

## Tenure Structure: Housing Privatization

The transition in 1989/1990 brought about a change in the political structure, and the introduction of a democratic political system eliminated the political constraints against the establishment of market mechanisms. However, movement toward a market-based housing system<sup>9</sup> took place in different ways and at different speeds and thus resulted in different solutions across countries.

Even countries with relatively successful transition strategies (Hungary, the Czech Republic, and Poland) postponed structural changes in sectors such as health, education, and the social sector.<sup>10</sup> Instead they focused on the production and financial sectors. Housing was squeezed because in certain housing areas there were no basic social barriers to major changes (e.g., the construction industry and building materials). But in the area of housing services (water, heating, etc.) it was not possible to introduce market mechanisms (price liberalization, collection enforcement) because the cost-recovery price of services needed a huge relative price increase in a time of recession (Buckley and Mini 2000)—a reality which was not viable politically. Privatization, one of the most important housing issues, should be considered in this framework. Decisions on privatization were not based on a “policy choice” adopting the “unitary” or the “dual” model,<sup>11</sup> but were more the result of short-term political interests. The critical question was not the tenure structure but the “operation” of the housing sector (Hegedüs and Tosics 1996b). Private does not necessarily mean market, and the key question is how the market mechanism is introduced as a dominant integrating mechanism. The key question in terms of the future direction of the housing models of transition countries is not whether the country has implemented “fast” or “slow” privatization, but whether it has introduced a change in property management. The difference between the Bulgarian and Czech models does not lie in the extent of privatization, but more in the extent of the role market mechanisms play in property management, as Bulgaria did not have any public stock to privatize. In this sense, “fast” privatization and “slow” privatization do not represent different models in themselves.<sup>12</sup>

*Table 1.3*  
Housing privatization [%]

	Public rental in 1990	Public rental, after 2000	% privatized
Albania	35.5	1.0	97.2
Lithuania	60.8	2.4	96.1
Romania	32.7	2.7	91.7
Serbia and Montenegro	22.2	2.8	87.4
Croatia	24.0	2.9	87.9
Bulgaria	6.6	3.0	54.5
Slovenia	31.0	3.0	90.3
Hungary	23.0	4.0	82.6
Armenia	52.5	4.0	92.4
Estonia	61.0	5.2	91.5
Republic of Moldova	21.0	5.5	73.8
Slovakia	27.7	6.5	76.5
Kazakhstan	66.1	6.8	89.7
Latvia	59.0	16.0	72.9
Poland	31.6	16.1	49.1
Czech Republic	39.1	17.0	56.5
Ukraine	47.3	20.0	57.7
Russian Federation	67.0	29.0	56.7

*Source:* UN–ECE 2002.

As a consequence of widespread housing privatization, social housing policy has lost its main asset: public rental housing. The countries with a relatively large public rental sector (Russia, Ukraine, the Czech Republic, Latvia, and Poland) have postponed structural changes to the public rental sector (introducing cost recovery rent levels, limiting property rights for tenants, etc.). The Latvian government's concept paper on housing outlines an aim to decrease the public rental sector to 10 percent of stock, meaning that privatization will continue. In Russia, tenants in the public rental sector retained broad property rights until the passage of a new comprehensive housing law in 2004.

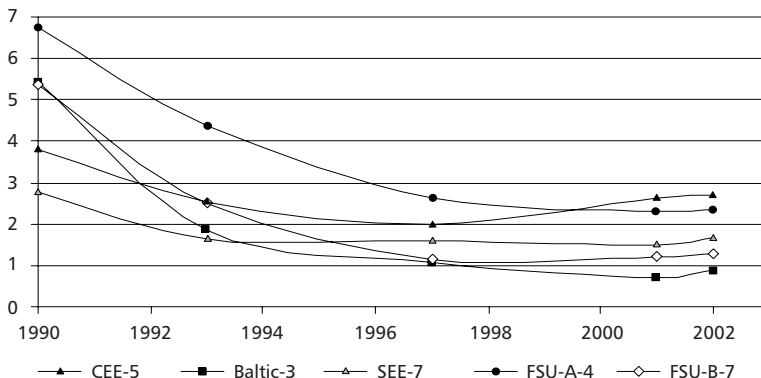
Transition countries faced huge social housing problems, not only because of the affordability issue in terms housing services (maintenance and utility costs)—also in terms of access to housing. Poland was the first to start a social housing program (TBS), and later, around 2000, Slovakia, Hungary, the Czech Republic, and Romania began new social programs, too. But the demand for these programs was too high for limited budget resources. At current program levels it would take several decades to reach the European level of social housing (around 15 percent).

The other option for social housing would be implementation of housing allowance programs in the private rental sector. The typical size of the private rental sector is 3 to 5 percent. In countries where restitution was legally and practically an option, a special private rental sector formed, with legal rights for tenants (for example, 6.7 percent in the Czech Republic and 7 percent in Slovenia). However, these statistics are far from reliable as renting by individual owners is part of the informal economy. Thus, there are no social housing programs yet that try to use the private rental sector (as in Germany); the only exception is Hungary, which started a program with very limited resources in 2005.

## Housing Conditions, Needs, and Investments

At the time of transition housing conditions in East European countries were by-and-large not better or worse than the housing conditions of countries with similar GDP per capita (Hegedüs, Mayo, Tosics 1996). The differences in the housing conditions between Western and Eastern Europe increased during the socialist period, but the same process took place as regards general economic development. After 1990, housing needs among countries differed greatly, but the general trend was an ease in demographic pressure partly because of the decrease in population and partly because internal migration slowed down. There are, however, some important exceptions—Tirana in Albania, Almaty in Kazakhstan, and Moscow in Russia—where substantial internal migration has put pressure on the local housing market.

*Figure 1.1*  
New construction (units per 1,000 inhabitants)  
by regions (weighted average)<sup>13</sup>



Housing investment decreased in most countries, and it has not returned to its end-of-1980s levels. The highest producing region is Central East Europe, where new construction per 1,000 inhabitants is close to 3. But this is similar to the lowest producing European countries (Sweden, England, and Italy). New construction in CEE countries seems to be increasing. In Hungary by 2004 the number of new units exceeded 1 percent of housing stock (4.4 units per 1000 inhabitants), in Poland 4.3 and in Slovenia 3.7 (EU 2004).

In the former Soviet Union (dominated by Russia) the level of new construction is at 30 percent of the 1990's figure, and it seems to have stagnated over the last 5 years. The lowest construction activity is in the Baltic states, which could be explained by decreasing demographic pressure.

Basically two types of housing construction existed in the pre-transition period: deeply subsidized, urban, multi-unit buildings controlled by the state-owned industry and individual, self-built, one-family buildings with a "shallow-subsidy." The collapse of the state construction sector was one factor in the decline in housing construction.<sup>14</sup> Demand for new housing decreased because the housing market behavior had changed as a consequence of vanishing construction subsidies. In the transition period, the majority of households faced uncertainty in the labor market, and their consumption pattern changed as well, partly in response to the expanded range of goods and services on offer. To reach the pre-transition level of real housing assets, households had to spend much more on housing investment than before to make up for the lost state subsidy. This adjustment process took time, but parallel with macroeconomic stabilization, construction statistics show results.

10 to 15 years of underinvestment in housing appears to be an important factor in determining future housing demand. To solve the problem of the large housing estates requires substantial investments as well. However, one of the most important obstacles of the new investment is affordability, which in turn is related to limited access to housing finance.

## The Legal Background and Bank Sector Reform

Other than a sound, stable macroeconomic environment, the most important prerequisite for an efficient housing system is an appropriate legal and regulatory framework with a functioning enforcement system. Some of the countries (Hungary, the Czech Republic, and Slovakia) inherited a workable system of land registry and basic banking laws for foreclosure and other procedures. However, in the socialist period the legal framework was "not in proper use," i.e., the land registry had not been kept up-to-date, actual banking practices were not consistent with a market economy, and foreclosure procedures were hardly used. In other transition countries, such as Russia and Albania, basic laws were missing, such as a law on housing mortgage. Thus, in the first part of the 1990s major efforts were concentrated on designing or redesigning the legal framework.

In establishing the new legal and regulatory framework, the interested financial institutions played an important role. New private banks were active in lobbying for a strong supporting regulatory framework (for example, for contract saving institutions); and they were innovative in developing practical solutions to overcome barriers to mortgage lending. This is why privatization in the banking sector had a positive effect on the development of the legal and regulatory framework for mortgage lending.

### 3. HOUSING AFFORDABILITY

Early analyses of transition countries documented very high housing price-to-income (P/I) ratios. Ratios with housing prices equivalent to 10–12 years of average household income were reported (Renaud 2004). However, the interpretation of these high P/I ratios is highly questionable. First, the East European Housing Model (EEHM) was represented by a “dual market,” where beside the dominant state sector a private sphere was also present. In the state sector there was an “equilibrium” among income, prices, cost, and waiting-list length based on bureaucratic coordination (Kornai 1981). But in the private sector a quasi-market<sup>15</sup> equilibrium was set. The P/I ratio represented affordability on the quasi-market sector, but the private sphere typically represented only a small part of the housing system. Thus, using the P/I ratio as an indicator of pre-transition housing affordability is highly questionable.

After the collapse of the centrally planned economy, the use of P/I ratio as an affordability indicator is legitimate. The reported P/I ratios in transition countries were very high at the beginning of the 1990s but tended to decrease afterwards. The hypothetical reasons were decreasing demographic pressure, privatization that increased the supply of units on offer, decreasing real income, macroeconomic insecurity, and similar factors. As a consequence of these processes, the reported P/I ratio in the second half of the 1990s went to 4–6, a great improvement but still high compared with some market housing systems, such as the US. The number of transactions started to increase at this time—a sign of a healthy housing market—but reported mobility rates remained quite low in comparison with Western countries.

At the end of 1990s, housing prices started to increase again as a consequence of economic stabilization, but other factors played a role in each case. Because increase in average income was lower than the price increases, the increased P/I ratio pointed to an affordability problem. It is not easy to demonstrate this trend as price information is quite unreliable in transition countries.<sup>16</sup> The case studies in this volume detail these trends (see particularly those for Slovenia, Romania, and Hungary). In Ljubljana, for example, the average asking price increased from 1100 EUR/m<sup>2</sup> to 1800 EUR/m<sup>2</sup> between 1996 and 2004, which is a 60–70 percent increase. In Hungary the average price (based on national household survey) increased from 1999 to 2003 by 56 percent in real value.<sup>17</sup>



To compare the price/income information we designed a small pilot comparison based on information related to standard housing units and “standard” income. The standard housing units were defined in the following way:<sup>18</sup>

Type 1: capital city, unit located 30–45 minutes traveling distance from the center, housing estates built in the 1970s and 1980s, average condition, 2 room apartment

Type 2: capital city, good location, suburban, built in the 1990s, 100–120 m<sup>2</sup>

Type 3: capital city, unit located in a traditional suburban/village environment, not high prestige, family house built before 1990, 100–120 m<sup>2</sup>

Type 4: small city with 30–50 thousand inhabitants, housing estates built in 70s and 1980s average condition, 2 room apartment

Type 5: Town/village (less than 30 thousand inhabitants), family house built before 1990, 100–120 m<sup>2</sup>.

*Table 1.4*

Average estimated price of different housing unit types in 2004  
[USD]

	Type 1	Type 2	Type 3	Type 4	Type 5
Croatia	90,000	210,000	90,000	50,000	70,000
Czech Republic	49,500	100,000	100,000	66,000	46,000
Hungary	50,000	150,000	80,000	35,000	30,000
Kazakhstan	40,000	66,000	35,000	16,500	21,500
Poland	95,000	150,000	123,000	25,000	59,000
Romania	28,000	125,000	44,000	20,000	60,000
Russia	55,000	220,000	180,000	15,000	n.a.
Slovenia	97,000	400,000	291,000	218,000	121,000

*Source:* Country reports.

While there are clear positive correlations between house prices and the GDP of different countries, in countries with lower GDP house prices are over-valued. In the available price information, one distortion is related to the demand by foreigners in capital cities. This part of the market is on the priority list of the real estate industry, and it is inevitable that price information of the high-end market dominates the real estate advertisements.

For these calculations, income was defined as follows:

Type A: daily rate for cleaning woman in the private sector (USD)

Type B: daily rate for a handyman (gardening, construction work) (USD)

Type C: average net income of public servant (teacher at gymnasium with 5 years experience) (USD).

*Table 1.5*  
Average estimated annual income of different working position in 2004 [USD]

	Type A	Type B	Type C
Croatia	5,200	4,700	7,900
Czech Republic	3,500	5,600	9,100
Hungary	6,500	8,600	5,700
Kazakhstan	700	1,900	1,600
Poland	3,200	4,000	3,800
Romania	2,400	3,600	3,000
Russia	2,100	1,300	900
Slovenia	4,200	7,600	10,800

*Source:* Country reports.

The figures in the table highlight the differences in the valuation of different kinds of work in different countries during transition. Interestingly, a private sector cleaning person earns more in Russia than a schoolteacher.

These P/I ratios in Table 1.6 represent the complexity of the problem caused by the structure of the housing market and the job market. The estimated ratios show the difference among the countries in terms of the over-valuation of real estate markets.

*Table 1.6*  
Average prices and average household incomes and estimated price-to-income ratios<sup>19</sup>

	Average house price [USD]	Household income [USD/year]	P/I ratio
Croatia	81,000	12,900	6.3
Czech Republic	64,000	13,700	4.7
Hungary	51,000	13,200	3.9
Kazakhstan	29,000	2,900	9.9
Poland	76,000	7,400	10.3
Romania	46,000	6,000	7.6
Russia	68,000	2,700	25.2
Slovenia	184,000	16,700	11.0

Among the CEE countries, the housing markets of Poland and Slovenia seem to be over-valued. Among CIS nations the ratio for Russia is particularly striking.

Housing affordability can be improved either through subsidies or through improving the accessibility of mortgage loans. Decreasing interest rates in recent years have made housing loans more affordable in most regions. The housing affordability index (HAI)<sup>20</sup> is sensitive to both house prices and interest rates. Using the house price and

income data given in Table 1.3, we calculated the housing affordability index (HAI) for the countries in the table. The HAI measures the percentage of average housing that can be purchased by a household with the income defined above with a loan under typical terms, provided the loan-to-value ratio is 80 percent and the maximum monthly payment is 33 percent of the household's income.

*Table 1.7*  
Housing Affordability Index, 2004

	Average house-price [thousand USD]	Household income [USD/year]	Maximum interest rate of a typical loan	HAI [%]
Croatia	81,000	12,900	8.5	63
Czech Republic	64,000	13,700	7.0	95
Hungary	51,000	13,200	9.5	95
Kazakhstan	29,000	2,900	13.0	30
Poland	76,000	7,400	6.5	45
Romania	46,000	6,000	10.0	46
Russia	68,000	2,700	15.0	10
Slovenia	184,000	16,700	6.5	42

*Source:* Country reports.

The range of HAI values is impressive, from the Czech Republic and Hungary, where 95 percent of the cost of the average unit could be covered by a fairly typical household using a mortgage loan available on the market, to Russia where the figure is a mere 10 percent. Croatia and Romania have quite good index values, with Romania, Poland, and Slovenia in less strong positions.

The decline in interest rates led to an increased demand for housing. However there is a concern that augmented demand could generate house price increases that would again worsen affordability. Overall, the case studies provided a contradictory picture in terms of the effects of increased loans on prices:

1. Initial house-price increases can be explained by factors exogenous to the housing system, such as saving behavior and macroeconomic changes. The real house-price increases made housing investments profitable and generated demand for housing loans. As the housing finance system responded to these demands, house prices increased, and the possibility of the house-price bubble disappeared as demand was chocked off.<sup>21</sup>
2. House-price increases are a response to economic growth and increased availability of housing loans, where, because of inflexible housing output, supply cannot keep pace with demand. In the case of Slovenia, Cirman (this volume)

found a strong relationship between the volume of loans issued by the National Housing Fund and price increases.

Rigid supply could cause price increases, which can control excess demand as in the cases of Poland and Slovenia. However, in Hungary excess demand did not cause a sharp increase in house-price inflation.

#### 4. HOUSING GOVERNANCE

Following transition, housing policy has been constrained by fiscal control. Housing privatization in itself (that is, privatization to the sitting tenants) had a positive short-term fiscal effect, but the privatization of housing finance and the construction industry was more important. In the first half of the 1990s, housing lost its political importance and, due to the collapse of the traditional state housing sector, subsidy levels decreased very rapidly. Early observers argued that in the socialist period there was a huge underinvestment (Telgarsky and Struyk 1999); but, because of fiscal pressure and economic crisis, housing investments were even less after transition. Both direct budget subsidies and indirect (off budget) subsidies decreased. Parallel to the restructuring of housing services the hidden subsidy transferred through low service prices gradually disappeared (or at least decreased). Through the decline in housing output, direct subsidies decreased as well.

We do not have good comparative data for subsidy levels in these countries, but 0.8–1.2 percent of GDP is typical. This is at the low end of the scale among European countries. In the Czech Republic, housing subsidies reached 1.12 percent of GDP (2002), but by including hidden subsidies (e.g., subsidies through the below-market rent of the municipal sector) it could be estimated at 1.4–1.9 percent of GDP (Sunega 2004). In Hungary, housing subsidies grew from 0.8 to 1.7 percent of GDP between 1998 and 2003.<sup>22</sup> The effectiveness of housing reforms was influenced by institutional structures. Housing-related policy tasks were typically distributed between several ministries, and as a consequence of decentralization the housing responsibilities were shared between the central and local government as well. A National Housing Fund was set up in several countries (Poland, Slovenia, Slovakia, and the Czech Republic) to manage housing programs financed partly through the revenue from housing privatization.<sup>23</sup> The Polish fund was administered by the General Development Bank (BGK), which used funds to support a social housing program. These revenues had to be supplemented from the budget to operate a substantial program.

One of the exceptions was Slovenia, where the National Housing Fund set up in 1991 to collect revenue from housing privatization played a proactive role in housing policy. It had become the biggest financial institution in the housing market by the beginning

of 2000.<sup>24</sup> The National Housing Agencies in Romania, Albania, and Hungary played a less important role, as these agencies could not integrate sector policy. They played no greater role than a ministry department, as in the Czech Republic and Slovakia.

At the turn of the century, governments in the region turned to housing policy again with the intention to launch social programs. The targets of these new ambitious strategies outlined in government papers have not been realized, with effects on subsidized social housing rendered questionable in most cases (Hegedüs 2004). The basic reason for this failure is that targeted programs for low-income groups can work only if housing is basically affordable for the middle class—and affordability in market societies depends heavily on the effectiveness of the housing finance system.

## 5. CREATING A NEW HOUSING FINANCE SYSTEM

### Emergence of the Mortgage Market

Housing finance development was tied to economic stabilization. Stable macroeconomic indicators were preconditions for financial development. Transition countries are at very different stages in terms of their financial development, which can be characterized by financial depth as measured by the ratio of outstanding bank credit to GDP. This can be illustrated with figures for 2002. At that time, one set of countries was at a very low level of development, with credit-to-GDP ratio under 30 percent (Russia, Kazakhstan, and Romania); a second set had rather higher values in the 40–60 percent range (e.g., Croatia, Hungary, Poland). By comparison, the value for Germany was 145 percent (World Bank 2004). As one would expect, emergence of a new housing finance system is closely related to the restructuring of the finance sector, namely bank privatization and abolition of state monopoly institutions.

During the first 5–6 years of transition, early attempts to introduce innovations in mortgage products and credit enhancements, i.e., indexed loan products and mortgage insurance/guarantee schemes, were unsuccessful because of the lack of a stable macroeconomic environment and clear incentives to the private banking sector (Diamond 1999). There were several explanations for the low level of housing finance at this time, referring both to demand and supply. On the supply side, the argument was that banks had more interest in financing government debt and the corporate (commercial real estate) sector than the housing sector. On the demand side, high interest rates, decreasing real incomes, and high inflation were the most important factors. However, some observers argued that the behavior of the typical East European homebuyer could be an obstacle, as s/he does not like to borrow, does not like to spend much on housing (more on cars and other durables) and does not relate to the “Western culture of

homeownership” (Diamond 1999). The recent boom in the housing mortgage market in most of the CEE countries does not support these behavioral arguments, although it is possible that behavior has changed.

In CEE countries, the foremost sign of stabilization was decreasing inflation and interest rates, which made the growth of the mortgage market feasible.

Even after major institutional changes, such as liberalization of the financial system and privatization of the banking sector, had taken place, the level of mortgage lending remained low until the end of the 1990s. (See Table 1.8, where the ratio of the total stock of outstanding housing loans to the GDP is shown.) To provide some perspective, note that the average ratio in EU countries is 40 percent. However, in the past few years, partly because of macroeconomic changes, partly because of new subsidy schemes, the volume of borrowing has increased.

*Table 1.8*  
Ratio of stock of outstanding loans to GDP [%]

	2000	2001	2002	2003
Russia	n.a.	0.0	0.0	0.1
Romania	n.a.	n.a.	0.2	-1.0
Poland	2.2	2.8	3.5	4.7
Kazakhstan	n.a.	n.a.	0.2	0.6
Czech Republic	n.a.	1.4	2	3
Croatia	5.5	5.7	7.6	9.6
Hungary	1.5	2.3	4.8	7.8
Slovenia	3.0	3.1	3.2	3.5
	<b>Contrast</b>			
Germany	54.1	54.1	54	54.3

*Note:* n.a. no such data available.

*Source:* country reports.

## Funding Issues

In emerging mortgage markets, the basic question was how loan issuance would be funded. In the beginning the commercial banks were the only institutions that played some role in funding loans. Typically they used deposits or “consortia-loans” to finance the loans they issued. Banks were the first financial institutions on the market, and other players needed alternative funding schemes that required new legislation and additional fiscal support.

Surprisingly, the contract savings institutions were the first alternative funding scheme (see Table 1.9). They were set up in several countries with varying success. Mortgage banks were set up in the middle of the 1990s in the Czech Republic, and later in Hungary and Poland, and most recently in Romania. But beside the legal possibility, these new institutions needed state support as well, Hungary being a good example. As a third approach, a state agency as a funding institution played an important role in Slovenia, Poland, and Romania partly using budgetary sources and partly using revenues from bond issuances. In Russia secondary institutions were set up in 1997, but their possible progress was halted by the financial crisis in 1998 and really resumed only in 2001, with the government-sponsored Agency for Housing Mortgage Lending and Delta Credit, a private organization initiated with donor-support, being by far the most important. The new Kazakh secondary institutions were set up in 2000 and they have had an increasing role.

*Table 1.9*  
Primary and secondary institutions and their starting year of operation

	Banks		Mortgage Banks	Bau-sparkassen	Secondary institutions	State agencies
	Commercial Banks*	Mortgage Bond Issuers				
Russia	Y		2004		1997	
Romania	Y	2004		2004		1999
Poland	Y		1998			1999
Kazakhstan	Y	2002			2000	2003
Czech Republic	Y	1995	1995	1993		2000
Croatia	Y			1997		1997
Hungary	Y		1998	1997		
Slovenia	Y					1991
<b>Contrast</b>						
Germany	Y	Over 100 years ago	Over 100 years ago	Y	KfW security programs since 2000	1948

*Notes:* \* Some commercial banks operated before the socialist era, but most restarted operation only after the transition  
Empty cells means no such institution exists.

### Commercial Banks

Commercial banks are the main mortgage provider in transition countries. As a result of banking reform (especially privatization), the former monopoly of state-owned savings

banks was relaxed. Nevertheless, they often succeeded in maintaining a leading role on the market in some form. Competition became the main engine of development. But competition was delayed because the new private banks (often with foreign owners) considered the mortgage market the most risky area of banking.

Eventually, with a stable macroeconomic environment and predictable legal conditions the mortgage market proved to be a profitable business, which unleashed broad-based competition.

### The Success of the *Bausparkasse* Contract Savings Schemes

Contract saving schemes proved to be the most visible institutional innovation in housing finance in transition countries in the 1990s. By 2003 several countries had introduced some version of the *bausparkasse* institutions that originated in Germany; most prominent were the Czech Republic, Slovakia, Romania, and Croatia. A certain type of contract saving was used in the pre-transition period (Hungary, Bulgaria, and Yugoslavia) that had special saving programs linked to special subsidized loans. But these financial instruments could not operate in a high inflationary environment, so they disappeared after transition.

The possible role of contract savings institutions was questioned by several experts when they were introduced, and it is not easy to explain their success. On the basis of ten years' experience, we can conclude that there is no clear connection between the presence of contract savings institutions and the size of the market, either in terms of the volume of the mortgage or the new housing investments.

The German-type contract savings system was adopted first in the Czech Republic in 1993, and Slovakia in 1994; Hungary followed in 1997. The role that a contract savings institution plays in a country depends very much on the subsidy structure and the detailed regulations governing both contract savings and the loan products. In the Czech Republic, for example, the *bausparkasse* contracts became very popular because of the deep subsidy, and as a consequence the government spent 0.5 percent of GDP supporting contract saving schemes in 2002 (Sunega 2002). While in Slovakia in contrast, the government spends only half of that (Dübel 2003).

In Poland certain types of contract savings schemes exist in principle: one is traditional without institutional backing and the other is the *bausparkasse* system, which has not received political and financial support. Poland was the only country that successfully resisted the pressure exerted by the *bausparkasse* lobby group.

Slovenia followed in a special way by adopting the contract saving scheme. The government set up the National Housing Saving Schemes—basically a subsidy scheme that households can join through banks. In contrast to the typical solution (Czech, Slovak, and Hungarian) there is no specialized financial institution. It is a closed subsidy



scheme, where the government could limit the total sum of subsidy given in one year, while the other schemes are open-ended subsidies.

In Kazakhstan, the main housing bank (Kazkommertsbank) is private and offers special saving programs in which the savers will enjoy favorable loan conditions after a certain period of savings.

## Mortgage Banking

The two basic options funding housing loans are the bond market accessed by mortgage banks and secondary institutions and the commercial banks' and savings banks' deposit system.<sup>25</sup> International experiences show that while the bond-oriented system developed faster in the last 20 years, the deposit-based system dominates the European market.<sup>26</sup>

In transition countries there are two options for mortgage bond finance. One option was chosen by Hungary and Poland, where legislation requires a special mortgage bank institution to issue mortgage bonds. The other option, used in the Czech Republic, Kazakhstan, and Bulgaria, is where commercial banks are given a license to issue bonds backed by housing (mortgage) loans.

The only country that has issued a substantial volume of mortgage bonds is Hungary, where between 2002 and 2004 outstanding mortgage bonds increased from 380 million EUR to 4,600 million EUR. The Czech Republic, which was considered the most developed in respect of mortgage bond finance, increased its volume in the same period from 900 million EUR to 1700 million EUR. Slovakia and Poland have used mortgage bonds for housing finance but at quite a moderate level (Lassen 2004).

These facts show how fast the housing finance systems are changing and it is not easy to explain the rationale behind the policy decisions for adopting different mortgage system architectures.

## The Possibility of the Secondary Market

Secondary market institution (SMI) provide a special funding mechanism, where funds come from much wider sources like the capital and bond markets in contrast to the traditional deposit-based model. In transition countries the rationale for setting up a secondary institution is the lack of long-term bank deposits. Banks with short term liabilities can fund long-term mortgages with deposits only if they are willing to take significant interest rate risks. A debate ensued over whether an underdeveloped mortgage-market SMI will take too high a risk because they do not have sufficient information about the quality of the mortgage portfolio.<sup>27</sup> In practice, Russia was the first among transition countries to introduce a SMI. A federal Agency for Mortgage Lending was

founded in 1996 to encourage mortgage lending by buying mortgage loans from banks and then selling them to investors on the secondary market. This program foresees a diversification of risks between mortgage lenders, a mortgage agency, and an investor who buys mortgage securities through the unified standard for mortgage refinancing. Regional Mortgage Agencies were also set up to promote mortgage lending. However, in Russia partly because of the 1998 financial crisis the development of the mortgage market was delayed, although it has evolved very rapidly in the past three years.

In Kazakhstan, the National Bank established a secondary institution (the Kazakhstan Mortgage Company) to refinance banks' mortgage portfolio. The KMC, implicitly guaranteed by the government, purchases mortgage loans from the participating banks and then issues securities to investors backed by the purchased portfolio.

## Managing Risks

Managing risk is a major factor explaining the development of the mortgage market in transition countries. A stable and predictable legal and regulatory framework is the key element in mortgage risk management. However, the financial institutions themselves have to develop methods to manage risks. High risks, priced properly, lead to unaffordable interest rates, and a very narrow mortgage market. The framework paper by Robert Van Order gives a deep analysis of the element influencing credit risk and treats other types of risks such as interest rate risk and prepayment risk as well.

The entries in Table 1.10 summarize the main features of credit risk and prepayment risk management in eight transition countries and Germany. While we can give an "impression" of the quality of risk management, the country-by-country details are very important. As mortgage lending has just started in most transition countries, the quality of the new loan portfolios is considered quite good. No country reported delinquencies on a mass scale. However, the methods different countries develop to manage this risk are important.

The table shows that experts from all the countries except Slovenia rate the reliability of their title and lien registrations system as "high." With respect to foreclosure proceedings against borrowers in default, there is an interesting mix of in-court and out-of-court procedures as the dominant practice. In Romania, Kazakhstan, and Hungary out-of-court settlements are more common than in-court. While there is quite a high level of certainty that the creditor will prevail in obtaining the property to satisfy its claim, in three countries—Poland, Croatia, and Slovenia—the process is slow, i.e., consistently requiring more than six months.

House-price volatility is an important default factor. Thus reliable system of the house-price valuation would be an important "public good" for the financial sector. In the absence of public information, individual banks have to develop their own valuation

service and data base. This has happened in Hungary. The government recently made efforts to set up a public data base for reliable market prices.

Competing banks have also developed a method to improve underwriting mortgages in the case of missing information (for example, in the case of underreported income). In Hungary, for example, banks underwrite loans with “minimum” income if the loan/value ratio is under 50 percent, even if the justified income is below the minimum (the payment/income ratio is higher than the 30 percent).

While mortgage default insurance holds the promise of lowering interest rates by spreading default risk over a wider pool of loans, it has not been widely adopted to date, in part because the short lending history makes the steady-state default experience hard to define and the insurance difficult to price. Among countries included in the table, only Poland and the Czech Republic have implemented schemes.

With respect to prepayment risk, banks can reduce their risk by having “lock out” periods defined in the loan contract during which prepayment is prohibited. They can also charge penalties for prepayment, if the market will accept them. As shown in the table, most countries in our sample have legal provisions that ensure borrowers’ right to prepay. Banks may still charge penalty fees, however.

High real interest rates are a typical consequence of the high risk levels. However, it is also possible that the oligopoly of banks is being exploited to increase profits. A 6–7 percent margin, i.e., a spread of loan interest rates above the cost of liabilities, is seen across the region. This is very high by western standards.

Table 1.10  
Indicators of credit and prepayment risks and their management

	Credit risk				Prepayment risk					
	Registration		Foreclosure		Availability of mortgage default insurance (including state guarantee)	Mortgage prepayment permitted without penalty by law				
	Timeliness	Reliability	Timeliness	Reliability	Dominant form of settlements	Handled routinely by courts, includes eviction if needed	Timeliness	possession of the property		
	quick/medium/slow	high/medium/low	quick/medium/slow	high/medium/low	by courts	Y/N	fast (less than 6 months)/slow/unclear	fast (less than 6 months)/slow/unclear	Y/N	Y/N
Russia	medium	high	medium	high	Y	N	fast	slow	N	Y
Romania	n.a.	n.a.	n.a.	n.a.	Y	Y	n.a.	unclear	N	Y
Poland	slow	medium	slow	high	Y	Y	slow	slow	Y	no regulations
Kazakhstan	quick	high	medium	high	rarely	N	fast	fast	N	Y
Czech Rep.	medium	high	medium	high	Y	Y	fast	fast	Y <sup>b</sup>	N
Croatia	medium	high	slow	high	Y	Y	slow	slow	N	N
Hungary	slow	high	medium	high	Y	Y <sup>g</sup>	fast <sup>c</sup>	fast <sup>d</sup>	N <sup>f</sup>	Y/N <sup>h</sup>
Slovenia	slow	medium	slow	medium	Y	Y	slow	slow	N	Y
<b>Contrast</b>										
Germany	quick	high	quick	high	Y	Y	fast	fast	N	Y <sup>c</sup>

*Notes:*

- a) Out-of-court decision—or debtor finds the buyer of the apartment and the buyer pays the debt. Problem loans are sold to realtor companies.
- b) Basically a life insurance connected to the loan which covers just death, short term unemployment + state guarantees in special cases.
- c) But banks charge penalty fees.
- d) In the case of loans originated after 2000, through public notary deed.
- e) Only in the case of newer loans; the recovery is usually dealt with through an agreement between bank and borrower.
- f) Except for state guarantee for interest-rate-subsidized loans.
- g) Y—for “normal” loans, banks charges a penalty rate, N—for mortgage-bond-backed loans.

## Loan Products—Risk Management

Traditional housing loans in transition countries could not be called mortgage loans because they were not typically secured by the property in question. After transition the typical housing loan was relatively short-term (up to ten years), with a low loan-to-value ratio, and carried a high, variable real interest rate, and, in many countries, was denominated in a foreign currency (see Table 1.11 the first three most common type of loan products).

In the middle of the 1990s special loan instruments were proposed and developed in the Central East European countries (Poland, Hungary) tailored to the high inflation environment in these countries. These instruments had limited success partly because of the complexity of the loan product and partly because the high real interest rate limited the demand for these products. After inflation fell under 10 percent, there was no further need for these products.

In the period of high inflation, currency-based<sup>28</sup> loans could provide safety against inflation at the cost of exchange-rate risk. In recent years, as a consequence of accession to EU, in countries like Poland and Hungary, the currency-denominated loan became popular not because of inflation but because of the lower real interest rate. In Hungary, for example, the subsidized loan is more expensive than the Swiss-frank-based loans without the interest rate subsidy because of the difference in the real interest rate. There is a danger that consumers are not able to evaluate these two risk (exchange-rate risk and interest rate risk), and in the future delinquency will become a real social issue. However, competition has had a positive effect on the market up to now.

Table 1.11  
The three most typical loan products by country, 2003

	Typical mortgage products							Remarks
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range?	What is the average loan amount? [USD]	What is the typical payment/income ratio?	What is the maximum loan amount? [USD]	
Russia	New and used housing	fixed	local	0.15	11,885	50%/n.a.	no limits	0.7
		fixed	hard	10.5–13.5%	n.a.	40%/n.a.	300,000	0.75
		variable	hard	9.5–12.5% for first 6 months, later + LIBOR	n.a.	40%/n.a.	300,000	0.75
Romania	Mortgage loan (BC—largest Romanian bank building, purchasing real property, refurbishing, retrofitting, land servicing (development)—no collateral	variable	both	9–10% in Euro		0.35	631,500	0.35
	Housing loan (BCR—largest Romanian Bank building, purchasing real property, refurbishing, retrofitting, land servicing (development)—collaterals	variable	both	9–10% in Euro max. 126,300 USD 35%			126,300	0.35
	The National Housing Agency	adjustable	local	7% young couples				0.35

Table 1.11 (continued)  
The three most typical loan products by country, 2003

	Typical mortgage products							Remarks
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range?	What is the average loan amount? [USD]	What is the typical payment/income ratio?	What is the maximum loan amount? [USD]	
Poland	Mortgage and construction loan in PLN	5–32.5 years variable	local currency	4.99–6.48%	16,000	0.3	LTV 100%	0.42
	Mortgage and construction loan in euro	5–30 years variable	hard currency	3.39–5.06%	16,000	0.3		0.38
	Mortgage and construction loan in Swiss francs	5–30 years variable	hard currency	1.45–2.5%	16,000	0.3		0.38
Kazakhstan	Kazakhstan Mortgage Company	3–20 years variable	local	12.5–13.5%	13,000	35%	370,000	45%
	Commercial banks	1–20 years fixed	hard	12–14%	13,167	46–50%	500,000	50%
* volume of loans originated—34,305 mln KZT, volume of bonds issued—8,656 mln. KZT within 2003, bonds to loans = 25%								
Czech Republic	Private mortgages	5–30 years mostly fixed	local	2.99–7%	37,967	0.4	LTV 100%	0.5
	Corporate Mortgages	5–20 years both	hard and local	3.5–8%	554,567	0.5	LTV 90%	0.7
	Municipal Mortgage	5–30 years mostly fixed	local	3–7%	434,797	0.2	LTV over 100% possible	0.3
Croatia	Home loan of commercial bank	up to 30 years variable	local currency indexed to EUR	6.45–8.50%	50,520–63,150	0.33	315,750	0.33
	Home loan of Bausparkasse	to 20 years fixed	local currency indexed to EUR	4.44–6.0%	nav	0.33	no limit	0.33



	Typical mortgage products						Remarks
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range?	What is the average loan amount? [USD]	What is the typical payment/income ratio?	
Subsidized loans for newly built homes	5–35 (varies across banks)	both: fixed for five-year periods, variable	local	variable: 7.5%–9% fixed: 6.5%–9.5%	33,667	40–50%	30–50%, *estimated but some banks only examine the “minimum income”*
Subsidized loans for existing homes	5–35 (varies across banks)	both: fixed for five/ten-year periods, variable	local	variable: 9%–11.5% fixed: 7%–9%	22,600	50–60%	30–50%, *estimated but some banks only examine the “minimum income”*
Foreign currency based loans (this type of loan exists only from 2004, but as the subsidies were cut back became quite famous quickly, though its share in the outstanding loan much less than 20% but quite considerable in the new issuances)	3–35 (varies across banks)	variable	Euro and CHF	Euro loans: 7.5%–9% CHF loans: 6–7%	nav	nav	30–50%, *estimated but some banks only examine the “minimum income”*

Hungary

Table 1.11 (continued)  
The three most typical loan products by country, 2003

	Typical mortgage products							Remarks
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range?	What is the average loan amount? [USD]	What is the typical payment/income ratio?	What is the maximum loan amount? [USD]	
Slovenia	Euro mortgage loan based on EURIBOR	EURIBOR + fixed margin	EUR	Euribor +1.5-4	40,000	33-60%	defined by payment/income ratio	defined by payment/income ratio
	Mortgage loan based on local currency	variable reference + fixed margin	local	SITIBOR or SIOM + 1.5-5%	19,400	33-60%	defined by payment/income ratio	defined by payment/income ratio
	Housing loan insured by insurance company	fixed or variable	local or EURO	SITIBOR or SIOM + 1.5-5%	19,400	25-40%	defined by payment/income ratio	defined by payment/income ratio
<b>Contrast</b>								
Germany	Bauspar loan	fixed	local	2.61-6.96	15,104	0.3	no limit	0.45
	Mortgage loan (granted by mortgage bank or other bank)	typically fixed	local	3.4-4.2	22,229	0.3	no limit	0.45
The German market is mainly characterized by two loan types (ordinary mortgage loan and bauspar loan)								

Source: Country experts.

## 6. HOUSING FINANCE SUBSIDIES

The positive evolution of housing finance systems in the region has depended on macroeconomic consolidation; without a stable macroeconomic environment private funds cannot be drawn into housing finance, and no housing finance system can be maintained exclusively on public funds (Struyk 1996, Renaud 1996). Mixing housing loans and housing subsidies was seen as one of the most important obstacles to the development of the housing finance systems in transition countries. Subsidized housing loans could crowd out market-rate loans made by private banks. This happened in Hungary with the increased new construction subsidy between 1994 and 1998, but between 2000 and 2004 different subsidies did not substitute, but rather complemented private housing finance.

Housing subsidies have been in the center of policy discussion. One extreme view states that housing subsidies should be restricted only to the neediest groups and should be applied as a part of the safety net, because every intervention into the housing finance system causes distortions with high public costs. The other extreme is that housing subsidies are a necessary part of the housing finance system and their role is unavoidable in development of the housing finance system. Moreover, the scope of the subsidies should include well-off households in order to maximize the multiplier effects of housing investment on the whole economy. The framework paper in this volume by Diamond gives a very good overview of the rationale and present practice of housing finance subsidies in transition countries. One of the main conclusions is that the role of subsidies should be regarded only in context, and there are no generally “good/efficient” or “bad/inefficient” subsidies.<sup>29</sup>

Table 1.12 summarizes the housing subsidies associated with home purchase in eight countries in the region. Such subsidies are common: six countries afford support through income tax advantages, four through subsidies that lower the interest paid by the borrower, and four through down payment subsidies. Russia and Hungary have the dubious distinction of employing all three subsidy types.

This volume investigates the role the state has had in the transformation of housing finance systems and attempts to identify positive roles the state can play. Two factors could explain the differences among transition countries: the regulatory role of the state and housing finance subsidies. Public intervention has been an important factor in forming the housing finance system, sometimes preventing mortgage market development.<sup>30</sup> By creating the proper legal environment for the housing finance system, governments had important effects even without direct financial intervention. However, state institutions even in the absence of a direct subsidy often presented implicit guarantees that could contribute to market development. And it is not easy to evaluate the implicit subsidies in these systems—just consider the debates on the implicit subsidies among US secondary mortgage institutions.

A good example of strong government influence on the mortgage market is Kazakhstan, where a government guaranteed agency (KCM) contributed to the development of the mortgage market. The agency controls almost 10 percent of the market through purchasing loans from originating banks. The government provides an income tax exemption on the income from income on the bonds sold to finance the mortgage purchases, suggesting an implicit guarantee. Thus, the cheaper resources (subsidized by the government) make it possible to force uncooperative banks to decrease their prices.

*Table 1.12*  
Loan-related subsidies

	Interest rate	PIT	Down-payments	Comments
Russia	Y	Y	Y	
Romania	N	N	Y	Down-payment subsidies: 20% up-front grant for young first-time buyers under 35 with NHA.
Poland	Y	Y	N	Interest rate subsidies: loans with fixed interest (state subsidy to guarantee fixed interest). System badly prepared and has no future. Personal income tax subsidy: limited size of deductions, only for citizens not benefiting from previous subsidy systems. So far very limited, less than 10% (majority benefited from old system), may grow quickly in the future.
Kazakhstan	N	N	N	
Czech Republic	Y	Y	N	
Croatia	N	Y	N	From the tax base, USD 1,960.8 (paid for interest) is deductible.
Hungary	Y	Y	Y	PIT: 40% of the loan repayment is deducted from taxes up to USD 1,154.3 per year (in 2004: USD 577.15). Down-payment subsidy: mainly for newly built homes depending on the number of children.
Slovenia	N	Y	Y	PIT: very low since deductions are allowed—only up to 3% of taxable income, but within 3% of taxable income other deductions are allowed for money spent for medicine, private health insurance, private pension insurance.

Government programs typically attempt to generate mortgage lending for the low- and middle-income mortgage markets. These programs generally will fail without improvement in the general mortgage sector institutions for the high-income mortgage market. In Romania, the NHA program for middle-income households had a limited effect because of the lack of liberalization of the mortgage market for high

income groups. One can question the success of the Hungarian program that operated a generous subsidy scheme open to high income groups. The question is whether the development of the high income mortgage market supported by substantial subsidies will result in the development of middle-income mortgage markets. The problem is that at start-up a subsidy program typically reaches the higher income groups first; but, when it moves to lower income groups, the subsidy level is often decreased because of fiscal constraints—the program has become too expensive. Thus, a key issue is setting the subsidy at a sustainable level.

Slovene housing policy has followed a special path. The National Housing Agency played an active role forming the housing market, and it adjusted its role to the changing market conditions. After privatization was completed, it started to act as a mortgage institution that raised funds on the market and made subsidized loans with the subsidy cost borne by the budget. After 2000 the NHF was transformed into a real estate fund that, through investment in construction, will be able to influence market supply. This is an example of a state institution playing an active market role without crowding out the private sector.

## 7. CONCLUSION

What can we learn from the past 15 years' experiences? The studies in this book illustrate that from a common point of origin a great variety of housing finance systems emerged, each reflecting the historical, economic, and political realities of the particular country. The specific attributes of each new housing finance system can be explained by the combined influences of existing institutions ("path dependence"), efficiency of "knowledge transfer," and the role of local politics. Looking at the main funding structures, the cases studied demonstrate that different countries are following different models (characterized with the relative shares of mortgages originated or funded through contract savings, commercial banks, mortgage banks, and secondary institutions). This is not a surprise if we look at the European housing finance systems which essentially follow the same diverse pattern. Even in a single country we find different models, for example, Germany, where different housing models compete with each other.

There are no simple explanations why a certain country has chosen a particular model. Why has the Polish market been closed to the big *bausparkasse* banks? Why did the Slovenians base their institutional development on the Housing Agency? Why did mortgage banks become so important in Hungary? It would be difficult to explain the various developments as well as the specific cultural, social, and economic needs of the country. Arbitrary factors played a role even as path dependent and situational elements were important. Moreover, one should not overlook effects of the advice and marketing

of specific models and instruments by Western aid agencies, financial institutions, and insurance companies looking to develop new markets.

The basic question is how the institutional developments in themselves affect the efficiency of the housing finance system. The term “efficiency” has been used in very different ways in scholarship on the subject, and is not easy to define. The difficulty is caused by the fact that we should compare the output, impact, and cost of the programs, after controlling other effects like macroeconomic and macro-financing. One important element of an efficient housing (and economic) system is that the standard level of housing is affordable for the majority of the population both in the owner-occupied or rented sector.

The choice between models does not in itself determine the efficiency of the housing finance system, because it depends on the institutional and technical details inside the models such as the existence of competition, the regulatory capacity of the government and central bank, and the efficiency of the housing subsidies. Efficiency is also influenced by the capacity of the housing system (governments, banks, households) to correct the rules and their behavior in a timely manner when necessary. The effect of a certain combination of financial tools depends on several factors such as the real benefit to borrowers and lenders, households’ capacity and willingness to take advantage of the tools, and the fiscal and economic effects of certain solutions. There is broad agreement among experts that the contract saving schemes (“bausparkasse”), contribute less to an efficient housing finance system, than other funding systems. This approach is generally less efficient. In contrast, the efficiency difference between the mortgage-bank dominated systems (like Hungary’s) or the retail-bank dominated systems (like in Poland) depends on the details of how the systems operate and therefore their overall regulation.

One major recommendation is that governments build their capacity so that public policy analyses can improve the legal and financial regulations whatever housing finance system they have chosen. Correction of unforeseen negative effects caused by ill-advised steps, inefficient institutional arrangements, and regressive subsidies may be the most important elements in ultimately determining efficiency. It is important to remember that public debate on the relative advantages of different models is dominated by the views of those representing specific institutional interests. Governments must have the capacity to have an independent view on public policy issues and not to be captured by special interest groups.

The basic question is how evolving institutional reforms will influence the effectiveness of the housing finance system. The high growth rate of outstanding mortgages is generally a healthy trend but only if the interest rate and liquidity risks of these large balances are properly managed. Governments have to evaluate their policy from the point of view of financial and fiscal sustainability. A short-term “generous” but longer-term unfeasible program could cause more damage as supporting the illusion that housing is public responsibility.

This volume demonstrates that without an efficient housing finance system no socially committed housing policy can be developed. A key recommendation based on the experiences of the transition countries studied in this volume is that governments must undertake the very substantial efforts essential to designing institutional reforms where needed, and even offering the subsidies that may be necessary to induce the institutional cooperation needed for reform implementation.

To improve governance in the housing sector is a key recommendation. It is critical for the responsibility of the design and implementation of interventions in both housing finance and in housing assistance to be shared among different private and public stakeholders. Without this type of cooperation, experience suggests that even the best administration is inadequate. An additional conclusion is that creation of fair competition is one of the most important elements of a well-functioning system.

Social housing policy needs a well-targeted subsidy system. However, on the basis of our experiences, targeting is not politically feasible without the support of the middle class. If housing is not affordable for the middle- and even upper-middle-income groups, subsidy programs will become regressive—helping higher income groups more than low income groups. An efficient mortgage finance system makes housing affordable for the middle class, sometimes through shallow housing subsidy schemes (tax advantages, interest rate subsidies, etc.) and frees up budget sources for social programs.

Increasing the efficiency of the housing finance system turns our attention to the immature social housing policies in the region. Fairness and efficiency should be complementary and not act as substitutes for each other.

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## ENDNOTES

- <sup>1</sup> We would like to thank Robert Buckley, Jacek Łaszek, Martin Lux, and Bruce Walker for their useful comments on earlier drafts of this paper.
- <sup>2</sup> The terms “housing system” and “housing sector” are used interchangeably for describing both the institutional/legal environment and the technical aspects (housing units, production, and housing related services) of the residential living conditions of the population. Housing policy is used to describe the legal and financial means of intervention used by governments.
- <sup>3</sup> The common elements of the different financial schemes used in privatization were their “give-away” character, meaning that prices were free or not more than 15% of market prices. The negative consequences of privatization were related to that fact that management and affordability issues of privatized units were neglected. However, it is questionable whether more complicated institutional solutions such as housing associations, cooperatives, or shared ownership models could have been feasible.
- <sup>4</sup> See especially Struyk (1996, 2000), Hegedüs, Mayo, and Tosics (1996), Diamond (1999), Lux (2003), Dübel (2004), several conferences such as OECD 2000 and UN 2005.
- <sup>5</sup> The Metropolitan Research Institute (Budapest), the Institute of Urban Economics (Moscow), and the Urban Institute (Washington) carried out a comparative research project on the relation between the mortgage market and housing affordability in Budapest and Moscow. Work on this project was supported by the US Agency for International Development, through the Thinktank Partnership Project, Contract #PCE-I-00-00-00014-00, Task Order #803. The main results of the program were published in Hegedüs et al (2004).
- <sup>6</sup> Data on housing tenure, one of the basic characteristics of the housing system, are very questionable. We do not have reliable data on the private rental sectors as private landlords tend to evade registration for tax reasons.
- <sup>7</sup> This approach could be conceived as a “soft structuralist” approach, which combines “rational choice” (policy choice or agency choice) with structural elements. In our earlier work we followed this argumentation, for example, in the explanation of “self-help” housing in Hungary (Hegedüs 1992).
- <sup>8</sup> One of the outliers is Bulgaria, where a high level of urbanization was accompanied by a small public rental sector. This demonstrates that high levels of homeownership do not mean that the housing sector is market oriented. State control over owner-occupation could be as strong as state control over public rental (typically, in other countries tenants in the public sector enjoyed important property rights).
- <sup>9</sup> Buckley and Tsenkova (2003: 19) characterized the market-based housing system as one in which market mechanisms dominate production, allocation, and consumption of housing; where there is sufficient competition among agents and institutions in the interrelated markets for housing finance, resources, and services; and governments provide subsidies that are relatively transparent, progressively targeted, and budgeted in sustainable ways.
- <sup>10</sup> While structural changes were postponed in the social service sector, new elements emerged partly related to the housing sector.
- <sup>11</sup> Kemeny’s two models (Kemeny 1995) are frequently used as real policy options.
- <sup>12</sup> This problem can be illustrated with the excellent book edited by M. Lux (2003), which had to introduce a separate heading for Bulgaria, as a separate model. In an earlier paper, we used the same approach (Geróházi, Hegedüs, and Tosics 2000).

- <sup>13</sup> CEE (Central East Europe: the Czech Republic, Poland, Slovakia, Hungary, and Slovenia; Baltic (Baltic states): Latvia, Lithuania, and Estonian; SEE (Southeast Europe): Bulgaria, Serbia, Albania, Croatia, and Romania; FSU–A (Former Soviet Union—A): the Russian Federation, Ukraine, Belarus, and Moldavia; FSU–B (Former Soviet Union—B): Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Turkmenistan, and Uzbekistan.
- <sup>14</sup> In the case of Slovenia, Cirman (in this volume) argues that housing construction by individuals remained at the same level, thus the decrease was completely due to state sector withdrawal.
- <sup>15</sup> “Quasi” because the feedback mechanism to correct the disequilibrium of demand and supply was under state control.
- <sup>16</sup> We have to add that the methodologies used to measure house prices in European countries are far from standardized (ECB 2003).
- <sup>17</sup> It is worth mentioning that in the last decade house prices tend to increase continuously in real terms in most part of the world.
- <sup>18</sup> We used a robust method to determine the P/I ratios in the transition countries. The regional price differences could “disturb” the results.
- <sup>19</sup> The average house price was calculated with weights (20% type 1, 5% type 2, 20% type 3, 20% type 4, and 35% type 5); the average household income was calculated as 25% type A, 25% type B, and 50 type C for two-earner households.
- <sup>20</sup> See Struyk in this volume.
- <sup>21</sup> See Hegedüs and Somogyi in this volume.
- <sup>22</sup> See Hegedüs and Somogyi in this volume.
- <sup>23</sup> In Hungary, the housing funds were set up at municipal level.
- <sup>24</sup> See Cirman in this volume.
- <sup>25</sup> The size of contract saving cannot provide the funding for a mature housing finance system.
- <sup>26</sup> See Buckley and Van Order in this volume.
- <sup>27</sup> See Van Order in this volume.
- <sup>28</sup> The typical currency used for these loans were US dollars, deutschmarks, Swiss francs, and euros.
- <sup>29</sup> One illustration of the unproductive debates is the dilemma of cash grants versus interest rate subsidies. In general, both have advantages and disadvantages, and it is impossible to balance these without understanding the economic and social environment in which they are to be used.
- <sup>30</sup> See Buckley and Van Order in this volume.



# Framework Elements of Emerging Finance Systems



## The Role of Housing Finance in the Housing Policy of Transition Countries

Mark Stephens

### **ABSTRACT**

This chapter provides a conceptual framework for examining the relationship between housing policy and housing finance in transition economies. The paper distinguishes between first- and second-tier housing objectives, and economic objectives. "First-tier" housing objectives are identified as basic access and affordability housing objectives. Even the most developed housing finance system cannot meet first-tier objectives alone, as many households will require subsidies to access owner-occupied housing and rented housing will be more suitable for others. The design of the housing finance system also impacts on the nature of the wider housing system, which itself is subject to legitimate "second-tier" policy choices. These include trade-offs such as those between risk and opportunity, opportunity and stability, and cohesion and opportunity; and these may affect a government's view as to the development of its housing finance system. The housing system is also relevant to both micro- and macro-economic objectives, notably labor mobility and the relationship between housing wealth and consumption. It is concluded that the development of housing finance systems cannot be treated as a purely technical exercise and that economic objectives will become more important as transition economies are integrated into wider regional and global economic systems.





# The Role of Housing Finance in the Housing Policy of Transition Countries

*Mark Stephens*

## 1. INTRODUCTION

Governments share (in broad terms) an objective of achieving adequate and affordable housing for their citizens. This objective is expressed in a number of international declarations. The United Nations Universal Declaration of Human Rights specifies that “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family including food, clothing, housing, and medical care” (UN 1948, Article 25[1]). The Council of Europe’s (revised) Social Charter expresses an explicit “right to housing” and commits signatories to take measures “to encourage access to housing of an adequate standard, to prevent and reduce the state of homelessness with a view to its gradual elimination, to make the cost of housing accessible to people who do not have sufficient resources” (Article 31, quoted in European Housing Forum 2000). While such “rights” are seldom legally enforceable by individuals, at least they express commonly shared aspirations towards which policy can aim. They also provide a benchmark for the discussion of policy in the chapter.

This chapter examines the relationship between housing policy and housing finance in transition economies. The paper aims to provide a conceptual framework for examining this relationship. It draws on examples and evidence from transition economies, the EU–15, and the USA, but does not attempt to provide a systematic survey of the evidence. Inevitably, it contains many generalizations that will not apply to all of the countries in a particular category.

The relationship between housing policy and finance is explored in three ways.

- *Housing finance and “first-tier” (access and affordability) housing objectives*  
Within the wider framework of housing policy, the development of housing finance systems in transition economies is often treated primarily as a technical exercise. This approach implies that certain universally applicable principles can be applied to these countries with predictable and desirable consequences. Moreover, because housing finance is often treated as a discrete topic, it can sometimes be conflated with housing policy.<sup>1</sup> The first aim of this chapter is

to examine the way in which housing finance alone can meet the “first-tier” housing finance and affordability objectives outlined in the opening paragraph. It also aims to identify the supporting role that wider housing policy can play in achieving them.

- *Housing finance and “second-tier” housing objectives*  
The chapter then goes on to widen the discussion beyond the relatively narrowly defined “first-tier” objectives of housing policy (above).<sup>2</sup> Its second objective is to explore the ways in which the housing finance system can influence the nature of the housing system as a whole. It does this by exploring what can be termed “second-tier” housing objectives, such as the avoidance of tenure polarization. These help to define the nature of the housing “system.”
- *Housing finance, the housing system, and economic objectives*  
The third purpose of the chapter is to explore the relationship between the housing system and the achievement of the economic objectives of housing policy. Economic objectives are likely to become more important as economies become more integrated into regional or global economic systems, such as, in some cases, the European Union. These are defined here as the microeconomic consequences of the housing system (for example its role in facilitating or hindering labor mobility) and its macroeconomic consequences that could arise in the future. The latter follows from the Kok report’s analysis relating to the European Union’s adoption of the Lisbon Strategy that identified measures to make the EU economy by 2010 “the most dynamic and competitive knowledge-based economy in the world” (quoted by Kok 2004: 6).

## 2. CONTEXT

The term “transition economies” clearly covers a large number of countries that exhibit a huge amount of diversity on a range of criteria, ranging from geography and political system to economic performance and degree of urbanization. The point does not need laboring: just one indicator—per capita income—from a range of transition economies shows this varying between almost 70 percent of the EU–15 average (in Slovenia) to around 23 percent in Macedonia (Table 12.1).

A legitimate question therefore is whether there is justification in examining the “transition” economies as a single group when on many indicators there appears to be more that divides them from one another than unites them in comparison with other (groups of) countries. A second objection concerns the notion of common destiny that is implied in the term “transition” (Kemeny and Lowe 1998).

*Table 2.1*  
Real GDP per capita in transition countries, 2002

Country	GDP per head as % EU-15
Slovenia	69.5
Czech Republic	61.9
Hungary	53.3
Slovak Republic	46.7
Estonia	41.9
Poland	41.9
Croatia	40.0
Lithuania	39.0
Latvia	36.2
Russian Federation	30.5
Bulgaria	26.7
Romania	26.7
Former Yugoslav Republic of Macedonia	22.9

*Source:* OECD ([www.oecd.org](http://www.oecd.org)).

While both points are relevant, neither is overwhelming. In housing policy terms, we can identify a unifying starting point. While it is (universally) acknowledged that the so-called “East European housing model” exhibited diversity, many of its underlying principles were shared.<sup>3</sup> Of particular relevance to this discussion was the absence of banking or housing finance systems in the western sense, i.e. involving collateral-based lending and risk assessment. Moreover, a common destiny is not necessarily implied by the notion of “transition.” In a broad sense, the common destiny implies democracy and market-based economies, but just as there is a variety of democratic systems and economic models, so there are varieties of housing systems within them. Much housing (and wider political science) literature in the “west” is devoted to examining them. Part of the purpose of this article is to emphasize the extent of choice in the development of housing policy and its role in shaping wider housing systems and, in turn social and economic systems.

So far no robust framework has been developed to characterize the emerging housing systems in the transition economies. In relatively crude terms a broad categorization has emerged around tenure. There are countries where home-ownership has become dominant (usually where privatization has added to already significant home-owner sectors, as in Hungary). When home-ownership reaches very high levels, these countries have been dubbed “super home-ownership” states (Lowe 2003). In contrast, several countries, notably the Czech Republic and Poland, have retained significant rent-controlled sectors (Table 2.2).

*Table 2.2*  
Levels of home-ownership in transition countries

Country (year)	Levels of owner-occupation (oo)/private ownership <sup>a</sup> (p)
<i>Super home-ownership<sup>b</sup></i>	
Armenia (2001)	96 (p)
Hungary (1994)	96 (oo)
Albania (1998)	95 (oo)
Romania (1999)	95 (p)
Bulgaria (1995)	93 (p)
Slovenia (1994)	88 (oo)
Estonia (2000)	86 (oo)
<i>Intermediate</i>	
Slovakia (2001)	73 (oo)
Russia (c. 2001)	68 (p)
<i>Rental</i>	
Czech Republic (2001)	59 (oo)
Poland (2000)	55 (oo)

*Notes:* a) Figures for owner-occupation are often exaggerated, as the figure for home-ownership is sometimes conflated with that for private ownership. In the latter case, the figure may include some privately rented housing and the actual level of owner-occupation may be several percentage points lower.

b) The boundary between these categories is arbitrary.

*Source:* Stephens (2005).

Despite the differences in tenure patterns, three common features unite these two types of “system.” First, the housing systems are sclerotic in that they exhibit high levels of immobility. In the case of home-owner systems this arises in part from the high levels of imputed rental income that arise from heavily discounted sales (or in the case of some countries of the former Soviet Union virtual give-away) of former state/state enterprise housing. In other words owners are not facing the true economic cost of their housing consumption which clearly distorts their consumption decisions in the direction of over-consumption and immobility. In reality the situation is very similar to tenants who enjoy high levels of rent regulation combined with high levels of security of tenure. The housing is subject to a large economic (if not financial) subsidy, so distorting consumption decisions. Hence there is little incentive to move especially if this entails entering the decontrolled sector. Security of tenure, especially where it contains succession rights, similarly blurs the distinction between ownership and tenancy. So both systems exhibit a high degree of allocative inefficiency.

The second similarity is that both systems exhibit a high degree of inequity based on the relatively privileged position of “insiders” against “outsiders.” The “outsiders” are left to compete for housing on free market terms in the homeowner or rental sectors. The inequity is both horizontal (households that otherwise have similar characteristics such as income are treated differently) and vertical (insiders are generally better off than outsiders). Grabmüllerová (2004) presents particularly vivid figures on the contrasting rental payments of “insiders” in Prague’s rent-controlled sector, who pay around 72 euros per month for a 60 m<sup>2</sup> flat, compared to “outsiders” who pay 240 euros for an equivalent flat in the non-controlled sector.

A third similarity of the two systems is that housing finance arrangements are generally underdeveloped. An OECD survey of Central European transitional housing and mortgage markets in 2003 found that mortgages as a proportion of GDP ranged from 2 to 8 percent, which compares to an EU-15 average of 45 percent, although there has been recent rapid growth in some markets (Shinozaki 2004). This is partly a demand question: the insiders (debt-free owners or protected tenants) do not need housing finance, and this helps to account for the low levels of outstanding mortgage debt in transition economies. However, there is also a question of supply as evidenced by the rather restrictive terms that are usually attached to mortgage finance (e.g., low loan to value ratios, short repayment periods).

In both types of system, there is an obvious need to develop housing finance systems. Moreover, as “insiders” die and more households form (or wish to form), the need for housing finance will grow. So it is unsurprising that this has been the focus of much housing policy.

### 3. HOUSING FINANCE AND FIRST-TIER HOUSING OBJECTIVES

“First-tier” housing policy objectives have been defined as facilitating households’ access to housing of an acceptable quality at a price that they can reasonably afford. In this regard, the role of a housing finance system is to bridge the gap between households’ incomes and house prices. Within this framework there are two essential constraints facing households: an *access constraint* and an *affordability constraint*. The first of these is determined by factors that are largely endogenous to the housing finance system; the second by factors that both endogenous and exogenous to it. They are considered in turn and policies that affect them identified.

#### The Access Constraint

The first constraint is determined by the proportion of a property value that the housing finance system is willing to finance, i.e. the loan-to-value ratio (LTV). This can be

characterized as an access constraint. The smaller the LTV, the greater the down payment that is required, and the greater the down payment required, the longer households must save before they can access owner-occupied housing.

The elements of the housing finance system that are most obviously linked to lenders' willingness to make high loan-to-value ratio loans are:

- *Certainty of ownership* which is derived from a framework that provides unambiguous forms of legal title and a system of property registration. The effective *operation* of such systems requires an absence of corruption and low transaction costs (fees).
- *Loan security* derived from the certainty and speed by which a property can be taken into possession by a lender operating through the courts in the event of loan default. Again in practice the absence of corruption is a vital element to the successful operation of the system.
- *Reliability of property valuation*, which requires a professional valuation service. In practice a reasonably liquid market is also required for sufficient transactions of similar properties to provide a basis for valuation. Systems that are based on current market value (which in principle should reflect price expectations) are more likely to produce higher valuations than those based on an attempt to establish a "long-term" value or are formulaic.
- *Minimization of risk of losses*, or its movement to a third party, will also enhance a lender's willingness to lend. The higher the LTV, the greater the risk of losses arising from foreclosure and resale if prices fall or legal costs are high (or both). Insurance can protect lenders against this.

Policies that can promote a framework to encourage the development of higher LTV products include:

- legal structures relating to property rights and forms of tenure
- the development of a property register
- propriety among public officials involved with property registration and courts
- training relating to evaluators
- house-price information
- measures to encourage transactions to get the market moving
- loan insurance.

Apart from legal structures and the caliber of public officials there is no inherent reason for the state to provide the other services itself. Indeed especially in the case of loan insurance there is the danger of the displacement of private sector activity (crowding out).<sup>4</sup>

## The Affordability Constraint

The second constraint arises from the cost of servicing the mortgage. This can be characterized as an affordability constraint, although its manifestation will restrict access. For a given income, the three principal determinants of the affordability constraint are the term of the mortgage, interest rates, and house prices.

The term of the mortgage (i.e. the number of years over which it is repaid) reflects the interest rate risk arising from funding long-term assets with short-term liabilities.

The second element (the interest rate) is largely exogenous to the housing finance system and is more broadly linked to economic management:

- The *inflation rate* impacts on the affordability constraint through the real value of interest payments and the front-end loading problem. This describes the tendency for the real burden of mortgage servicing to be highest in the earliest years of the mortgage. The value of the initial mortgage is (normally) fixed in nominal terms which means that its real value is eroded over time, hence the real cost of servicing falls over time (assuming positive inflation). The “tilt” of a line depicting the real value of servicing the loan is steepest when inflation is highest as this pushes up the nominal (and often real) interest rate while its real value declines more rapidly. The affordability problem arising from front-end loading often exacerbated when combined with life cycle earnings and commitments. If the early years of a mortgage coincide with high family commitments (children), but occur while earnings are well below their maximum, the household may be characterized as having a life-cycle affordability problem because it will be only temporary. It can be contrasted with households who have a permanent affordability problem because their earnings are habitually low. A low inflation rate helps to improve affordability in the critical early years of the mortgage (but of course not later on as the real value of payments falls more slowly).
- The nominal interest rate is likely to be closely related to the inflation rate, so is really a part of the same question. If the criteria relating to property security discussed above are not met, then there may be a significant divergence between the “general” interest rate set by the monetary authorities and that charged on mortgages. Otherwise the principal determinant of the mortgage rate will be the “general” interest rate, with competition determining the relatively small differences that are attributable to the efficiency of the housing finance system itself.

## The Supply of Housing Finance

So far the discussion has not addressed the question of housing finance institutions and mortgage instruments, which are often a subject of policy (i.e. particular institutions or instruments are provided for in legislation).

There are four principal questions concerning the role of policy in the supply of housing finance.

- *Specialist Institutions versus Specialist Instruments*

In transition economies as well as in the “advanced” economies mortgage finance is sometimes supplied by specialist institutions and sometimes specialist instruments (either funding or mortgage) are created.

There is clearly some advantage for establishing a common framework for a specialist funding instrument, such as a mortgage bond. Standardization should facilitate market confidence and increase liquidity and marketability. Moreover, regulatory, and supervisory issues become more straightforward. The mortgage bond has now become a *de facto* approved instrument in the European Union with its common legal definition for qualification for privileged treatment on balance sheets. Similarly there may be some justification for a recognized mortgage/savings product, such as a housing-savings scheme.

This is *not* the same as only allowing such instruments to be used. Nor is it clear why the issuance of such instruments/products needs to be confined to a single category of (specialist) institution, i.e. a mortgage bank. It is anti-competitive, and since the LTV on such bonds backed by mortgages is restricted (normally to 60 percent) a “package” of mortgages is required to meet the access objective.

The nature of mortgage markets (in principle low risk) means that there is scope for asymmetry in the argument. While it makes little sense to prevent (say) general banks from issuing specialist mortgage funding instruments or operating specialist savings/mortgage products (e.g., housing-savings schemes) there may be good reason to limit the activities of a retail funded savings banks to relatively low risk areas such as housing finance. This is in part to secure the confidence of savers, especially where banking crises have occurred.

- *Prescriptive versus Evolutionary Approaches*

Housing finance instruments or institutions are sometimes considered in a kind of *à la carte* way. For example, a number of types of financial institution found in the advanced economies might be assessed and the “best” of them adopted.

Notwithstanding that transition economies with little banking tradition have to start somewhere, this approach does seem to be somewhat dubious. Evaluation criteria are rarely objective and in any case indicators may say more about the context in which the institutions operate than about their inherent (de)merits.

Moreover, this approach neglects the reality that housing finance systems are part of a wider housing system. So, for example, the widespread adoption of



housing-savings schemes in the transition economies cannot be regarded merely as a technical device to assist households accumulate sufficient funds for a down payment. Their existence will influence the nature of the wider housing system, regardless of the other institutions adopted because they change the pattern of incentives in favor of the postponement of purchase, which may or may not be the desired (second-tier) objective. This theme is developed in the later sections of this chapter.

If the first-tier housing objective overrides others, then there is a strong case for allowing different types of institution to co-exist and for a housing finance system to evolve on the basis of a level playing field between institutions. In principle this approach can be used to establish what the market can provide, so that the role of subsidy is limited to covering what it cannot. This is the reverse of the practice frequently pursued where subsidies have been adopted as a substitute for inefficient market institutions.<sup>5</sup>

It may be, of course, that other objectives override the access and affordability objective, as is acknowledged in the discussion about second-tier objectives below. In other words the development of housing finance systems is not always merely a technical exercise, although this is not always acknowledged.

- *Retail versus Wholesale Finance*

The evolution of the United States mortgage system from a retail-funded system operated by specialist local savings banks to one where securitization dominates is often misunderstood as representing a natural evolution of housing finance. Rather it represented particular events and policies, notably those surrounding the Great Depression and the Savings and Loans crisis in the 1980s. The first of these events was exceptional; the second avoidable. The role of government has been crucial, hence the US story implies that there is choice (Buckley discusses the “path dependency” of finance institutions further in his chapter).

Retail and wholesale funded systems reflect the availability of particular sources of funds. In systems where they operate side by side their competitiveness varies over time, although the nature of the mortgage products that are produced is certainly biased, i.e. retail systems find it easier to support floating rate mortgages and require more sophisticated instruments (e.g., swaps) to produce fixed rate mortgages.

Securitization has distinct advantages concerning risk allocation and market liquidity,<sup>6</sup> but it also carries high transaction costs at the outset and scale economies are vital to make it feasible. It is worth noting that 60 percent of mortgages in the EU-15 are still funded by retail sources. The case for co-existence between funding types is a sound one, with the market being able to determine the appropriate mix—another case of evolution above prescription.

- *Horizontal versus Vertical Specialization*

Finally, it is worth noting the breaking down of the nature of institutional specialization in some western countries. So far the discussion has reflected the historic nature of “specialist” mortgage providers, such as mortgage banks, as opposed to “non-specialist” general banks (vertical specialization). Current trends are towards “unbundling” the mortgage process (origination, processing, management, and financing) by, for example, contracting out parts of it to specialists. It is true that securitization is sometimes part of this process of horizontal specialization, but it is not the only part.

This is important because an evolutionary approach in transition economies does not imply starting with the most rudimentary western model and working through each of its stages of development.

#### 4. THE LIMITS TO HOUSING FINANCE

While the development of housing finance systems in transition economies will greatly improve access to housing (assuming a reasonably responsive supply side), it is clear that it will never be capable of closing the “gap” between incomes and house prices for some, often many, even most households.

There are two basic reasons for this:

- There remains an access constraint because 100 percent LTVs are not available. In principle the housing finance system could be developed to provide these, but for various reasons does not. There is a legitimate risk question, for example (see the discussion of second-tier objectives below).
- Incomes are too low in relation to house prices/interest rates so the affordability constraint is binding. Beyond “low start” mortgages for people facing primarily life-cycle (temporary) affordability constraints, there is little more that the housing finance system to do in these cases.

An obvious role for housing policy is to widen access to housing for those groups facing an overwhelming affordability constraint. Policy can aim at widening access to housing *finance* or to *housing* directly.

#### Policy and the Access Constraint

Policies that aim to overcome the access constraint include:

- subsidized housing (contract)-savings schemes to help households acquire a sufficient down payment

- deposit-based house purchase certificates
- state guarantees on high LTV loans.

## Policy and the Affordability Constraint

Policies that aim to overcome the affordability constraint include:

- interest rate subsidies
- tax relief on mortgage interest payments.

Many of these policy instruments have been criticized for a variety of reasons.

For example, some contract savings schemes have been quite inefficient because they have been open to use as subsidized generic savings schemes and not used for housing. For example, Shinozaki (2004) reports that 40 percent of savings in the Polish housing-savings scheme were not used for housing. Even if designed more efficiently there are further efficiency problems. Some savings that would have occurred anyway will be subsidized. Moreover, if higher LTV loans are available, then the perverse impact of subsidizing savings tied to down-payments may be to encourage people to postpone entry into home-ownership. These are primarily design questions, although some crowding out seems to be unavoidable.

Deposit-based house purchase certificates could solve some of the problems associated with subsidized contract savings schemes. The funds are tied to housing, they can be better targeted through qualification criteria and their terms adjusted to local housing market conditions, and are clearly tied to subsidizing housing.

Interest rate subsidies carry some of the same problems as contract savings schemes. The deadweight problem is very likely to be especially acute if the subsidy is unrestricted, and this helps to explain why schemes are often targeted at certain groups such as first time buyers or young people. This implies that the subsidy is being aimed at people whose affordability constraint is temporary and linked to the life cycle. But there is a problem if subsidies are not time-limited as they will subsidize households beyond the point that subsidy is required. Hence the subsidy may become regressive and at a macro level its cost spirals. The basic point is often made that interest subsidies may be a substitute for poor economic management, i.e. are necessitated due to high inflation and high interest rates. This point is illustrated neatly by the case of Spain in the 1990s when market interest rates fell below those associated with subsidized loans, so giving rise to demands to allow prepayment.

Tax relief on mortgage interest can give rise to severe distortions. In principle, housing can be treated either as an investment good or as a consumption good. If it is treated as an investment good, interest payments should be tax deductible but imputed rental income should be taxed. If it is treated as a consumption good there should be no interest rate deductibility and no tax on imputed rental income. The tendency is for

interest relief to be available, but for there to be no equivalent tax on imputed rental income. The usual critiques of the subsidy suggest that it is wasteful in that it becomes at least partly capitalized into higher prices and tends to be regressive. Tax credits might be expected to be less regressive than simple tax relief, but the evidence from Hungary suggests that this instrument is also very regressive (MRI information, cited by Dübel 2004). It was phased out in France and the UK at a time when interest rates were falling. Since interest rates are still high in some transition economies there is scope for a similar move provided that interest rates will fall.

Various principles have been suggested for the better design of subsidy instruments, which include transparency, efficiency, equity, and administrative efficiency. These issues are examined in more detail in the chapter by Diamond in this volume.

## The Importance of Supply

A danger of focusing on mortgage finance is that the supply side is neglected, since house prices themselves are with incomes the fundamental determinant of affordability. With new construction falling in transition economies in the 1990s this is a particularly important consideration. In the “west” housing supply elasticities (for new housing) vary greatly—from 0.3 in the Netherlands to 2.1 in Germany (Barker 2003). Poor supply responses in countries such as the UK and the Netherlands have been associated with rapidly rising house-price inflation and a widening of the gap between house prices and incomes. Ironically much of the impact of relatively efficient housing finance systems in these countries fed through into higher prices so pricing households out of the market. In other words the income multiple constraint (the amount that lenders will advance in relation to the borrower’s income) prevails over the LTV constraint.

The lesson in principle is simple: clearly, housing policy must consider the supply side as well as the demand side. But in the context of the transition economies it leads to another question: what is housing finance for? The mortgage finance systems in much of the West exist to finance the transaction of second-hand dwellings, and in some countries (the USA, UK, and parts of Scandinavia) refinancing for non-housing purposes (equity withdrawal, discussed further below). This is all very distant from the finance of new housing supply or renovation programs. These functions will vary between countries and may need to be reflected in the housing finance system.

## Microfinance

In practice there are two additional reasons why not everyone can access housing finance:

- Incomes are too uncertain or not adequately documented for lenders to be willing to advance credit, either because lending is too risky or because it becomes too expensive to establish a potential borrower's ability to repay the mortgage.
- Property rights are not adequately established to allow for secured lending, especially where informal housing has evolved and has not yet been fully regularized.

These combine with households whose incomes are perpetually simply too low, i.e. who face a permanent affordability constraint.

These conditions apply most widely in parts of Southeast Europe and the former Soviet Union.

The limits of the development of formal housing finance systems in widening access to housing are often not clear because there is still so far to go. But it is notable that in parts of Latin America where formal finance systems have been developed large proportions of the population nonetheless cannot access formal housing finance.

In these conditions so-called "microfinance" has been developed (see Ferguson 1999). Although it is not the only model, microfinance tends to rely on using NGOs to connect households who normally would be excluded from housing finance to formal housing finance institutions. The NGO carries much of the high fixed costs associated with establishing that at least quasi-property rights exist and that the household will be able to repay the loan. Loans tend to be relatively small, repaid over relatively short time periods and at high interest rates. They are therefore unsuited to the purchase of whole units outright, but rather much better suited to the incremental improvement and expansion of housing units, which may have been self-built or a basic shell provided by the government.

It might be added that microfinance is also suited to circumstances where public finance constraints limit the availability of subsidies within the "formal" framework described above.

## 5. HOUSING FINANCE AND "SECOND-TIER" HOUSING OBJECTIVES

While "first-tier" housing objectives are widely shared by governments, such access and affordability issues are clearly not their only concern. A brief consideration of housing systems in the "west" makes it clear that housing systems differ and these differences are at least partly attributable to the nature of mortgage finance institutions and their interaction with wider housing policies, including those relating to other tenures.

While Kemeny (1995) has promoted consideration of "whole" housing systems, the observations made here are limited to much more restricted and obvious consequences of housing finance systems.

- *Risk vs. opportunity.* Housing finance systems that promote high LTV loans without adequate underlying state or private safety nets clearly carry higher levels of risk, while widening access. Other things being equal there is an inverse relationship between *access* and *affordability* because higher LTV loans will be larger. Moreover, households are more vulnerable to loss of equity if house prices fall which may lead to their losing the ability to sell the property. In the first instance the risk is borne by borrowers who risk losing their homes in the event of default. In the second instance there is a risk to the stability of the financial system, as loan default tends to be non-random (e.g., during a recession, which is also more likely to coincide with falls in house prices). The Nordic banking and housing market crisis of the 1990s provides some salutary lessons.<sup>7</sup>
- *Opportunity vs. stability.* Linked to the risk-opportunity trade-off, there is a link between levels of gearing and housing market instability. The relationship is not simple, and other factors, notably supply responsiveness are of key importance. But the extent to which instability is linked to the speculative element in housing demand, liberalized mortgage lending systems play a role in facilitating instability. This has been a concern of the UK government (HM Treasury 2003).
- *Cohesion-opportunity relationships.* Widening access to home-ownership is sometimes promoted as a means of spreading wealth and giving people a “stake” in society, itself a non-housing objective related to political stability. There are also questions of the “exclusion” of those who cannot access the system and of related concerns of tenure polarization.

Such trade-offs present policies with important choices when devising policies to shape the nature of the housing system, and show why housing finance cannot be treated as simply a technical exercise.

## 6. HOUSING FINANCE, THE HOUSING SYSTEM, AND ECONOMIC OBJECTIVES

One frequent observation is that “home ownership” and housing markets in many transition economies are not really comparable to the West where they are characterized by generally much higher levels of transactions and where housing is more obviously a store of wealth, and that wealth is relatively liquid. (The reference here is to the poor condition of some privatized housing, especially in depressed regions, which may have a very low value.) Presumably, one consequence of the development of housing finance systems is that housing markets in transition economies will become more like those in the West. Moreover, as transition economies become more closely integrated into

wider regional or global economies the relationship between the housing system and economic objectives will become clearer.

## Microeconomic Objectives

The more open economies become, generally the more pressure is placed on internal factors of production in the adjustment mechanism (Eichengreen 1997). Such pressures may be greatest for those economies that are formally part of the European Union, and will become more pressing for those that join the European single currency.

The importance of labor flexibility becomes more important as countries' economies become more open. The question that has to be faced in the housing system is the flexibility of the housing system in relation to changing labor market needs, which will relate to trading up and down as well as geographical mobility.

The present situation of sclerotic housing markets in many countries is far from ideal in this regard. The development of housing finance should help increase flexibility in the housing system (and in this regard transaction taxes need to be kept low), but there is also a need for easy-access rental sector, especially for younger and more mobile households.

## Macroeconomic Objectives

The importance of housing liquidity has become more important in some western countries in recent years. The ability to translate currently held housing wealth into income via remortgaging (equity withdrawal) has become important in some parts of western Europe (parts of Scandinavia and the UK) while remaining relatively rare elsewhere.

The report of the High Level Group chaired by former Dutch Prime Minister Wim Kok is relevant in this regard. Following the EU's "Lisbon strategy" for growth and employment, this report calls for "reducing restrictions to more flexible mortgage financing in a number of Member States" (Kok 2004: 26).<sup>8</sup> It argues that "reducing restrictions on refinancing mortgage debt and offering improved possibilities to finance a larger proportion of the purchase price of property via more generous and cheaper mortgage loans could extend home ownership and also boost consumption" (ibid.: 26). Meanwhile the European Commission has published a report searching for ways to encourage the greater integration of EU mortgage markets (Mortgage Credit Forum Group 2004).

These non-housing objectives may not be of pressing concern in most transition economies at present, but as systems are devised that will greatly influence their evolution over many decades, the future demands that systems will face is also of relevance.

## 7. CONCLUSIONS

This chapter has attempted to outline the relationships between housing policy and the development of housing finance systems. It has emphasized that while large welfare gains can be expected by the development of housing finance systems, housing finance systems alone cannot be expected to meet the housing needs of significant proportions of the population. Other mechanisms, including subsidies, microfinance, and the development of other tenures need to be considered. Moreover, the development of housing finance systems is not purely a technical exercise. It relates to what have been termed “second-tier” objectives, such as the control of risk in the system, and to economic objectives such as labor market flexibility and macroeconomic management. These considerations are likely to become more important as economies become more integrated into the wider European and world economy.

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## ENDNOTES

- <sup>1</sup> Or at least housing finance can be developed independently of housing policy. This can be a consequence of the respective role of housing departments and finance ministries.
- <sup>2</sup> While the scope of the objective—the achievement of access and affordability—may be narrow the *scale* of the aspiration remains ambitious.
- <sup>3</sup> For example, Lowe writes, “The orthodox idea of it [housing under communism] as a grey, state-managed and built system is only partly accurate, for there were also whole sections of society who stood outside this formal ‘Stalin model’ of housing” (2003: xv).
- <sup>4</sup> See Polverini (2004) for an assessment of the potential use of private insurance to protect lenders from losses on high LTV loans. He suggests that the facilitation of higher LTV loans is a more effective means of improving housing affordability than other instruments such as government subsidies.

<sup>5</sup> See Diamond in this volume.

<sup>6</sup> See Jaffee and Renaud (1996).

<sup>7</sup> “The proximate cause of the crisis was ... the collapse of asset values, but the crisis also revealed more fundamental weaknesses in banks’ credit assessment and in banking supervision” (Latter 1997: 42). See Stephens (1995) for an overview of housing market instability following mortgage market deregulation.

<sup>8</sup> I am grateful to Daniela Grabmüllerová for bringing this to my attention in her presentation at the OECD Workshop on Housing Finance, 14–15 December 2004.

## Home Purchase Affordability and Mortgage Finance

Raymond J. Struyk

### **ABSTRACT**

This paper discusses three principal aspects of home purchase affordability, with an emphasis on the situation in Eastern Europe and the Commonwealth of Independent States. It discusses: (1) the factors that determine affordability in a country at a point in time; (2) several widely used indicators of home purchase affordability in a country, the role of mortgage finance in these measures, and some their limitations; and, (3) the possible role of “housing microfinance,” i.e., small loans without formal mortgage collateral to support incremental housing development, which might be used to help low-income households in the region occupy good quality housing that they own.

A principal finding is that the standard affordability indices have the virtue of simplicity, but that this simplicity carries a high price: it masks the roles of the multiple factors that determine both household purchasing power and dwelling unit prices; the indices are generally point estimates, i.e., report on the situation for the “typical household,” and therefore provide little information on the situation for those at other points in the income distribution; and, there is inconsistency in the results across indices for particular cities and countries. Given these facts, the results from the more data-intensive mortgage underwriting accounting models are strongly preferred for analyzing a country’s or region’s housing affordability.



# Home Purchase Affordability and Mortgage Finance

*Raymond J. Struyk*

## 1. INTRODUCTION

“Housing affordability” is perhaps the most commonly cited housing problem around the world, and the transition economies of Eastern Europe and the Commonwealth of Independent States (CIS) are no exception. The term is used in many contexts and carries a host of possible definitions. In this paper, the focus is exclusively on the ability of households to purchase a home. We define affordability as the ability to purchase a dwelling of the appropriate size and minimum physical and sanitary standards and still have sufficient income to enjoy at least the minimum consumption of other essential goods and services.

Home purchase affordability is typically thought of as a problem for first-time home buyers. But existing homeowners with growing families may also need to purchase a larger unit and some have problems doing so.

Two key questions are associated with the affordability issue. The first, often articulated, is: what share of renters and newly forming households can afford to become owners of homes, providing the minimum necessary housing services? The second question, only infrequently asked and even more infrequently answered is: how does the share of those who can afford to purchase a unit compare with the target of public policy? The reality is that homeownership target levels are almost never specified by governments or legislatures. Rather there is a vague idea that a higher share of households who can afford to purchase is better.<sup>1</sup>

This paper discusses three principal aspects of home purchase affordability, with an emphasis on the situation in Eastern Europe and the Commonwealth of Independent States. The next section examines the factors that determine affordability in a country at a point in time. Following this, we present several widely used indicators of home purchase affordability, discuss the role of mortgage finance in these measures, and identify some limitations of the measures. Section 4 discusses how “housing microfinance”—small loans without formal mortgage collateral to support incremental housing development—might be used in the region to help low income households occupy good quality housing that they own. The paper closes with a few conclusions.

## 2. DETERMINANTS OF AFFORDABILITY

Measures of affordability condense a wide range of factors into a single figure. Affordability measures are ratios of housing costs or prices to a measure of household income. But there are several elements at work in determining the values of both the numerator and the denominator.

**Household income**—Effective demand is usually represented by household income. In fact, effective home purchase demand depends on both the mean level of household income and its distribution, on household savings, and on the availability and price of mortgage finance. At a given mean income level, the greater the degree of income inequality, the fewer the families who are likely to have sufficient income to succeed in purchasing a home.

Mortgage finance permits purchasers to leverage their income and savings to become purchasers prior to saving the full amount needed for the purchase. In many countries, the constraining resource in purchasing a unit with a mortgage is the down payment. In other words, where maximum loan-to-value ratios (LTVs) are 70–80 percent, many would-be purchasers could make the monthly mortgage payments; but they cannot assemble the 20–30 percent down payment plus closing costs.

The extent of leveraging permitted by taking a mortgage depends critically on the mortgage interest rate, i.e., the price of funds. This interest rate is determined by five factors. First, macroeconomic conditions set the environment. Where the economy is instable, interest rates are relatively high. Russia's high interest rates during the 1990s reflected such conditions, for example. Second, the legal environment is critical, particularly for controlling credit risk. The greater the uncertainty banks have about foreclosing on a loan-in-default and taking possession of the mortgaged unit, the higher price they charge. Third is the extent of bank exposure to other risks. Such risks, as discussed in the paper on managing the risks of mortgage lending in this volume, include prepayment risk, interest rate risk, and liquidity risk. A fourth factor is the general efficiency and competitiveness of the financial sector. Certainly, in the CIS countries, interest rates are kept high by comparative poor performance in this area. Finally, central bank regulations on risk capital and reserve requirements have a powerful and immediate effect on bank interest rates.

**Cost factors**—Two broad elements can be distinguished, the price of units available for purchase and the cost of production. Each of these in turn has several determinants.

*Unit prices.* Ultimately, the price of housing units in the market is determined by basic demand and supply factors. Many countries restrict the supply of new housing coming on the market through various government regulations and controls. Under the Soviet model, the local chief architect determined where new housing would be built, its density, and building types. This procedure, or variations on it, remains in place in

many countries. The result is that this office has the ability to control the pace of new construction—and it often does, restricting the issuance of permits until side-payments are made. The problem is compounded by the requirements for further permits from providers of communal services. Therefore, the supply of housing does not keep pace with expanding demand. Hence, constant quality dwelling prices rise more rapidly than household income.

*Production costs.* Where supply is not artificially constrained so that prices are raised above normal levels, cost factors can be important price determinants. Building standards drive costs. Many developing countries have unrealistically high standards for dwelling units, lot sizes, streets, and communal services, which together place “formal housing” beyond the economic reach of the majority of households. Squatter communities flourish. This problem is not so severe in this region, but there are segments of the population who cannot afford housing fully meeting the official standards without explicit or implicit subsidies.

A second key cost factor is the efficiency of the housing development process. There are two aspects here. The more obvious is builders’ technical efficiency, i.e., whether labor-saving technology and the most efficient mix of capital and labor are employed on the job. The less obvious are the inefficiencies—in the form of stop-and-go construction—that result when reliable construction-period finance is absent. In many countries, such finance is available to only the most established builders, if at all. More typically, construction is financed through equity, both investors’ and the up-front down payments, often large, of future occupant-owners.

**The resulting ratio**—The interaction of the demand and supply factors is complex and this makes interpretation of affordability measures challenging. A high ratio of house prices to household incomes often leads to a call for increasing the effective demand of households through government subsidies to augment demand. In fact, the culprit could be the restrictive practices of local planning agencies that are limiting housing supply. At much lower cost and to the benefit of all households, improvements could be made in the building permitting process to address the problem.

### 3. MEASURING AFFORDABILITY

The measurement of housing affordability has received a good deal of attention in scholarship.<sup>2</sup> This section reviews some of the more commonly used measures and then discusses their relation to mortgage finance and their limitations.

**Common measures**<sup>3</sup>—This section initially discusses the most widely used measures that apply to both owners and renters. The discussion then shifts to better indicators for home purchasers.

*The most general measures.* The typical (and simple) approach to housing affordability is to define a threshold percentage of the household income that is the maximum a household “should” dedicate to housing costs. Housing is unaffordable if a household spends more than that percentage of its income. The rationale behind this approach is that affordable housing is an important factor in the well-being of individuals and families. High housing costs relative to income are often associated with severe financial difficulty, especially among low income households, and can leave such households with insufficient income to meet other basic needs such as food, clothing, transport, medical care, and education.

This indicator compares current housing expenditures with households’ income. It can be measured for both renters and owner-occupiers. In countries with a large private rental sector the rent-to-income indicator is used, in countries with a low private rental sector the housing costs include user charges. The key question is how the expenditures are defined. There have been two main approaches to measuring housing affordability: (1) a proportional measure, wherein affordable housing costs are set as a fixed proportion of income, and (2) a residual measure, wherein affordable housing costs are set as a fixed amount that does not vary with income level. The proportional measures are more generally used because of their simplicity. Examples follow.

- The New Zealand Social Reports use household expenditure of more than 30 percent of its income on housing as a key indicator. Twenty-four percent of households were in this group in 2001. In the lowest fifth of the household income distribution, 42 percent spent more than 30 percent of their income on housing.
- The Australian National Housing Strategy (NHS) defined housing affordability as “an income to meet other basic needs such as food, clothing, transport, medical care and education” (NHS 1991). Households paying more than 25 to 30 percent of their incomes in rent or mortgage payments were considered to be experiencing affordability problems. The NHS defined households in the lowest 40 percent of the income range who pay more than 25 percent of income in housing costs as being in “housing stress.” This benchmark—and the more conservative benchmark of 30 percent—has subsequently been widely used as an overall measure of housing-related hardship in Australia (AIHW 1997).
- In the US, the National Low-Income Housing Coalition (October 2000) ranks states in terms of the hourly wage needed in a 40 hour work week to be able to afford a two-bedroom apartment at fair market rent, where affordability is defined by the national housing agency in terms of paying no more than 30 percent of household income on housing costs.

*Measures for home purchasers*—The most commonly used measures are focused on the ability of first-time home purchasers to buy. In one way or another they ask how



the purchasing power of a typical household compares with the price of the typical dwelling on offer in the market. The simplest measures compare a specific income level, usually median income, to a specific house price, usually the median sales price. The advantage of using house prices rather than a more sophisticated measure of the costs of home purchases that would include the terms of a mortgage loan is that the data are more likely to be available and the concept is straightforward. The disadvantage is that the comparison hides the complexity of the housing market and may not reveal the true picture.

*Housing Affordability Index (HAI)*—One solution used in several countries—for example, in Australia by the Housing Industry Association and Commonwealth Bank, and the National Association of Realtors in the US—is the housing affordability index (HAI). This index, comparing a representative income to a representative house price, calculates affordability based on mortgage qualification rules. Two versions are possible.

1. Affordability is measured by the relationship between the income needed to afford a representative house and a representative income. The higher the percentage is, the greater the housing affordability is.
2. The second approach compares the house price that a target income can afford with a target house price. The greater the percentage is, the more affordable the market is.

Housing affordability in Australia is measured by the ratio of average household disposable income to the (“qualifying”) income required to meet payments on a typical dwelling (expressed as an index). In calculating qualifying income a deposit of 20 percent with repayments equivalent to 30 percent of income is assumed using a conventional 25-year loan. Income measures are based on national account estimates of household disposable income. An increase in the index represents an improvement in affordability, and a decline in the index a decrease in affordability. A value of less than 100 indicates that a household with an average annual income would have less than the income required to service an average mortgage. The median dwelling price is obtained from a census of dwellings financed by Commonwealth Bank loan approvals. An estimate of the median price of existing dwellings of first-time homebuyers is used in the affordability index. According to the Commonwealth Bank (2002), the HAI was 170 in September 2001 and decreased to 137 by September 2002.

The National Association of Realtors (NAR) measures the ability of the median income family (or first-time homebuyer) to qualify for a mortgage on the median-priced home (or a starter home). It measures whether or not a typical family could qualify for a mortgage loan on a typical home. A typical home is defined as the national median-priced, existing single-family home as calculated by NAR. The typical family is defined as one earning the median family income as reported by the US Census Bureau. The prevailing mortgage interest rate is the effective rate on loans closed on existing homes

from the Federal Housing Finance Board. These components are used to determine if the median income family can qualify for a mortgage on a typical home. An index value of 100 means that a family with the median income has exactly enough income to qualify for a mortgage on a median-priced home. An index above 100 signifies that family earning the median income has more than enough income to qualify for a mortgage loan on a median-priced home, assuming a 20 percent down payment, with the monthly payment or loan principal and interest not exceeding 25 percent of the median family monthly income. For example, a composite HAI of 120.0 means a family earning the median family income has 120 percent of the income necessary to qualify for a conventional loan covering 80 percent of a median-priced existing single-family home. An increase in the HAI, then, shows that this family is more able to afford the median-priced home.

*Housing Opportunity Index (HOI)*<sup>4</sup>—The Housing Opportunity Index (HOI) measures the share of homes within a specific market that a typical household (family earning the median income) can afford to buy. In the United States, this index is calculated quarterly by the National Association of Home Builders and it compares the median income in a locality with the median home price. Housing Opportunity Index is based on the median family income, interest rates, and price distributions of homes sold in 180 metropolitan markets in a particular quarter of a year. The price of homes sold is collected from actual court records by First American Real Estate Solutions, a marketing company. The median family income for each market is calculated by the Department of Housing and Urban Development (HUD).

An HOI of 70 percent means that families in a region earning the median household income could afford to buy 70 percent of homes sold in the region. This technique requires a distribution of all house prices and median income of the target household (e.g., first-time homebuyers, all households, certain occupations). NAHB purchased such a data set, which shows the prices of all homes that have changed hands in a particular market. Because the address is given, the data can also be segmented into metropolitan areas and further into central city and suburbs. In 2001 (4Q) the HOI was 64.1 for the US, and ranged from 76.1 for Springfield, MA, to 8.0 for the San Francisco Bay Area.<sup>5</sup>

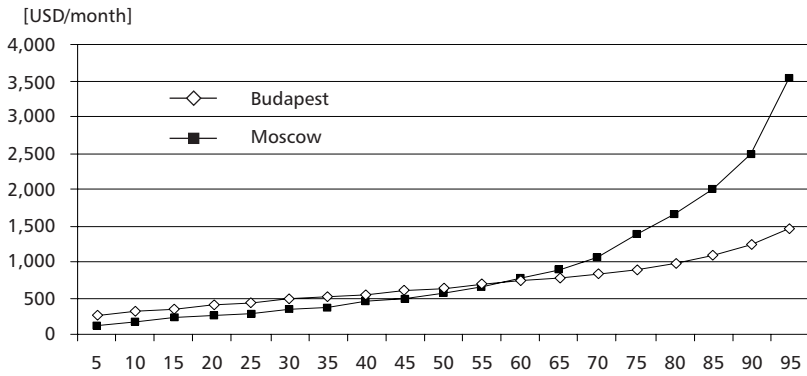
The HOI is distinguished by its data demands. Calculating the index requires the distribution of dwelling prices, not just the median price. For this reason it is not often employed.

*Indices compared*<sup>6</sup>—Table 3.1 reports the three indicators of housing affordability described above for two cities in the Eastern European region—Moscow and Budapest. As shown in Figures 3.1 and 3.2, the two cities differ strongly in their income and house price distributions, with incomes being more evenly distributed in Budapest and house prices more evenly distributed in Moscow. These differences have a significant impact on the three affordability indicators described above.

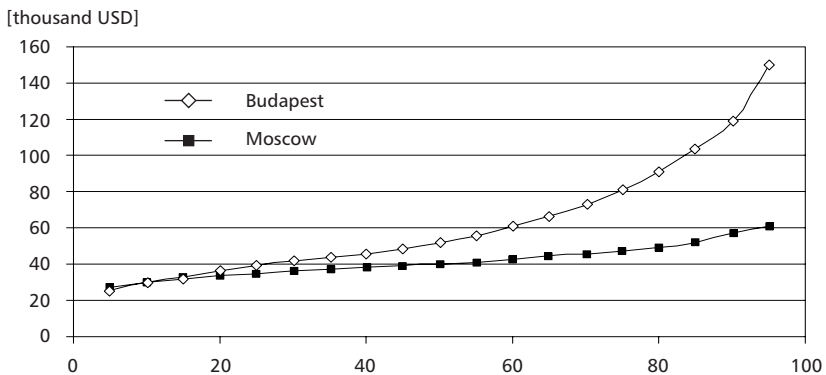
*Table 3.1*  
Affordability indices for Budapest and Moscow, 2003  
(measured with median values and with average values)

	Indexes based on average values		Indexes based on median values		Comparison US
	Budapest	Moscow	Budapest	Moscow	
House price/income ratio	7.7	3.2	6.6	5.8	2.8
Housing Affordability Index	57%	77%	67%	42%	136%
Housing Opportunity Index	17%	15%	11%	4%	65%

*Figure 3.1*  
Income distributions for Budapest and Moscow



*Figure 3.2*  
House-price distributions in Budapest and Moscow



Relative affordability between the two markets varies with the indicator selected and on whether average or median values for house prices and household income are employed. The sensitivity of the results to the particular indicator used should be a cause of concern in analyses that compare affordability across regions or countries using a single indicator.

**Affordability and mortgage finance**—All of the measures just reviewed assume the availability of mortgage finance. Stated alternatively, they assume that a household would not be able to purchase a dwelling in the absence of mortgage finance. And, indeed, today few families in Western Europe, Japan, and North America do. In the countries of Eastern Europe and the CIS, however, the majority of households still acquire their first dwelling without a mortgage. They do so with family support. Either they inherit a dwelling, which they either occupy or they sell to obtain the finance to purchase another unit, or they obtain gifts or cheap loans from family members to supplement their own savings to make the purchase. This means that, while the standard affordability indicators are useful in making cross-country comparisons, they are less reliable for indicating the true conditions in countries of the region. One needs to supplement the indicators with information on mortgage lending volumes as a share of GDP or similar measures.

There are, of course, a range of subsidies employed by governments to help address the affordability issue. Some of these operate in conjunction with mortgage loans. See the essay by Douglas Diamond in this volume for a thorough discussion of these vehicles.

**Limitations and extensions**—While the commonly used measures of home purchase affordability prove useful for several purposes, it is important to keep their limitations in mind. Two types of limitation are prominent: (1) the failure to go beyond simple point estimates for typical households and examine the distribution of affordability across households in different circumstances, and (2) the failure to take a more comprehensive approach to accounting for the costs and returns of owner-occupancy.

*Beyond point estimates*—As Calhoun and Stark (1996) point out, there are two broad approaches to the analysis of affordability using micro data sets. One tries to determine the direct impact of mortgage qualification requirements on the likelihood of homeownership in the context of constrained optimization models.<sup>7</sup> The optimal home purchase price absent constraints is computed for each household using econometric techniques and then it is compared with what the household can actually afford based on its income and assets. The other, more common, approach is synthetic loan underwriting simulations, i.e., accounting models. In this case, the analysts examines whether each household qualifies for a particular mortgage, given the associated underwriting standards including down payment requirements. The premium here is on the comprehensive measurement of the costs to purchase a dwelling at a certain point in the dwelling price distribution and the household's income, assets, and debts.<sup>8</sup>

Because both approaches employ micro data sets, they produce results that can be disaggregated in a wide variety of ways, including household characteristics such as in-

come level, asset level, current tenure, number of children, age of household head, and location, e.g., capital, major cities, etc. They also permit one to analyze the effectiveness of differing underwriting standards, loan products, and subsidy policies in assisting different types of households to purchase a dwelling.

*More comprehensive measures*—Limitations of this type are of two kinds. One is the focus on the household's ability to make the necessary payments at the moment of purchase, rather than taking a longer perspective. A major shortcoming is the use of current income in these measures. Many would-be dwelling purchasers are young families. Young workers can reasonably expect their real earnings to increase over time. Home purchase is clearly a portfolio allocation decision based on a long time perspective. Hence, the failure to take future earnings' power into account produces a misleading picture about the ultimate ability of young families to purchase a dwelling.

The second limitation is that the measures reviewed ignore several factors that reduce the cost of homeownership. Three are very important. Capital gains on the housing asset reduce the net cost of ownership. In many countries, the ability of owners to deduct at least some portion of the interest payments on their mortgage from their income tax liability also results in significant ownership cost reductions. Finally, the burden of monthly mortgage payments under fixed rate mortgages declines over time with growth in household income; where inflation is moderate to high, these reductions can be very large.

In short, the "entry affordability indexes" geared to first-time home purchasers are poor indicators of the true costs of homeownership. A more comprehensive approach, which takes factors like capital gains and favorable tax treatment into account, is the "user cost of capital" employed by economists.<sup>9</sup> In simple form, the annual user cost of a unit of housing capital is the real (i.e., inflation adjusted) interest rate,  $i$ . The value of a year's flow of housing services,  $R$ , is related to the value of the home,  $V$ , by

$$R = iV$$

One can think of housing "rent" ( $R$ ) as the opportunity cost of using housing capital for one period. Stated alternatively, the capitalized value of rent,  $R/I$ , is related to the value of the home or a residential building,  $V$ . This applies equally to owner-occupied and rental housing properties.

One can make the formulation more realistic by adding other factors explicitly expressed in annual terms as a share of the value of the property: depreciation and maintenance expenditures, at rate  $d$ ; property taxes, at rate  $pt$ ; and capital gains, at rate,  $cg$ . For homeowners this gives:

$$R = (i + pt + d - cg) V$$

Property taxes and depreciation increase the user cost, while capital gains reduce it. For those who own a property, the effect of capital gains is unambiguously to reduce the

user cost of capital. But for would-be property purchasers, higher capital gains mean a higher asset price and a greater affordability problem.

Taxes other than the property tax complicate the costs and affordability of owner-occupied housing. In some countries, property taxes and/or mortgage interest payments are wholly or partially deductible from the personal income taxes. At the same time, capital gains on owner-occupied housing are frequently untaxed. This combination reduces the user cost of capital, often substantially.

General inflation affects the user cost of capital through nominal interest payments and nominal housing prices. A higher inflation rate means a higher interest rate (for current owners with adjustable rate mortgages and those purchasing a property) and greater capital gains. To see the effects for homeowners, one can add the inflation rate,  $a$ , to the previous equation and multiply the cost that are deductible from the personal income tax by  $1.0$  minus the marginal tax rate,  $MT$ :

$$R = [(i + a) (1 - MT) + pt (1 - MT) + d - (cg + a)] V.$$

When these various factors are taken into account in determining the cost of homeownership, analysts often find that the true costs are declining at the same time that the media carries sensational stories of homeownership being unaffordable.<sup>10</sup>

#### 4. HOUSING MICROFINANCE

Another approach to increasing home purchase possibilities for lower income households is housing microfinance. According to Ferguson (2004), housing microfinance lies at the intersection of mortgage lending and microfinance, i.e., lending to micro businesses. The blending of the two types of lending is clear from the entries on loan characteristics of the three types of lending shown in Table 3.2.

The basic idea is that borrowers with low incomes and suspect ability to repay loans take small loans to develop or improve their housing incrementally. Usually, borrowers can receive larger loans after they have repaid smaller ones. The loan amounts are insufficient to purchase a normal sized unit with quality finishings. The more likely pattern is to purchase a land plot with an initial loan and then construct the unit with a series of future loans. The model will have greater applicability in small towns and rural areas than big cities.

This approach is relatively widely used in Latin America and certain Asian countries. It has not caught on in Eastern Europe or CIS. One could imagine that contract savings schemes that have proven popular in some countries could add multiple, small loans to a single borrower as a product. Banks making SME loans could also enter the market. In Armenia, such banks are beginning to make regular mortgage loans and could easily

address this market as well. But the traditional micro-lenders have been NGOs, micro-banks, credit unions, and other organizations.

*Table 3.2*

Characteristics of housing microfinance, mortgage, and microenterprise finance loans

<b>Mortgage Loans</b>	<b>Microenterprise Loans</b>	<b>Housing Microfinance Loans</b>
<i>Borrower</i>		
Middle- and upper-income households	Low- and middle-income households	Low- and middle-income households
<i>Originator</i>		
Banks, savings and loans	Credit unions, NGOs, cooperatives, micro banks, regulated and non-regulated microfinancial institutions	Credit unions, regulated and non-regulated microfinance institutions, some savings and loans, developers, building suppliers
<i>Savings requirements and importance</i>		
Typically 10 to 30% of a unit's value; sometimes contract savings	Often, savings are required in order to qualify for a loan	Often, savings are required to qualify for a loan
<i>Underwriting</i>		
Evaluation of individual household income, and of property title and value. Strict payment-to-income limits	Evaluation of individual creditworthiness, family's net worth, and household income	Evaluation of individual's income and creditworthiness. Strict payment-to-income limits
<i>Amount</i>		
One-time loan of USD 10,000 and above	A series of USD 50 to USD 500 loans	From one to three credits of USD 250 to USD 7,000 (average of USD 1,000–2,500)
<i>Interest rate</i>		
~Inflation plus a margin of 8 to 15% per year	~Inflation plus a margin of 15% to 45%; average of 36% per year	~Inflation plus a margin of 15% to 45%; average of 36% per year
<i>Term</i>		
15–30 years	Less than 1 year	1–8 years, average of 2 to 3 years
<i>Collateral</i>		
Property through a mortgage	Personal guarantees, goods, co-signers	Personal guarantees, goods, co-signers

*Source:* Ferguson (2004).

## 5. CONCLUSION

The paper has demonstrated that the standard affordability indices have the virtue of simplicity, but that this simplicity carries a high price. For one thing, it masks the roles of the multiple factors that determine both household housing purchasing power and dwelling unit prices. A second problem is that the indices are generally point estimates, i.e., report on the situation for the “typical household,” and therefore provide little information on the situation for those at other points in the income distribution. Third, there is inconsistency in the results across indices for particular cities and countries. Given these facts, the results from the more data-intensive mortgage underwriting accounting models are strongly preferred for analyzing a country’s or region’s housing affordability.

Based on generally poorly defined “affordability problems,” East European and CIS countries have enacted an array of housing subsidy schemes to lower the cost of homeownership, as described in Diamond’s essay in this volume. Many of the schemes enacted are quite inefficient—both in permitting households to become first-time owners and in targeting the benefits to moderate-income families. Housing microfinance appears to hold promise for helping lower income households, especially outside big cities, to development their own homes incrementally over time.

In short, the policy consideration of home purchase affordability in the region has been weak. Measurement of the actual situation has been casual and analysis of the probable effectiveness of alternative policies largely missing.

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## ENDNOTES

- <sup>1</sup> In several Eastern European countries where housing privatization has resulted in homeownership rates of over 90%, this “higher is better” idea is being challenged. For a discussion, see the essays in Lowe and Tsenkova (2003).
- <sup>2</sup> See Hancock (1991), Howenstine (1993), Malpass (1993), Bourassa (1996), AIHW (1997), and the National Association of Home Builders at [www.nahb.org](http://www.nahb.org).
- <sup>3</sup> This section draws heavily on Hegedüs et al (2004).
- <sup>4</sup> See [www.nahb.org](http://www.nahb.org).
- <sup>5</sup> National Association of Homebuilders.
- <sup>6</sup> The data in this section is from Hegedüs et al (2004).
- <sup>7</sup> See, for example, Linneman and Wachter (1989).
- <sup>8</sup> A good example of this type of analysis for the US is Listokin et al (2002); for Eastern Europe, Hegedüs et al (2004).
- <sup>9</sup> See, for example, Dougherty and van Order (1984), Quigley (2000), and Quigley and Raphael (2004).
- <sup>10</sup> A parallel formulation can be made for the user cost of rental housing. For rental property owners, the interest and property tax expenses are fully deductible from taxable income but capital gains are taxable.

## Thinking about Subsidies to Housing Finance

Douglas B. Diamond

### **ABSTRACT**

Despite the huge amounts of resources often devoted to subsidizing housing and housing finance, there is relatively little effort to carefully consider the rationales for such subsidy in general and the efficiency and effectiveness of the specific set of subsidies being adopted. The first half of this chapter collects together the arguable rationales and the general typology for such subsidies and proposes a process for choosing the most appropriate subsidies. Based on this analysis, the second half evaluates the subsidies and policy formulation processes employed in Central and Eastern Europe since 1995. There appears to be a very productive opportunity for more critical and comprehensive analysis of housing finance subsidies (and subsequent reform) as the region moves into a second decade of such subsidies.



# Thinking about Subsidies to Housing Finance

*Douglas B. Diamond*<sup>1</sup>

Marja Hoek-Smit of the Wharton School and the author have been reviewing the theory and practice of subsidies to housing finance by way of preparing a report for the Housing Finance Group at the World Bank. We have been drawing mostly upon our direct experiences in working with policymakers in dozens of countries, including many transition, developing, and developed countries. The full report will be available on the website of the International Housing Finance Program at Wharton ([ihfp.wharton.upenn.edu](http://ihfp.wharton.upenn.edu)).

This paper summarizes some of the general points we make in the report and looks at examples from transition countries in Central and Eastern Europe (CEE) from that perspective.

## WHY SUBSIDIZE HOUSING FINANCE?

To many people working in the business of housing finance—as well as to its users—it may seem obvious why it should be subsidized. In a modern urban economy, housing finance is key to developing a built environment closer to the level of quality and quantity to which society as a whole, or individual consumers, might aspire. To those who have always lived with ready access to housing finance, the purchase of housing without reliance on long-term credit seems hard to imagine. In the case of the former socialist economies, it could also be expected that easy access to housing finance would be critical to the successful shift of citizens from looking to the state to provide housing towards self-sufficiency.

For all of these reasons, intervention by the state to promote and even share the cost of housing finance may seem very appropriate. However, leaving the argument at such a general level opens the door to inefficient forms of intervention. In fact, many countries settle for vague rationalizations, which are transmuted by the political system into programs with political appeal but very little relevance to identifiable social goals.

The contrary argument can also be made. Exactly what is it about housing that merits the taxation of all citizens in order to subsidize the consumption of housing, either by all or, more commonly, by just a special segment of society? Other necessities

such as food and water are often not subsidized, at least to the middle class and above. A parallel issue arises if assistance is targeted only on the poorest. Why assist with housing and not income in general?

To help clarify thinking about such subsidies, we identify five specific policy justifications for subsidies to housing and/or housing finance. These are:

**1. Improving public health**

In poor countries, the foremost reason to subsidize housing is to make sure that housing conditions, including the quality of water and sanitation, and conditions of the residential and social environment, will not cause outbreaks of disease or pose physical or social hazards to the population. While it is possible that public health can be an issue in the poorest of the transition countries, even those with the greatest amount of overcrowding do not face a major crisis in this regard. More common is a general feeling that housing standards, especially space per person, is lower than in other “similar” countries.<sup>2</sup>

**2. Improving fairness and justice in a society**

This basically refers to redistributing income within the society, based on ideas of fairness—leveling the playing field between people with different starting points in life or providing a minimally acceptable level of housing consumption.<sup>3</sup> But why address this through housing, instead of cash or education? It seems likely that the focus on housing is due to housing’s visibility. Highly visible poor quality housing can be taken as a sign of poor overall consumption, either calling forth compassion or concern about the blight on the visual environment. In either case, the general view seems to be that promoting higher quality housing has greater social benefits (for the higher—“giving”—income taxpayers as well as the recipients) than assisting with other aspects of the consumption bundle.

**3. Influencing economic and political stability**

This rationale is commonly used to support subsidies to homeownership, based on the claim that homeowners have a greater stake in the economic and political stability of a country. Perhaps it is also believed that people who grow up and live in relatively more pleasant personal surroundings will be less likely to practice anti-social behavior.

**4. Overcoming inefficiencies in the housing or mortgage market that cannot be solved through regulations**

In many countries, it can be argued that there are failings in the efficient operation of the financial system in general or the housing finance system in particular. In

most cases, these failings could be addressed through reform of various aspects of the legal, regulatory, or ownership structure of the sector. However, either this may not be the case, or such reforms may be harder to achieve than introducing subsidies that will counter these failings. This is often the basis for supporting institutional interventions into the operation of the housing finance system that carry implicit subsidies (e.g., mortgage insurance, secondary markets).

### 5. Stimulating economic growth

This rationale is often used to support various kinds of supposedly countercyclical assistance to the housing construction sector. In our view, it is generally overstated, since other sorts of public investment, in physical or social infrastructure, can have as much or more economic impact as additional housing, and often have better efficiency and redistribution effects. Although such a rationale may be valid under certain circumstances, such programs usually have more appeal to politically powerful special interests than to economic analysts.

There is an additional rationale that may be convincing to many observers but which we do not accept—the claim that society is better off when everyone has more housing. Housing can be considered a “merit good”—a good that society as a whole values more highly than individuals alone; i.e., there are some positive social externalities so that the optimal level is afforded only through subsidy.<sup>4</sup>

In our view, there is no evidence that this is the case for housing. The question is open to debate, however. Perhaps it is the case that most people in a society feel better about their social conditions when they see that their fellow citizens are housed in more space and comfort than would be the case without subsidy.<sup>5</sup>

It is notable that many countries do tend to subsidize housing very broadly. One competing explanation is that this reflects catering to certain interest groups, such as the construction sector. Another explanation that is especially relevant to transition countries is that it reflects also a basic disconnect between the public and social policy. It may take a long time for the public to realize that government money is actually their money. Until then, politicians promising that some of that money comes back in the form of housing subsidies to the middle and upper-middle income groups are popular. This is especially the case when the ultimate costs of those subsidies are well hidden from view, as will be discussed below.

A further alternative view is that the middle class has to receive some visible benefits if it is going to accept being taxed heavily. There may also be some truth to that.

## CATEGORIES AND TYPES OF SUBSIDY

Next, we identify two general approaches to subsidizing housing finance and several variants within each category.

1. **Interventions into the housing finance system that change the system in some way:**
  - a. state housing banks (lending institutions with majority ownership by the state and a special mandate to lend for housing; usually with access to funding at below-market rates, as well as state-supplied equity capital)
  - b. drawing on state-sponsored funding (the state may provide state and private lenders with funding at below-market rates, often from state-sponsored pension funds or other off-budget pools of capital)
  - c. state-sponsored insurance or guarantees for credit risk (usually state-owned mortgage insurance schemes)
  - d. state-sponsored insurance or guarantees for funding-related risk (the state sets up institutions or offers guarantees that shift some of the funding risks—liquidity risk, interest rate risk, prepayment risk—to the state)
  - e. subsidies to finance rental housing (some countries set up parallel rental housing supply systems—usually called social housing—using varying degrees of state funding, control, and risk-bearing).
2. **Subsidies to households themselves (even if channeled through the housing finance system):**
  - a. up-front cash subsidies and housing allowances (schemes whereby select households receive assistance with the cash portion of the purchase price of owner-occupied housing or with the monthly repayment on loans for such)
  - b. subsidies linked to housing-related savings schemes (these include rewards such as greater access to other subsidies in return for greater savings effort and contract savings schemes such as the *bausparkassen*)
  - c. direct subsidies of interest rates (schemes whereby the state pays a portion of the interest due on loans taken from private lenders)
  - d. Tax subsidies to mortgage loans (deductions from taxable income or taxes due based on mortgage interest or repayments).

In Hoek-Smit and Diamond (2005), the rationales, advantages, and disadvantages of each sort of subsidy are examined and then illustrated with examples of such schemes from 3 or more countries in each case. We reach a variety of conclusions about what are the best general approaches to subsidizing housing finance and what is the policy formulation process that is most likely to produce sensible subsidies. These are discussed below.



We also conclude, based on the many subsidy schemes that we examine, that most subsidy schemes are not part of a well-thought-out policy structure. They tend to be highly political and ad hoc. This is not news to anyone who has been involved in or has studied subsidy policy. But it is a point that needs to be stated clearly so the issue may be dealt with in a constructive manner. We attempt to do that within our suggested policy formulation process.

## A SUGGESTED PROCESS FOR FORMULATING SUBSIDY POLICY

Before looking at what subsidy schemes might be generally most useful in Central and Eastern Europe, it may be worthwhile to suggest how such an analysis should be conducted, i.e., what sort of logical process will lead to relatively efficient and effective subsidy recommendations.

### 1. Determining the Housing Issues or Goals to be Addressed

Unfortunately, this step is rarely taken, at least publicly. It is often politically preferable not to say exactly what the goal of the subsidy is. To do so may make it too clear that only a relatively few are benefiting from the largesse of the many. Or it may be that it will then become too clear that the subsidy proposed has little to do with the purpose claimed, instead catering to certain special interests. In most countries the prevailing attitude is that the less said about the precise goal of the scheme, the less debate and scrutiny the proposal will engender, and, conveniently, the less *ex post* criticism will ensue.<sup>6</sup> It is felt to be better that each observer read into the scheme what they prefer to see rather than prioritizing explicitly the real needs of the society.

This is especially the case when, as is unfortunately very common, the subsidy proposals are originated by political personages with little input from policy analysts. They usually have little ability to judge whether a “nice sounding” subsidy idea (that also sounds nice to their political supporters) will actually have much effect on any specific social goal. Their criterion is often the “nice sound” of the idea, and not the long-term effect. From this perspective, there is little incentive to be precise about the goal.

On the other hand, our criteria for judging success are the efficiency and effectiveness of a subsidy scheme. From that very different perspective, there is no choice but to start by asking: What exactly is wrong with the housing or mortgage finance situation? Is this a reason to use public monies? What might be done to solve that problem relatively efficiently? Stating that the goal is to provide better housing is not enough. Why do they need better houses instead of other things that might be done with their own money? Who exactly needs the better housing? Does everyone or just a small group?

This approach brings one back to the discussion of rationales for housing finance subsidies. However, even if the real goals, such as rewarding special interests or building support for the re-election of the incumbents, are not on the list above, the subsidy design process will benefit from explicit statement of these goals (albeit not in public), so that the rest of the process (seeking the most efficient and effective tools) can be pursued. Even creating “feel-good” programs can be done in better or worse ways.

## 2. Regulatory or Policy Reform Instead of Subsidy?

Once the reasons for the constraints in the housing system are understood, the analysis should address the question of whether the constraints can be corrected through regulatory or policy reform (e.g., excessive costs of registering or enforcing a lien, or other market or legal imperfections causing excessive spreads on loans), or maybe only solved at the macroeconomic level (e.g., high inflation causing high interest rates). To the extent that they cannot (e.g., it is politically unpopular to strengthen foreclosure or reduce inflation), second-best but still relatively efficient subsidies can be designed.

## 3. Which Subsidy?

After establishing the need for a subsidy for specific segments of the market and its goals, one can move on to outlining relevant sub-sets of subsidy options and select the best implementation agents based on accepted design principles. As noted above, the choice is very large, just going on what has been used around the world up to now. It should also be noted that, although much can be learned from experience in other countries, there are almost always special circumstances within each country calling for customization of any solution to that specific environment.

## 4. Costing and Budgeting

Once the goal is identified, and subsidy measures that actually address that goal are being contemplated, it is critical that the costing out and design of the subsidies be done properly, taking into account both the current and future costs, both direct and indirect, and comparing these to individual and social benefits, equity considerations, and alternative ways to make the subsidy transparent.

Costing the subsidy is particularly important. If the total real future costs are not calculated, the political system will give much more weight to short-term impacts on

the budget than long-term effects. The result will be a subsidy scheme that is either unsustainable or, at least, much more expensive than expected. This is one reason why lump-sum subsidies are favored by many policy analysts and tax and interest rate subsidies are favored by politicians.

In costing out the subsidy, common-sense economics needs to be brought to bear. For example, most housing finance subsidies, if successful, will cause a rise in the total amount borrowed. This increase needs to be factored in when forecasting the costs.

Under some circumstances, this increase can be extreme. For example, if the net cost of mortgage loans is reduced to less than the return on bank deposits, the increase in borrowing can be much larger, maybe even 10 times larger, than, for example, reducing the effective rate by 2-4 percent but still leaving it above the rate on bank accounts. Similarly, a 20 percent *bausparkasse* premium may have 3 times the effect of a 10 percent premium on the amounts saved, and therefore 6 times the cost, because if the return on savings in a *bausparkasse* are much higher than in a bank, many people will simply shift their savings to *bausparkassen*, increasing the cost of the subsidy above what might be expected. Complex models can be used for this, but simply asking oneself and one's neighbors what they would do in reaction to a subsidy scheme is often enough to suggest the order of magnitude of the response.

## 5. Implementation, Monitoring, Evaluation

Even the best designed subsidy, properly budgeted for, can fail to be efficient and effective if it is not implemented properly. Finally, and unfortunately very rarely, existing subsidies should be quantitatively monitored and evaluated over time for effectiveness, efficiency, and needed refinements.

There is evidence that this last step is the key to moving gradually to a rationalized subsidy policy, since even rudimentary analysis can make it (embarrassingly) clear that some schemes have little net effect relative to their cost or are badly targeted, while others are effective and should be expanded.

To do this, there should be government support for ongoing independent analysis of such subsidies. This analysis could be done by a staff of internal experts with appropriate skills in economics and finance, or through contracting with external academics or research institutions to assess performance. This process has been relatively successful in a number of advanced countries in moving subsidy policies towards far more effective and efficient formats (and simply reductions in subsidies because effects of most schemes were found to be so poor).

## SUBSIDY POLICIES IN CENTRAL AND EASTERN EUROPE

### Rationales

Although it has been 15 years since most of the countries of Eastern and Central Europe started their transition to market economies and democratic governance, the evolution of housing finance subsidy policy is still early in some, if not most, of them. This is primarily due to the fact that the housing finance sector itself has taken time to sprout and mature. Severe economic circumstances have also often prevented forays into any significant level of subsidy to the sector. These same circumstances created lending terms that were unattractive without unusually deep subsidies.

However, several countries have had significant experience in the area. The longest experience has been seen in the Visegrád countries (the Czech Republic, Hungary, Poland and Slovakia). Interesting contrasts can be drawn between that experience and the experience in the Baltic states, where subsidies and other interventions were far more muted.

What issues have they tried to address? What sorts of subsidies to housing finance have they used and with what success?

As noted above, public health issues are not generally pressing in such countries. But renovations of crumbling panel buildings (or older inner-city structures), including energy conservation measures, have been a high priority in some. To this end, various schemes to reduce the effective rate on loans to condominium associations have been adopted in some cases, but the extent and exact terms are not known.

Fairness has been an issue in all of these countries, although not necessarily in the expected manner. The main aspect has been helping younger families, who did not benefit from the privatization of state rental and co-op housing in the 1990s. It is the younger generation that must deal most directly with the end of state provision of housing.

This has generated special programs directed at first-time homebuyers in most of the countries. The support usually takes the form of interest rate subsidies, usually paid to the lender, and/or a lump-sum grant. In Lithuania, it also included subsidized access to mortgage insurance.

Only a few countries addressed another aspect of the fairness question, that the housing bundle of citizens varied enormously at the time that the existing stock was privatized, and this largely determined the housing (and asset wealth) of the individual household. Some countries provided interest rate subsidies based on the space per person currently occupied by the beneficiary. Most countries, however, seemed to adopt the view that the allocation of housing wealth was reasonably in keeping with the implicit effective distribution of wealth (although nominally uniform) under the socialist system. Managers and scientists got good flats and villas and factory workers got poor flats, and it was up to market forces what would happen subsequently.

The assistance to younger non-owner families could also be categorized as subsidies designed to boost homeownership as a method of improving social stability. However, most of these countries had such high levels of formal or informal (i.e., right to occupancy at a nominal rent) ownership that it is difficult to accept the existence of significant concern about a large number of (true) renters not feeling a commitment to civic progress.

The last two rationales for subsidies, overcoming inefficiencies and stimulating economic growth, played major roles in the formulation of subsidy policy. In several countries, the idea was promoted that subsidies were needed to bring lenders and borrowers into the market or otherwise the mortgage finance sector would not develop properly. In Hungary, this view took on the added element of concern that the former state savings bank, OTP, would deter development of housing finance through its near-monopoly on retail savings deposits.

All countries were anxious to see sustainable economic growth after the depression conditions of the early 1990s, and residential construction was seen to be an important part of that. This rationale was often hooked together with the goal of developing vibrant mortgage markets to achieve support for broad scale subsidy schemes, such as large grants, deep interest rate subsidies and tax subsidies, and, in the case of Hungary and Latvia, the founding of a state-owned mortgage bank.

The Visegrád countries also all passed *bausparkassen* (BS) legislation based on these latter two rationales. The BS were seen as sources of longer-term capital for buying mortgage bonds (part of conventional wisdom, but not really a pressing issue in countries where interest rates were so high that there was little demand for long-term loans). In addition, it was claimed that the low-rate loans eventually emanating from the BS would boost economic activity (that in theory might generate taxes covering the cost of the subsidies).

## Results

Generally, these subsidy schemes were borne more of political expediency than of analytical insight.<sup>7</sup> Not surprisingly, they succeeded more politically than economically.

The one scheme pursued by all Visegrád countries, the *bausparkassen*, is an extreme example.

The prevalence of the BS was not a coincidence, nor a decision independently formulated by the various governments. The German and Austrian *bauspar* interests lobbied strongly to create new markets “next door” for their capital and financial technology and they found a receptive audience among the parliamentarians in each country. There was little analysis and ready acceptance that the impact on growth would be significant.

Unfortunately, this overlooked the fact that the subsidies to BS take 4–6 years to become available to borrowers. Even after that point was reached, there is little evidence

that they have affected the housing markets in these countries, particularly relative to the large amounts of subsidy involved. In Slovakia, finance from the BS has significantly substituted for finance from conventional mortgage lenders, but with little apparent effect on the housing market. In the Czech Republic, they have become seen as more of a subsidized form of savings than a source of housing credit.<sup>8</sup> In general, the schemes were poorly suited to the circumstances in these countries,<sup>9</sup> and are now arguably superfluous, but have become politically difficult to cut back or rationalize.

All of the Visegrád countries adopted various schemes targeted to those who would build new housing. The problems with all such schemes is that of “buying out the base,” the process whereby the subsidy goes to those who would have bought or built a new home anyway, as well as those enticed into doing so by the subsidy. Another problem is that the program can become “too successful” and generate unexpectedly high costs. Both of these were major problems when, in 1994, Hungary greatly expanded a program that provided large grants for new housing. The use of the subsidy was much greater than expected yet the number of extra units was fewer than half of those who received the subsidy. The result was that the scheme had to be significantly cut back after just seven months, but the revision process allowed so many to claim it in the future (the public had a month’s notice to get a building permit before the subsidy window door was closed) that the cost burden remained significant for several years.<sup>10</sup>

The best part of the 1994 scheme was that it involved a single lump-sum grant, and the cost was clear already 7 months later. Hungary’s next attempt at a major economic (and political) stimulus came in the run up to the 2002 elections.<sup>11</sup> Instead of a lump-sum grant, homebuyers became eligible for such deep interest rate subsidies that the net cost of borrowing was distinctly lower than the rate of return available on savings. This led to a huge increase in borrowing (previously, 80–90 percent of home purchases *did not* involve a loan, now up to 80–90 percent of purchases *did* involve a loan, thereby substituting for personal savings or intra-family transfers) but only a small increase in actual construction. In other words, almost all of the subsidy went to “buy out the base,” with an even worse benefit-cost ratio than the earlier grant scheme. In this case, moreover, the costs of the subsidy scheme will be a burden on the budget for the next 20 years. Because of the low visibility of the subsidy in the immediate budget, it has been politically difficult for the new government to cut back on the scheme.

All of the Visegrád countries have also adopted some sort of tax subsidy for mortgage loans. This appears partly based on a belief that such subsidies are standard in richer Western countries (mostly true, but against the advice of most policy analysts), partly that it would entice more “black income” to be reported, and partly to appeal to middle class voters without making the tax-regressive aspect of it transparent.<sup>12</sup> Hungary also has the most extreme version of such a subsidy, whereby a percent of the total loan repayment (principal and interest) goes towards reducing taxes. This, combined with other interest rate reductions, implies that for many borrowers, the effective interest rate

is negative, i.e., the state is paying them to take out the loan. There is also no evidence that this subsidy has had any significant effect on the housing sector.<sup>13</sup>

Hungary also took steps supposedly designed to create a fuller and more active housing finance market. Much of the deep subsidies noted above were directed at supporting the growth of a mortgage bank system. The need for such a system was never demonstrated, but political forces led first to the creation of a state-owned mortgage bank and then to the creation of subsidies just for that bank when it became clear that it would fail without them. Ironically, one of the arguments for the bank was to counterbalance the near-monopoly position of OTP. Once OTP gained access to the same subsidies, it took as large a share of the mortgage bank market as of the commercial bank market.

The Czech version of the interest rate subsidy is notable for one very desirable feature. Although initially stated as a flat 4 percent reduction in the mortgage on eligible loans, it was modified in 2000 to phase down as market interest rates fell. Thus, as economic stability brought lower rates after 2000, the subsidy rate on new loans declined and eventually went to zero. The scheme still suffers, however, from the main problem with such subsidies, that the future costs of the interest rate buy-down (the bulk of the real cost) is not reflected on the current year's budget (as well as largely buying out the base).

Poland avoided most of the weakest aspects of these other subsidies. It neither committed to large ongoing subsidies, to a *bausparkassen* system, nor adopted a long-term interest rate buy-down. Instead, a tax subsidy on mortgage interest was adopted. A different sort of subsidy was used in the 1990s to encourage economic growth, whereby individuals could deduct, up to a relatively high limit, the cost of constructing a new house. This subsidy was notable in that it did not require taking out a loan, did not involve long-term future commitments of additional subsidy, and was a clear incentive to build more housing. Its main weakness was the high cost of buying out the base. By 1998, it was costing more than 2 percent of the state budget (but as a tax subsidy, it was an off-budget item).

The Baltic states are a notable contrast to the Visegrád countries. They generally avoided the deep subsidy expenditures, yet benefited from a flowering of active mortgage markets largely based on market-rate lending. For Estonia, this reflects their general adherence to more strongly market-oriented policies as well as close ties to Finland and other Scandinavian countries. This drew in strong foreign ownership of local banks. Given conservative economic policies and a commitment to a fixed exchange rate with the euro, loans were being made in euros at low rates. This reduced the pressure for subsidies and encouraged narrower spreads in mortgage lending (not coincidentally, Hungary has the largest subsidies and the largest spreads as well).

Lithuania has also experienced foreign ownership of its banks and the flowering of market-rate lending. Some notable subsidies were used, however. From 1992–1997, off-budget funds derived from privatization were used to finance completion of co-op

buildings that had been committed to earlier. This was mostly an economic stimulus goal.

This program was modified after 1997 to address fairness, with younger, non-owning households being eligible for an interest rate buy-down. From 1998 to 2001, the buy-down was similar to that in the Czech Republic, bringing the rate down to a certain level (usually 5 percent). From 2001–2003, the low rate environment caused a switch back to a fixed amount of buy-down, but with the goal of keeping the net rate above 0 percent (even so, the net rate was now below the rate on savings, encouraging those who did not really need a loan to apply as well).

The scheme had two additional desirable features. The buy-down was set to end after half of the period of the loan, on the proposition that the household income would then have risen, and, after 2000, the state would pay for the cost of any mortgage insurance needed to borrow more than 80 percent of the cost of the house. This last subsidy was also designed to support a market-rate mortgage insurance scheme that had been set up by the government in 2000.

This overall scheme was a reasonable way to promote fairness. The amount of the total subsidy per beneficiary was limited, so the percentage value was lower for higher income households. The life of the subsidy was limited to a reasonable period. The net rate was kept above 0 percent (but still perhaps so low as to encourage unnecessary borrowing). There were also limitations on the number of such subsidies granted in any given year, in order to protect the budget. And provisions existed for high LTV loans for those who could not participate otherwise. However, it was not clear what share of the beneficiaries were “incremental,” especially in an economy where many of the younger households were already benefiting from the higher incomes available to professionals in a market economy and could probably have bought a house anyway.

Notably, the program was terminated in 2003 and an unlimited mortgage interest tax deduction granted as a substitute. It is not clear whether this was in response to pressure by the broad middle class to gain access to subsidies or simply a perception that such tax subsidies were conventional in advanced economies but could not be afforded without ending the interest rate subsidy scheme. In any case, a targeted program with a clearly stated goal was replaced by an untargeted one without any likely effect. It was also notable that, as is often the case, the decision was made at the highest (political) levels without analysis at the policy level.

## WHAT SUBSIDIES WORK BEST IN THESE SORTS OF COUNTRIES?

Based on the experience in CEE countries, and other countries discussed in Hoek-Smit and Diamond (2004), what might be the most sensible subsidies to housing finance? The best single choice in all cases depends greatly on the specific circumstances in any



given country, including the past history of subsidies, the nature of the political discussion about them, and the apparent rationales for them. These also partly determine the degree that the subsidies can be targeted and designed to minimize “buying out the base” and maximize the impact on actual behavior relative to cost.

Having said that, as a generalization, well targeted lump-sum subsidies are traditionally considered the best for meeting most of the goals noted above, including fairness and justice and also social stability. This is because the cost is transparent, the benefit is clear to the beneficiary, and it is going mostly for actual housing and not for the lender margin. Beneficiaries do not even need to be creditworthy to receive it.

In transition countries, if most of the older population has received their housing unit at a nominal charge, such a subsidy should be targeted to first-time buyers as well as by income. Moreover, to minimize buying out the base, the subsidy should be designed to phase out as income or house-size or cost exceeds some standard (more typically, subsidies to first time buyers in CEE have been limited based on a maximum size for either house or loan—wise given the prevalence of undocumented income—but the subsidy was not usually reduced as loan or house-size exceeded the cap).

In order to calibrate the impact on the budget, such subsidies can be limited in a given year and rationed by some transparent system. It should be noted that time on a waiting list, by itself, is not always highly correlated with any measure of social need.

However, there is a significant reason not to emphasize lump-sum grants in transition countries. Given that a large share of the population has been given their home debt-free, that the population is usually stable or declining (and thus most young families are potential beneficiaries of bequests of such equity from parents or grandparents), and that intra-family aid with home purchase is very common, it is more likely than in other countries that a lump-sum grant is not really needed by many potential beneficiaries in order to buy a home. In other words, even with significant targeting, there is still a large element of buying out the base.

What may work better in such circumstances is a relatively shallow interest rate subsidy (as in the Czech Republic), possibly combined with some system for subsidizing the availability of high LTV loans (somewhat like what Lithuania had from 2000-2003). If the interest rate net of subsidy is equal to or above the rate available on personal savings, even subsidized loans have some net cost over using personal cash and will not substitute when buyers’ savings plus intra-family transfers are already sufficient (which is clearly often the case given that, in the absence of deep subsidies, the great majority of home buyers in the Visegrád and Baltic states do not use any significant amount of credit for home purchases).

Users do not have an incentive to draw on the subsidy if they do not need any additional funding. If they do need such funding, it will probably cost them very little in inflation-adjusted terms (if the mortgage rate net of subsidy is only a little more than expected inflation). The problem of non-creditworthiness of the target population (a

big problem in developing countries) is not as prominent in most transition countries. If beneficiaries are very short of cash, a high LTV loan may be able to help bridge that gap.

The critical weakness of such mortgage interest subsidies is that most government budgeting systems do not recognize the outstanding amounts of future budget commitments that are being taken on. In the absence of such budgeting, the political process will tend to overextend such subsidies, looking towards short-term popularity over long-term burden. This has been a serious problem in all of the Visegrád countries, where the balance of power is so narrow that elections are always close.

If there is a political need to support housing finance for middle-class households as well, the best option may be small interventions in the housing finance system, involving controlled and relatively small subsidies that address potential “failures” in the housing finance market. These can include support for managing credit risk, say mortgage insurance, or for capital market access, say subsidies for issuing mortgage bonds. These interventions help give private market participants the full range of options in organizing the sector and managing the risks.

Such interventions, though, should be carefully calibrated. The mortgage bonds given as subsidies in Hungary were hugely excessive, explainable only as a subsidy to support the state-owned mortgage bank. In the process, they have significantly distorted the capital market. The tax-exemption of mortgage bonds in the Czech Republic is a more measured approach. The state-owned mortgage insurance company in Lithuania is also a measured approach to expanding access to high LTV loans, since the state has explicitly excluded any open-ended guarantee and the premiums are set based on independent actuarial calculations.<sup>14</sup>

It is not easy to find evidence in favor of using subsidies simply to give a boost to the mortgage industry. Countries with small or no subsidies, such as Poland, Lithuania, Estonia, and Ukraine, have developed active and competitive mortgage markets when the macroeconomic and banking conditions are ready for it. Similarly, the argument that *bausparkassen* are needed to ensure that the market for smaller loans for renovations develops is thoroughly undermined by the fact that such markets have developed for good business reasons in other countries with level playing fields for such loans.

In addition to subsidies to homeowner mortgage finance, there may be a role for subsidies to expand access to private or non-profit rental housing options.<sup>15</sup> Most of the CEE transition countries have, or are working on, schemes for promoting “social rental housing.” Unfortunately, in some cases this has meant simply giving funds to municipalities or state entities to build more government-owned rental housing, despite the extensive experience under socialism with the problems that this involves. The topic of financing social rental housing is too complex to explore here, but a good summary by Claude Taffin, head of research at the Union of Social Housing Companies in France, is included in Hoek-Smit and Diamond (2004).

## The Role of Policy Analysis

The last two sections indicate that the author believes that there is room for significant improvement in the sorts of housing finance subsidies used by CEE transition countries. There is some experience that suggests that these countries will gradually move towards better subsidies. In some cases, this will be because the current subsidies are building up unsustainable levels of future budget commitments. In other cases, it will be because of analysis of the cumulative experience with past and current subsidies.

This latter factor has had a significant impact on policy formulation in many of the richer OECD countries.<sup>16</sup> Analysis of the impacts of subsidy programs can never be precise, but even study of crude data is often enough, when combined with observations from participants, to conclude that a program may be having very little impact relative to its costs. Usually even simple analysis of actual data (if the data exists) and program operations will point to major improvements that can be made within the scope of an existing scheme to reduce waste or increase effectiveness. But going so far as to label a program valueless (as many probably are) may be more difficult to publicly state or utilize, because of the entrenched interests that usually build up around subsidies (not to mention the embarrassment of the program's original promoters).<sup>17</sup>

On the other hand, some transition countries are starting to move up along the learning curve. Two good examples are the Czech Republic and Lithuania. The Czech Republic has internal staff at the Ministry for Regional Development that monitors and analyzes the many housing subsidy programs. It has also commissioned analyses of the scheme by independent academic experts.

In 2002, Lithuania used World Bank funding to conduct an independent review by domestic and foreign experts of most of the major existing and proposed components of its housing policies. This created a strong base of data and analyses that will be useful for several years in framing housing policy there.<sup>18</sup>

Academic analyses by non-political observers will not usually dominate the public discussion among political players about subsidy schemes. The politics of subsidies has a life of its own, often very divergent from careful and explicit analysis. But in many countries, the preparation of objective data and commentary, especially on the logic and effects of current schemes, has narrowed the range of "plausibility" in the claims that political discussion can make about the advantages of a specific scheme. It is also true that many schemes actually operate very differently from the public perception, even by its political advocates, and documentation of actual experience can correct these misperceptions and prompt revisions.

Admittedly, such research will never channel political or public discussion into the dry, impersonal frameworks favored for such analysis. But it seems to this observer that the preparation of such analyses is a necessary, if insufficient, condition to evolve public policy towards more effectiveness. With 10 or more years of experience in the

advanced transition countries, it would be doubly useful for their subsidy schemes to be critiqued, both for their own benefit and as a cautionary warning to the countries that enter transition later against blindly following in their footsteps.

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## ENDNOTES

- <sup>1</sup> This paper is partially based on a report written with Marja Hoek-Smit for the World Bank entitled “An Illustrated Guide to Housing Finance Subsidies.” However, the views expressed here are those of the author and not necessarily those of Professor Hoek-Smit or the World Bank.
- <sup>2</sup> There may be issues of thermal control, earthquake resistance, and other related health and safety issues. These may be especially relevant in the context of subsidizing credit taken by condominium associations.

- <sup>3</sup> This is the rationale emphasized by Christian Donner in his massive study of housing policies in EU countries. He claims that the aim of housing policy “is to assure every household access to housing adequate in size and in quality and at reasonable expenditure effort” (2000: 38). Because these norms are not absolute, but instead relative to consumption and expenditure levels for higher income groups, this translates into an argument for redistribution towards supporting housing consumption among lower-income households.
- <sup>4</sup> Education is often considered a merit good; see Musgrave (1957) for more on this concept.
- <sup>5</sup> Sweden may be a good example of this. It is notable for very broad subsidies to housing, as well as its serious pursuit of “social” objectives. See Christian Donner (2000: 423).
- <sup>6</sup> The advantages of vagueness about policy goals has been strongly illustrated by the experience in the US and UK in the aftermath of the invasion of Iraq.
- <sup>7</sup> This perspective is echoed in Struyk’s study of housing finance policies in Visegrád countries, in Struyk (2000).
- <sup>8</sup> See Dübel (2003) for more details on the *bausparkassen* systems in these countries.
- <sup>9</sup> Diamond (1999a, 1999b, 2002) examines these schemes in detail and their apparent costs and effects. Based on some of the initial experience in the other Visegrád countries, Poland repealed their BS scheme without ever implementing it.
- <sup>10</sup> There were also problems with abuse and unintended consequences, not surprising when such a large subsidy (up to 60% of the cost of a new house in rural areas) is offered. There were stories about paying contractors to inflate construction costs and people “demolishing” their old house. In fact, one of the poorest counties in Hungary with only 5 percent of the population received 25 percent of the subsidy payments in 1996. The increase in the number of demolitions there was almost equal to the increase in construction.
- <sup>11</sup> See Hegedüs and Somogyi (2004).
- <sup>12</sup> Unless carefully designed, such tax subsidies do not respond to any of the rationales noted above, including that of promoting homeownership, but could reflect the idea that general levels of housing consumption should be above the “market-determined” levels.
- <sup>13</sup> Neither housing production nor housing prices in Hungary have responded strongly to what has been a truly massive outpouring of subsidy since 2001. Lending has grown by a factor of 10, and lenders are reporting huge profits.
- <sup>14</sup> It should be noted that, just because the US and Canada have both state-owned and private mortgage insurance, in other countries, including Lithuania, banks can choose to offer higher LTV loans for a higher interest rate. If the state wishes to subsidize this, it can do so directly through the banks. At LTV ratios up to 90% (sufficient in most transition countries), it is not obvious that the risk needs to be shifted to specialized mortgage insurance companies.
- <sup>15</sup> There may also be social equity, market imperfection, and even public safety arguments for some subsidies to condominium organizations for renovations to common areas. These are beyond the space of this paper.
- <sup>16</sup> Many of these countries have used comprehensive reviews of housing policy or specific programs to significantly rationalize their subsidy structures.
- <sup>17</sup> Making even small changes can be very difficult, as evidenced by the great resistance to reducing the seemingly self-evident inefficiencies associated with the *bausparkassen* subsidy in the Czech Republic or the mortgage bond subsidy in Hungary, or, for that matter, the almost unrestricted tax subsidy to mortgages in the US.

- <sup>18</sup> The products of that review can be found at the World Bank's website. It was notable that the presence of the review did not prevent the political process to instigate a major change in housing finance subsidy policy, a tax deduction for mortgage interest, without consulting the reviewers or other policy analysts. It is not known how the review has affected policy development since 2002.

## Risk Management and Mortgage Portfolios: Some Applications for Emerging Markets

Robert Van Order

### **ABSTRACT**

This paper is about controlling the risks that come from holding a portfolio of mortgages. An important underlying notion, which is a basic principle of financial management, is that risk is fundamentally a portfolio concept. For a bank or other financial institution it is not the risk of individual assets that matters; rather it is the way in which they are combined to affect the risk of the overall portfolio that is most important.

The focus of this chapter is on credit risk: how it can be analyzed and priced, how it fits into portfolios of investors, and how it can be allocated. However, credit risk is not the only important risk. A major risk, especially for long-term mortgages, is interest rate risk, in particular, the risk from funding long-term mortgages with short-term deposits. Balancing these two risks is a major portfolio management problem, in part because the two interact: things that help manage interest rate risk, such as securitization, can make management of credit risk more difficult.





# Risk Management and Mortgage Portfolios: Some Applications for Emerging Markets

*Robert Van Order*<sup>1</sup>

## 1. INTRODUCTION

This paper is about controlling the risks that come from holding a portfolio of mortgages. The focus is on credit risk: how it can be analyzed and priced, how it fits into portfolios of investors, and how it can be allocated. However, credit risk is not the only important risk. A major risk, especially for long-term mortgages, is interest rate risk, in particular, the risk from funding long-term mortgages with short-term deposits.<sup>2</sup> Balancing these two risks is a major portfolio management problem, in part because the two interact: things that help manage interest rate risk, such as securitization, can make management of credit risk more difficult.

An important underlying notion, which is a basic principle of financial management, is that *risk is fundamentally a portfolio concept*. For a bank or other financial institution it is not the risk of individual assets that matters; rather it is the way in which they are combined to affect the risk of the overall portfolio that is most important. This risk can be measured either by the volatility of the value of the financial institution or by the probability of the financial institution not being able to meet its obligations (insolvency).

There are three central themes regarding credit risk:

1. The use of a house as collateral and the ability to foreclose and evict borrowers are important tools in managing and pricing credit risk.
2. Geographic diversification is an important tool for managing the credit risk of a portfolio of mortgages, and there are several ways of obtaining this, e.g., loan sales, risk-sharing arrangements and lending through branches of international institutions.
3. Information is a scarce resource, particularly in emerging markets. Asymmetric information is a byproduct of this, which makes reallocation of risk more difficult and enhances the importance of collateral as a device for controlling risk.

Interest rate risk is managed differently from credit risk. Because interest rates are highly correlated, geographic diversification is of little help. Managers of mortgage

portfolios have to look at ways of matching the funding of assets and liabilities. Major ways of doing this are:

1. funding adjustable rate or short-term mortgages with short-term deposits
2. funding long-term mortgages with long-term debt
3. selling mortgages (primarily by securitization).<sup>3</sup>

The analysis below suggests that there are enough degrees of freedom that mortgages can be funded without significant interest rate risk, but that getting the benefits of geographic diversification requires much work and concern about asymmetric information and whether the right parties are taking the right part of the risk.

The paper begins by analyzing credit risk, focusing on its determinants and on how it can be priced. The focus is on the role of collateral in controlling risk, as well as in pricing it. It then moves on to portfolio problems and handling both credit and interest rate risk. The analysis uses data and analogies from US mortgage experience.

## 2. CREDIT RISK

Credit risk in a broad sense refers to uncertainty about the costs from borrowers not making their payments as scheduled. A short run element of this is *delinquency risk*, the risk of late payments, which even if there is not a foreclosure can cost the lender money. That risk is ignored here, and the focus is on the risk that the borrower cannot make up late payments and the lender will have to foreclose on the property. For convenience this is referred to as *default risk*.<sup>4</sup> The purpose of this section is to present an overview of what we know about the determinants of default and pricing default risk.

### Default Models

It is by now generally recognized that a wide range of contracts can be modeled as analogous to financial contracts with (embedded) options. This approach is applicable to mortgages.<sup>5</sup> Mortgages have termination options: early payment (prepayment) is a call option (i.e., an option to buy back or call the mortgage at par), and default is a put option (i.e., an option to sell or put the house to the lender at a price equal to the value of the mortgage).<sup>6</sup> The application of formal stock and bond option-pricing methodology, following Black and Scholes (1973) and Merton (1973) has been the centerpiece of most mortgage pricing research.

The essence of the option approach is that while it is not possible to predict who will default very accurately, it is possible to analyze default, understand its determinants and attach probabilities to it, so that it can be priced and to some extent controlled. For instance, we can understand how a decline in property value can be a factor in causing

default even if we cannot predict which properties will decline in value, and we can estimate probabilities of property value decline. We can, then, view the problem in probabilistic terms; that is, we can estimate the probability of default and use estimated probabilities to estimate expected costs of default.

## Understanding the Determinants of Default: Option-based Models

Formal option models analyze models of “strategic” default, that is, where borrowers compare the value of their property and the value of their mortgage debt and default when the former exceeds the latter. This is a strategy that maximizes the borrower’s wealth. These are elegant and not entirely realistic models for mortgage markets.<sup>7</sup> The *option-based* approach is broader, more flexible, and less elegant; it focuses on the relationship between homeowner equity and default cost, which comes from two notions:

1. Borrowers are unlikely to default if they have equity in their property. They will do what they can to raise money to protect their investment, and they will sell the property and keep the equity rather than turn it over to the lender.
2. Even if they do default with positive equity, the lender is likely to recover cost after selling the property.

Hence, focusing on negative equity and thinking of default behavior as akin to exercising an option is a good way to begin, because it is only in states of the world where the option is *in the money* (states where a “rational” borrower might choose to exercise the option), i.e., states with negative equity, that default is a serious problem to the lender. Of course, there is more to default than just negative equity. Most analysts and researchers believe that a good first approximation to default behavior is that default comes from the intersection of three events:

1. negative equity
2. a “trigger event” such as illness or job loss
3. lack of resources to get over the trigger event.

Detailed analysis of *how* these interact (e.g., there are probably occasions where equity is so far negative that borrowers default without a trigger event and/or they choose not to survive a trigger event even if they have the resources) is generally not possible with most data sets. So analysts generally must be satisfied with proxies for these factors and *ad hoc* empirical models.

Recent research suggests that a reasonable proxy for the likelihood of trigger events is the borrower’s credit history. It appears to be the case from this research that credit history and equity are both very strong predictors of the probability of default, but there is still no good way of predicting which borrowers will default.

## A Simple Option-based Model

It is clear that mortgage borrowers do not exercise their options in the same “ruthless” way that owners of financial options exercise their options. In part this is because the exercise of the option, defaulting on the loan, has extra costs for mortgage borrowers. It usually involves moving out of the house and finding a new one, and it affects borrowers' credit ratings. What the option-based approach does suggest is that borrower equity is important and that its affect is asymmetric: when borrowers have a lot of equity they only do what they're supposed to do, make their payments, but when equity is negative they tend to default. While we can say that out-of-the-money options will not be exercised, we cannot say very precisely when an in-the-money option will be exercised because of the problem of not being able to observe the detailed calculations that borrowers make about the benefits and costs of default.

A simple version of the model described above is that the probability of default is the probability of negative equity times the probability of a trigger event times the probability of not having sufficient resources to fall back on.<sup>8</sup> It says that equity should matter and should be included as a key explanatory variable in every model, but it is also consistent with a wide variety of other factors, if they are plausible proxies for the trigger events.

Formally, we can estimate

$$(1) \quad d = E \cdot f(x,t)$$

where  $d$  is the probability (over some time period) that the loan will default,  $E$  indicates whether (and/or the extent to which) the borrower has negative equity (e.g., the researcher's estimate of the probability of negative equity),  $f(x)$  is a function of a wide range of trigger event variables (e.g., credit history) and variables representing the ability to withstand a trigger event (e.g., borrower's liquid wealth or the ratio of mortgage payment to income), and  $t$  is the time expired since origination.<sup>9</sup> Most research uses historical data to fit equations of this form.<sup>10</sup>

## A Framework

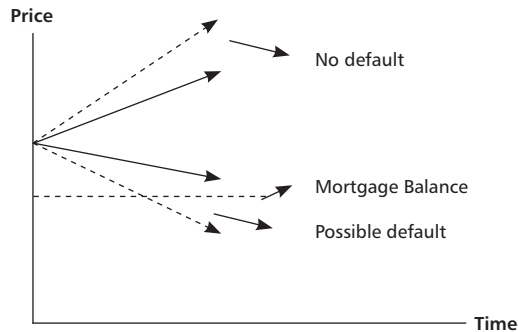
We begin with the initial value of the property and the loan balance, which for simplicity's sake is taken to be constant over time (rather than amortizing). The ratio of the initial loan balance to the initial value is called the Loan-to-Value Ratio or LTV. It is related to the down-payment ratio,  $DP$ , by

$$(2) \quad DP = 1 - LTV$$

It is common to speak in terms of LTV rather than DP, but both ratios can be used to convey the same information, how much equity the borrower has in the house at the time the loan is originated.

A simple depiction of the process of property value's evolution over time is contained in the follow diagram. The assumption is that prices go either up or down with some known or estimated probability.

*Figure 5.1*  
The ups and downs of property prices



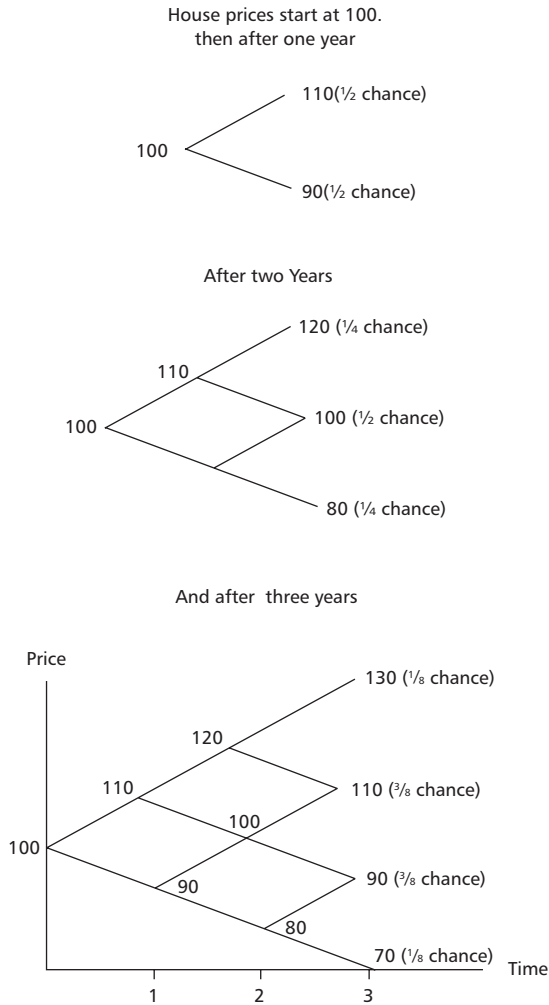
The solid arrows are modest moves, and the dashed ones represent strong moves. The lender needs to know the steepness of the arrows and the probabilities of increases or decreases. These will vary by location. For instance, in the US it is generally the case that California has stronger moves both up and down than does Arizona, but in California the probability of an increase has generally been higher.

We begin by assuming that prices are as likely to increase as decrease. In neither of the upward sloping arrow cases in the diagram were default losses likely because house prices increased in both cases. It is the downward sloping arrows that raise problems. The less steep of the two areas is less likely to be associated with default because while value (or price) did fall it did not fall be enough to make equity negative. In the steep arrow case default is more likely. Trend also matters. If, for instance, increases happen 60 percent of the time, then the frequency with which negative equity situations occur will be smaller.

Given the trend (in this case flat) the more volatile are price moves (the steeper are the arrows) the more likely is default.

Next consider a more formal model that includes both default behavior and pricing over time. We continue with the simple model of prices being as likely to move up as down, but we extend it over several periods. We start out with house prices equal to 100, and then trace possible levels and their probabilities over three periods. Figure 5.2 depicts movements in house prices.

Figure 5.2  
House prices over time



We now add assumptions about the mortgage and about borrower behavior:

1. The mortgage is for three periods. For the first two periods only interest is to be paid, and in the last period interest is paid and the principal is to be paid back. The interest rate is 10 percent and is constant.
2. Borrowers never default when they have positive equity. Equity is the value of the property minus the *market value* of the loan, rather than the *book value* (outstanding balance). Market value is assumed to be the present value of the

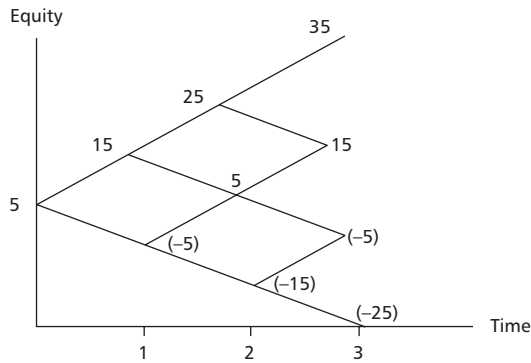
remaining payments. In this model, with no amortization and the coupon and market rates fixed at 10 percent, book, and market values are the same and constant at 100.<sup>11</sup>

- When equity is negative borrowers default 25 percent of the time and losses per loan are negative equity + 10 (for selling costs).

Now let us consider default losses and pricing for the simple mortgage. Assume the down payment is 5 percent, so that LTV=0.95 and the loan balance is 95.

Figure 5.3 shows the amount of equity the borrower has over time as house prices change.

*Figure 5.3*  
Equity levels over time



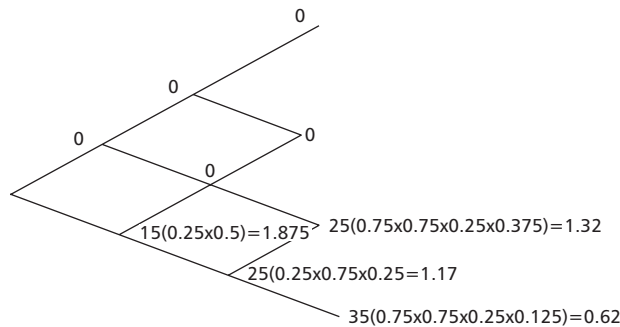
By assumption defaults only occur when equity is negative, which occurs in the four nodes in parenthesis. In the other nodes the borrower makes the payments, and there are no losses. At the nodes where equity is negative losses occur 25 percent of the time. *Expected losses* at a node are the probability of reaching the node (there may have been a default earlier, which would prevent reaching the node) times 0.25 (the probability of default given negative equity) times the losses if there is a default (negative equity plus 10).

Figure 5.4 depicts expected losses over time. For instance, at the first node where equity is negative (in the second period with house prices at 90) the (unconditional) probability of a loss at that node is 0.5 (the probability of price falling to 90 after one period) times 0.25 (the probability of default given negative equity) or 0.125, and expected level of loss is 0.125 times 15 (the loss given default) or 1.875. Expected loss at the next node with negative equity (in the second period where price has fallen to

80) is more complicated. The probability of default is 0.25 (the probability of price falling to 80 after two periods) times 0.75 (the probability of there *not* being a default in the previous period (when equity was also negative), which is the probability of the mortgage surviving the first period) times 0.25 or 0.047, and expected loss at that node is 0.047 times 25 or 1.17. The figure gives probabilities and loss given default for all the nodes where default is possible.

*Figure 5.4*  
Expected losses over time

(Probability of default at that node is in parenthesis)



From this we can calculate the probability of ever defaulting and expected losses. To the lender the measure of losses is the expected losses discounted back to the present. It is assumed that this discount rate is also the same as the rate on the mortgage, 10 percent. Then we can calculate expected (average) present value of losses over time.

In this case

- The probability of ever defaulting is (from the numbers in parenthesis)  $0.125+0.046+0.053+0.018 = 0.242$ .
- Expected present value of loss is  $15 \times 0.125 / 1.10 + 25 \times 0.05 / 1.102 + 25 \times 0.05 / 1.103 + 35 \times 0.01 / 1.103 = 4.28$ .<sup>12</sup>
- Both would be smaller if:
  - Lower LTV
  - Smaller dispersion of prices
  - Upward trend in prices

The asymmetry of the option-based model is captured in the diagrams. Strong property value increases do not help lenders much (borrowers just continue making payments), but strong decreases hurt because they are a factor in default. The probability (0.25 in this case) of defaulting during the period, given negative equity, is typically



estimated from historical data, and where data permit will vary with measurable variables such as credit history, income, etc.

This is a very simple model, which for instance does not explicitly allow for strategic default. For a discussion of models which include strategic default see the survey papers by Kau et al. and Hendershott and Van Order. Both the option-based model and the more strategic ones have much the same implication: that negative equity plays a major role in default.<sup>13</sup> The model also looks too easy in the sense that it takes for granted the 0.25 parameter for default conditional on negative equity. This should be derived from a large and rich set of historical data, data which most emerging markets do not have. Rather most emerging market analysis will have to begin with best guesses (US or European parameters are insufficient) and update as data emerge.

## Summary of Default Factors

The model suggests five important factors in predicting default:

1. the initial LTV
2. price volatility
3. price trend
4. vulnerability to a shock
5. ability to withstand a shock

Traditional mortgage underwriting guidelines can be interpreted as non-quantitative ways of incorporating these factors into lending decisions.

## A Sample Model

Here we consider a simple, illustrative empirical model,<sup>14</sup> using Freddie Mac data on 750,000 fixed rate mortgages originated from 1976 through 1983. The model focuses on LTV and the state of the economy as factors in default in a formal empirical model. It estimates the probability of defaulting per year as a function of time expired since origination, original loan to value ratio (LTV) and the year of origination, which is a simple proxy for the state of the economy (1976 was a very good year, but 1981 was a recession year). The framework (see footnote 9) is a proportional hazard model. It takes the form:

$$(3) \quad d = a(t)e^{bx}$$

where  $x$  is a vector of explanatory variables including equity measures and origination year. It is essentially the same as (1) above, but with an explicitly exponential formula-

tion. The data are used to estimate the  $b$  coefficients. Results for  $b$ 's are not shown here. Instead the  $b$ 's, which are all statistically significant, are used to calculate "multipliers" relative to a "baseline" mortgage, which in this case is loan with an LTV of 80 or below, originated in 1979 (about an average year during the sample).<sup>15</sup> Details of the statistical model are in the article cited.

Results are shown in Table 5.1. The model shows how default moves with both LTV and economic conditions, as proxied by origination year. To get a feeling for the extent to which various origination years were likely to be good or bad the average rate of growth of house prices nationwide in the two years after origination is reported in parenthesis after the origination year.<sup>16</sup> For instance, holding origination year constant, loans with an LTV at 0.95 defaulted about 8 times as often as those with an LTV at 0.80 or below. Loans that were originated in 1980 or 1981 (recession years with low (−0.4 percent and 1.4 percent respectively) house-price growth, holding LTV constant, defaulted 1.9 to 2.5 times more frequently than loans originated in 1979 (0.4 percent growth) and 25 times more frequently than ones originated in 1976 (12 percent growth).<sup>17</sup>

*Table 5.1*  
Effects of LTV and origination year (the economy) on annual default rates  
(subsequent two-years average house-price growth in parenthesis)<sup>18</sup>

LTV class	Effect (multiplier)
≤80	1.0
81–90	3.9
91–94	5.7
≥ 95	8.1
<i>Origination year</i>	
1976 (12%)	0.1
1977 (10%)	0.2
1978 (4%)	0.5
1979 (0.6%)	1.0
1980 (−0.4%)	1.9
1981 (1.4%)	2.5
1982 (2.5%)	2.1
1983 (4%)	1.4

Hence, the evidence here and in other analyses<sup>19</sup> suggests that default does indeed vary strongly with LTV and economic conditions. Because the data set used in Van Order

(1990) does not include things like credit history of the borrowers their model cannot tell us much about how default rates vary across different borrower types. However, this is likely to be the sort of data (at best) that an emerging market is likely to have, and so the “bare bones” model with little more than LTV and the movement of the economy is likely to be the most applicable.

## Pricing and Analysis

Models like the above can be used for estimating default probabilities and pricing, as well as for analyzing “what if” situations, such as what would happen in a particularly severe downturn (high LTV loans originated in a year like 1981 will have much higher default costs than low LTV loans originated in a good year like 1976).

The main pricing tool is “Monte Carlo” pricing models. These models work in much the same way as the simple pricing model above. That model began with a probability distribution of price changes (e.g., 50–50 chance of up or down for “stagnant” regions and perhaps 60–40 for growing ones) and then generated defaults and loan losses, which in turn generated the expected present value of losses. The Monte Carlo models do the same thing, calculate expected present value from an underlying probability distribution, but they are more complicated because they involve more complicated probability distributions than the simple binomial distribution in the example and they can include many explanatory variables.

For instance, more complicated distributions of house prices can be estimated, and we can then draw randomly from the estimated distributions over time to get sample time paths of the relevant variables. Going back to the simple pricing model, instead of the binomial model it might be appropriate to estimate a normal distribution of house-price changes over time. The distributions need not be constant; e.g., the short run mean (or standard error) might have a time trend or a tendency to revert back to some long run mean, and the models can consider several other variables, such as unemployment, divorce rates, credit history and interest rates as well as house prices, which can also have distribution functions.

Once the distribution function has been estimated, random draws are made from it in order to generate a time path (in the case of the model above, three periods) of, in this case, house prices during the term of the mortgage. The time path of prices will induce default losses, which are calculated using the model (e.g., a 25 percent probability of defaulting if equity is negative). The losses are then discounted back to the present, giving the expected present value of losses along that path. Repeated draws are made, generating repeated paths of defaults and expected present values. The average of these is the estimate of expected present value of losses. Because the model uses simulation techniques it is quite flexible and easily accommodates consideration of other variables

as well as house prices (e.g., by estimating the effect of unemployment on default and estimating distribution functions for future unemployment).

Estimating the probabilities is of course not easy, but sometimes there are enough historical data to get a first approximation. For instance, given the data in Table 5.1, we could assume that each of the eight origination years is equally likely and use that as a basis for generating expected present value estimates. That, of course, is, a very simple assumption, but absent a full data set (which is likely to be the case in many emerging markets) perhaps the best that can be done. At this stage in the analysis the analyst's judgment will be important in deciding how seriously to take recent history.

The estimate of expected present value can then be used to calculate an "up front" premium (that might be charged by a mortgage insurer) that would cover cost, or it can be converted into an annual payment that yields the same expected present value, i.e., the credit risk premium in the mortgage rate.

The main tool for "what if" analysis is stress tests, which analyze what happens to a portfolio of mortgages under changes in interest rates and credit conditions. An advantage of stress tests is that they can be used to analyze risk of portfolios without requiring a long history of data.<sup>20</sup>

## Risk Control at the Level of Individual Loans

The option-based model focuses on the role of equity as a primary determinant of credit risk on individual loans. The analysis suggests the following as devices for controlling risk at the individual loan level:

*Legal structure*—Strong foreclosure laws, which limit loss per default, have been essential to the development of all successful mortgage markets. The ability to treat houses and mortgages almost like commodities and default almost like a financial option is a major factor in the success of mortgage markets. Expected default costs then depend primarily on the initial loan to value ratio, which is known to everyone, and on the probability of house value falling by enough to trigger default, which can generally be estimated, and on other factors. Absent strong foreclosure laws it is very difficult to evaluate credit risk, and lending is likely to become limited to those with demonstrably low risks, a small part of the population. *If you want people to have good housing you have to be able to take it away from them.*

*Information and credit history*—It has become increasingly the case in the US that use is made of information about borrower credit history, and incorporated into statistical underwriting models that focus on down payment as a major factor in determining credit history.<sup>21</sup> For most emerging markets data on credit history are limited, and the focus for the time being will likely be on down payment. But as information becomes

more available lenders will be able to estimate statistical models of mortgage default with both credit history and equity as explanatory variables. An important element of developing a mortgage market can be collecting data on loan performance and sharing it (e.g., through credit reporting agencies).

*Macroeconomic stability*—Because volatility is an important factor in default cost and because macroeconomic instability is difficult to diversify away, macro stability is an important factor in controlling risk. The most desirable scenario for mortgage lenders is a slow but steady increase in house prices. High inflation has limited benefits to lenders, but the costs from controlling inflation after it has become a problem (high unemployment and house-price declines) can be very high.

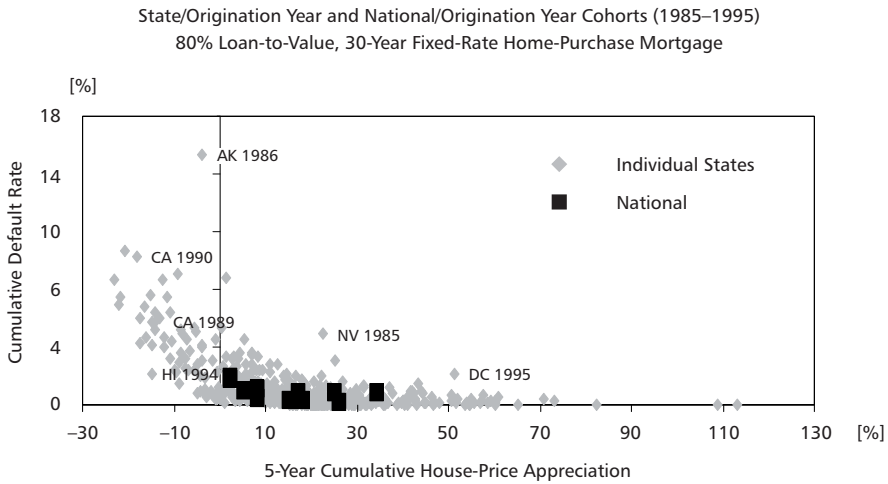
## Managing the Risks of a Mortgage Portfolio

The above discussed the risks and pricing of individual mortgages. This is not the same as the risk facing a mortgage lender with a portfolio of mortgages. In particular, the risk to a lender refers to the risk of the lender's overall portfolio, not of the individual loans in it. A portfolio of assets that are individually risky but uncorrelated with one another could be quite safe if the portfolio is large. That is, a diversified portfolio of mortgages might have quite different behavior from that of individual loans or a pool of loans that are highly correlated (e.g., concentrated in a particular region).

To illustrate this point consider Figure 5.5, which presents results from loans purchased by Freddie Mac from 1985 through 1995 and followed for their first five years. The horizontal axis depicts cumulative house-price changes over the five years after origination and the vertical axis depicts cumulative foreclosure rates.<sup>22</sup> The loans had original loan-to-value ratios of 0.79 to 0.81. The light colored diamonds represent experience of a particular state-origination year. For instance, the AK diamond represents the experience of loans originated in Alaska in 1986 over the next five years. During that period average house-prices in Alaska fell slightly (meaning over half of them fell) and the cumulative default rate was over 20 percent. On the other hand loans originated in Washington, D.C. (the D.C. diamond) in 1995 had a default rate of only 2 percent and experienced house-price growth of more than 50 percent (Figure 5.5).

The scatter looks as we would expect from the option-based model. States with rapid property appreciation had low foreclosure rates, and those with price declines had high rates. The main thing to note is the large differences in experience across states. The US experience in general has been one of relatively small national recessions but occasionally large regional recessions. The solid boxes represent the same measures but for a nationally diversified portfolio of mortgages, i.e., the entire sample of Freddie Mac loans in a particular year with the same (79 to 81) LTVs.

*Figure 5.5*  
Default probability vs. house-price appreciation



Source: Freddie Mac.

The picture tells a story. The diversified portfolio has a much smaller dispersion and much less risk. For emerging markets this is an important point: *diversification is an important vehicle for controlling risk*. For small lenders and/or small countries it can be difficult to attain, and geographically concentrated lenders run the risk of bankruptcy. That is, they run the risk that the value of mortgage portfolio will fall sufficiently below the value of liabilities funding that the lender will not be able to pay off its obligations.

Major ways of managing risk from geographic concentration are:

1. *Avoid risk in the first place.* That is, one can keep credit risk with borrowers by requiring large down payments and only lending to borrowers with the best credit histories. However, this is not always possible or desirable; the business of financial institutions is to take on risk, and a large part of the borrowing public cannot afford large down payments.
2. *Sell it off.* Lenders can sell off some or all of their loans (and in return buy loans from other regions).
3. *Share it or insure it.* Lenders can agree to share the risk with other lenders or investors. Insurance requires the development of a mortgage insurance industry.
4. *Lend through large diversified institutions.* An example is large banks and cross border lending.

5. *Hold a lot of capital.* That is, fund purchases more with equity, which does not have to pay a dividend, than with debt so that they are more likely to meet their obligations even if income, after foreclosure costs, from mortgages falls. In emerging markets, however, capital is generally both scarce and expensive.

For new or emerging institutions with not much access to insurance or capital and who do not want to be too conservative about lending the second and third strategies are the likely choices. However, they present important management and adverse selection problems, the solution to which can be complicated by the other major risk of mortgage portfolios.

## Interest Rate Risk

The second and in some ways more important risk associated with funding mortgages is interest rate risk. That is, traditional lenders, banks or specialized mortgage banks (savings and loans in the US) have sometimes funded longer term mortgages with short-term deposits. The use of short-term deposits to fund mortgages poses two potential problems for bank (depository) type lenders. First, deposits have liquidity risk. That is, while most of the time banks enjoy a stable source of core deposits, there are times when deposits flow out of banks (or do not grow fast enough to keep up with the mortgage market) and they do not have an elastic source of funds with which to replace them. Second, deposits' short maturities, combined with holdings of long-term fixed rate mortgages, can lead to a duration mismatch that is risky. In the late 1970s and early 1980s when interest rates increased rapidly many US savings institutions had large losses and became insolvent on a market-to-market basis. It is clear, in retrospect, that interest rate risk was the beginning of the collapse of the thrift industry in the 1980s.

Hence, there are at least two important dimensions to the risk of holding mortgages. Borrowers like longer term mortgages with fixed rates, and experience suggests these have lower credit risk, but funding them in the traditional way through banks and other depositories raises interest rate risk problems. Lending with adjustable rates pushes interest rate risk back to borrowers with the potential to increase credit risk when borrowers' rates increase.

Managing both credit and interest rate risk suggests the desirability of both having a long-term source of funds, and being able to sell off or in some way control concentration risk.

The ability to do either or both of these depends on the institutional structure available to lenders. This in turn will be linked to methods available for funding mortgages. So we turn next to different models for funding mortgages.

## Funding Mortgages

There are two archetypal models (with many variants) for funding mortgages. In the first, the “bank” or “depository” model, lenders fund mortgages with their own liabilities, typically deposits. In the second, the securitization model, the originator (possibly a bank) sells the loans to an entity that then turns them into securities and raises money in the bond market. Both approaches are similar in that they raise money and allocate credit risk, but the division of labor and the division of risk can be quite different.

The bank approach is rather straightforward. The bank performs all of the basic elements of making the market work. In particular, it raises funds and accepts the risk of holding mortgages. The securities market is newer and trades on the ability of securities markets to raise money faster and cheaper than the traditional bank/deposit model. However, securitization raises new issues in risk management.

## Alternative Structures for Funding Mortgages: Implications for Risk Management

### Depositories: Specialized Institutions and Commercial Banks

The two classic examples of specialized institutions are European mortgage banks and US saving and loans (building societies in the U.K. were in some ways similar to savings and loans). These institutions were especially created to focus on mortgage lending. The key difference among these is that European mortgage banks have tended to be match-funded, funding long-term mortgages with long-term bonds, whereas savings and loans were often (especially before 1990) mismatched (building societies were match-funded with adjustable-rate mortgages funded with deposits). These institutions focus primarily on housing, which might be considered a plus, but they are not well diversified across product line (though they may be well diversified geographically).

Commercial banks have not been major mortgage lenders in many countries, but their share has been increasing.<sup>23</sup> An advantage they have is that they have some (non-geographic) diversification benefits by not concentrating on mortgages, and deposits are a low cost (albeit not always elastic) source of funds. They also can exploit their general expertise in managing credit risks and cross selling products (e.g., induce borrowers to be depositors and/or to take out types of loans). A weakness is that to the extent they are confined to deposit funding they have difficulty doing fixed rate mortgages without taking interest rate risk, and/or running the risk of deposit outflows.



## Securitization and Secondary Markets

*Definitions*—I define mortgage *securitization* as the bundling of mortgages into pools (mortgage-backed securities or MBSs) for sale into capital markets. *Secondary markets* are the place where mortgages and mortgage-backed securities are traded after they are originated. *Secondary market institutions* (SMIs) are institutions (e.g., banks and/or other financial institutions) that facilitate this process. They do this by creating mortgage-backed securities and/or by buying mortgages from originators in the primary market and holding the mortgages in their own portfolio and funding the purchases with debt and other capital market instruments. It is important to note the differences among these and the ability to choose among them; e.g., securitization and the creation of a secondary market are not the same as creating an SMI.

*Functions*—In the case of either MBS or debt funding, the SMIs perform the function of connecting the mortgage market with bond markets. This function is advantageous: It provides a broader, more reliable and more elastic source of funds (from investors in capital markets, both domestic and international) than does the traditional deposit-based model, and it provides a longer term source of funds, which makes it easier for borrowers to have longer term, fixed rate funding without lenders taking on interest rate risk from maturity imbalance or taking on liquidity risk.

*Current practice*—Securitization removes mortgages from the originator's balance sheet because it involves a sale of assets by the originator into a Special Purpose Vehicle (SPV), which holds the assets, thereby assuring that owners of mortgages are not affected by the status of the seller (bankruptcy remoteness). Shares in the pool of mortgages in the SPV are then sold to investors. These sales can be *pro rata* (investors all receive proportional shares in the pools experience), or they can be divided in various ways. For instance, the pool can be broken into two classes: a subordinated class that takes the credit risk until losses reach some maximum amount (e.g., 10 percent of the pool), and a senior class that take the rest of the losses. The idea of this is to give the holders of the senior class, who are not likely to be mortgage specialists, some confidence that losses to them will be small and/or to get a strong, AA or AAA, rating. A way of enhancing this confidence is for the originator to take some or all of the subordinated class.

## Unbundling

A major change in US mortgage markets, one which will undoubtedly take place in any secondary market system, has been the “unbundling” of the four major aspects of mortgage-lending: origination, servicing, funding, and accepting credit risk. This is most evident on the investment side. Investors in mortgage-backed securities need not be involved in originating, servicing, or taking on credit risk. They do have to manage

the interest rate risk that comes with holding long-term fixed rate mortgages, but that is a function that bond market investors are supposed to take on.

## Tradeoffs

Gaining access to bond markets, whether through mortgage-backed securities or bonds can give lenders a way of avoiding interest rate risk, accessing a low cost and highly elastic long-term source of funds and, if the risk is sold along with the mortgage, of obtaining diversification, but it comes with a cost because security market operations can have high management costs. The unbundling that has come with secondary markets has enhanced efficiency by promoting division of labor, but it has increased the dependence of the various participants in the market upon one another, which in turn raises the question of whether groups on whom one is counting can, in fact, be counted on. For instance, SMIs and investors in MBSs have to worry about the quality of loans sold by originators, who might know more about the loans than they do and can select against them. Similarly, loan servicers may not have incentives to service the loans as well as investors would like. That is, information is a scarce resource, and some have better access to it than others. As a result there is a problem of *asymmetric information* between traders, which raises important management problems.

## Agency Problems and Agency Costs

The information asymmetry that comes from the unbundling, raises *principallagent* problems, or *agency costs*, which must be balanced against the generally lower costs and ease of raising money in capital markets vs. deposit markets. Agency problems, or *principle-agent problems*, refer to problems that arise when one party (e.g., an investor), the principal, uses another party, the agent (e.g., a securities dealer) to perform services for it or is in some way dependent on its actions. A problem arises if the agent has better information than the principal (the dealer may know more about the quality of securities) and does not have incentives to act in the interest of the principal (e.g., the dealer might sell the bad loans and keep the good ones). Controlling this is expensive and imperfect, and as a result there are *agency costs*, which come from monitoring and other costs as well as premiums required by investors who know they are being selected against.

Managing agency costs has been the major management problem for the secondary market in the US.<sup>24</sup> When risks are unbundled to the extent they are, e.g., in the US secondary market, it is quite important that it be clear who is taking the risks and that the risks be taken by those best able to handle them, rather than passed on to institutions that do not have the skills, information or incentives to handle them properly.

The selection issues that confront securitization are likely to be more formidable in emerging markets. In these markets asymmetric information is likely to be a bigger problem, because mortgage originators will have better access to local information, but publicly available information for investors, such as credit history and historical data, will be largely unavailable, so that statistical models that might offset local lenders' advantages will be largely unattainable in the near future.

Underwriting will be left to originators who will inevitably be able to select the best loans for themselves. The problem is worse if foreclosure costs are high (e.g., because it takes a long time to foreclose), in which case a house is not good security, and local information, which is not easily obtained by a secondary market investor, becomes relatively more important. Strong foreclosure laws have been absolutely essential to the development of the US secondary market.

How these agency problems are managed and how they affect portfolio management depends on structures available for mortgage originators and investors.

## Comparison of Structures

*Benefits of long-term funding*—Access to long-term funding allows borrowers to get long-term mortgages, if they choose to, without lenders taking on much interest rate risk. It puts interest rate risk into the bond market, which is best able to manage it (e.g., many long-term investors like pension funds and life insurance have long-term liabilities and do not find long-term assets risky). Banks, secondary markets and specialized institutions can all in principle get access to long-term funds, through securitization or bond issuance.

This expands borrower choice by allowing both adjustable and fixed rate loans. It also lowers credit risk because adjustable rate loans push interest rate risk onto borrowers, and the payment shock associated with rate increases makes borrowers more likely to default.<sup>25</sup>

*Methods for raising long-term funds and controlling credit risk*—Because of the length of their commitment and general inability to unravel it after it is made, long-term investors are especially concerned with asymmetric information about credit risk agency costs and their evolution over time. A way of handling this is to require that risk be held by someone with a long-term interest in managing it and/or that the securities have a high rating. In any event this requires that at a minimum the investors stand behind someone else in the credit risk queue.

There are five basic ways of accessing sources of long-term funds from capital markets in ways that can produce highly rated securities, given asymmetric information about credit risk and a desire by investors to have originators (or other specialists) take at least the first hit in credit risk:

1. *Securitizing loans*: But in a senior/subordinate structure where the bank (or specialist investor) keeps the subordinated part, which takes the first hit on defaults. The size of the subordination will depend on what is necessary to get a good rating on the senior part.
2. *Over-collateralized (“covered”) bonds*: Where a bank, say, puts aside 125,000 in mortgages against a loan of 100,000. This is not an asset sale; rather it is an arrangement within the banks balance sheet, where certain assets are set aside as security for the bonds.
3. *Selling corporate bonds*: Backed by all the assets of the bank (and sufficient capital by the bank).
4. *Selling loans with recourse back to the lenders*: Probably with reserves set aside by the lender to guarantee the recourse.
5. *Mortgage Insurance*: By a diversified insurer with sufficient expertise to overcome the potential of being selected against by loan originators. Insurance can be on individual loans or on pools of loans.

All five differ in important legal ways and have different transaction costs.<sup>26</sup> Securitization, for example, involves extra protection (bankruptcy remoteness). Investors in collateralized bonds may not be sure of their access to collateral.<sup>27</sup>

## Efficient Risk Bearing

The above suggest the following principles for lenders who want access to longer term sources of funds:

*Credit risk should stay mostly with the originator (or a specialist like a mortgage insurer).*

Because of agency costs it is very hard for capital market investors to be confident that they know much about the risk they are accepting. Structures that keep most of the risk with the originator, who has the best information about the risk, are likely to be best at handling agency costs.

*Interest rate risk should be taken by investors.* Originators, e.g., banks, are often not in a good position to handle interest rate risk. There is no significant asymmetric information involved in interest rate risk, because interest rate movements tend to be similar for all fixed income securities. Thus, it is better handled by investors with long time horizons, like pension funds. Furthermore, most originators (banks) have no particular advantage at forecasting interest rate movements. That is better done (if done at all) by bond market specialists. Funding long-term mortgages with short-term liabilities is very risky.

*Government guarantors should be at the end of the credit risk queue.* Again, because of agency problems, most investors and guarantors have the worst information about risk. There is often pressure for the government to provide guarantees as a way of get-

ting a mortgage system off the ground. This can be a good policy but only if the risk is structured properly. In particular, the government is likely to have the worst information about risk and not have the tools (government's ability to foreclose may be limited by policy considerations as might its ability to discriminate among borrowers) to control risk. The government can back up the system, but that does not require it to be near the front end of the credit or interest rate risk queue. Rather the government should be at the end of the queue, after lenders, investors and insurers have taken the bulk of the risk, so that its job is simply to supply credibility to an emerging system.

*Diversification should come either internally (from consolidation, like being a branch of a larger bank) or from risk-sharing with specialists like mortgage insurers.* Mortgage insurance may not appear very quickly, but consolidation and cross border funding are possible sources of diversification. That is, local banks that are branches of larger banks that are diversified across countries and regions can bring diversification benefits. Clearly, however, concentration risk can be a serious problem in emerging mortgage markets.

### 3. CONCLUSIONS AND COMMENTS

There is no single structure that is always best at accomplishing the function of linking mortgage markets with long-term financial markets. There are, however, two archetypes that are worth focusing on:

1. *Banks and bonds.* Banks can originate mortgages and hold them, funding them by issuing long-term deposits or bonds (or if possible use forward and option markets to turn short funding into long-term callable funding). With bonds the banks can attract funds by over-collateralizing the bonds. This makes the bondholders happy, but it requires the banks to raise the excess collateral either in capital or in deposit markets. Alternately, the bonds can simply be general liabilities of the banks.
2. *SPVs and securities.* In this case the bank or other lender can set up a special purpose vehicle (SPV) into which loans are sold (and taken off the banks balance sheet). The bank can set up as a senior/subordinated structure, with the bank retaining the subordinated part, which acts like the excess collateral above, with the bond market buying the senior part.

Both structures have the advantage that the loan originator is on the hook for the first (and largest) part of the credit risk, so that they put investors and/or government at the end of the queue. Then in either case the adverse selection problem is mitigated by having originators at the head of the queue, and investors' role is more in taking interest rate and systemic risk or (especially in the case of government support) promoting the creditability of the underlying legal structure.

To a large extent the success of particular structures depends on regulatory and tax issues, which vary across countries. The banks and bonds option has some appeal in emerging markets because it is less likely to require new laws, institutions etc, and because banks are more likely to be the best at managing credit risk; that is, they can manage the principle/agent problem better (at first) than a secondary market institution can, and it is easier to make bonds homogeneous (especially in early stages) than it is to make mortgage-backed securities homogeneous. The offset is the sometimes reluctance of banks to move very rapidly into the mortgage business and the possible lack of a legal structure that allows effective over-collateralization (bankruptcy remoteness). Securitization has the advantage of being more likely to guarantee investors bankruptcy remoteness, so that they are more certain of their access to the underlying mortgages.

Credit risk in emerging markets can be managed, but that requires the protection of good access to collateral. Absent this, it will be managed like that of risky personal loans. With good collateral variants of the option (equity)-based models can be used to price, analyze and maybe control credit risk.

Credit risk and interest rate risk are related. Many ways of avoiding interest rate risk affect the manner in which credit risk is managed, by raising agency problems due to the asymmetric information between lender and investor. It is clear from the above that taking interest rate risk is not necessary, but under some institutional arrangements, in particular the standard bank model, it is difficult to avoid interest rate risk and still provide borrowers with fixed rate loans.

That is why developing access to the capital markets in form of bonds or loan sales is important. The conflict is that on the one hand they can allow lenders some diversification, by laying off some of the credit risk, but on the other hand they raise agency problems with investors because of adverse selection. Hence, setting up a senior/subordinated structure or an over-collateralization (or covered bonds) structure is a good idea for investors because it keeps the bulk of the risk with originator, assuring investors that they are less likely to be selected against. However, this does not help with geographical diversification.

Diversification then requires a supplement. One is in the form of insurance, by diversified insurers who specialize in handling mortgage risk and are less likely to be selected against, or by lending coming through branches of (e.g., Europe-wide) banks that are well diversified to begin with and can manage the risk involved in keeping the subordinated part of a senior/sub-structure or the extra collateral in an over-collateralized bond issues. They also have the potential to interest investors in unsecured bonds because of their size and perhaps strong capital position.

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## ENDNOTES

- <sup>1</sup> Much of the analysis and research for this paper was done while I was chief economist for Freddie Mac, which is not responsible for any of the ideas expressed. I have received helpful comments from Ray Struyk and a referee.
- <sup>2</sup> Another risk, which has become especially important in the US market, is prepayment risk—risk that when rates fall borrowers will refinance and lenders or investors will have to reinvest at a lower rate. For reasons of space and relative unimportance, so far, in emerging markets, this is touched on only briefly here. Surveys by Hendershott and Van Order (1987) and Kau et al (1995) discuss this in some detail.

- <sup>3</sup> A fourth technique, which is not discussed here because it does not appear to be applicable to most emerging markets, is using derivatives like futures and options contracts to hedge risk.
- <sup>4</sup> This is not exactly right because as a legal matter delinquency is typically defined as a form of default. However, in much of the research and popular scholarship default is usually what is defined as it is here.
- <sup>5</sup> See Hendershott and Van Order (1987) and Kau and Keenan (1995) for surveys.
- <sup>6</sup> Delinquency risk can also be viewed as an option: the option to borrow money short-term at a rate equal to the mortgage rate plus penalty. A way of viewing the default process is that it begins with the exercise of the delinquency option and only ends up as a default (foreclosure) if equity is negative.
- <sup>7</sup> Strategic default is not, however, unheard of. There is anecdotal evidence from the US in Texas in the 1980s, after oil prices had fallen and house prices crashed, that borrowers who had not experienced a “trigger event” such as unemployment, walked away from their high value mortgages and low value houses. One can argue that the wealth maximization approach is correct for mortgage markets, but that because transactions and other costs it is not easy to measure wealth and that is why ad hoc proxies are used in modeling default.
- <sup>8</sup> This is not quite right because it assumes that the three events are independent, but in general they are not. Places where house prices fall and diminish equity are likely to be places with trigger events (e.g., unemployment). From a statistical point of view this makes separating the role of equity as measuring whether or not the options the money form equity as a measure economic stress difficult. It needn't affect the ability of a particular default model to predict the probability of future default.
- <sup>9</sup> The model described above suggests that  $f(x)$  should be multiplicative in the variables that represent trigger events and those that represent capacity to survive trigger events. The hazard model discussed in the next footnote is automatically multiplicative.
- <sup>10</sup> A particular variant which is commonly used is the “hazard” model which takes the form:  $d = a(t)\exp(bx)$ , where  $a(t)$  is a baseline time trend,  $x$  is a vector of explanatory variables including the probability of negative equity, and  $b$  is the vector of coefficients giving the effects of  $x$ . The function is already nonlinear, but it can be made more so by transforming  $x$ .
- <sup>11</sup> Allowing interest rates to change adds some interesting complications to the model. In particular, if interest rates increase, borrowers are *less* likely to default on a fixed rate mortgage because the value of the mortgage decreases (they now have a valuable below market rate mortgage). Note that with an adjustable rate mortgage that is not the case, so there is reason to expect adjustable rate loans to default more when rates go up, beyond the “payment shock” or cash flow problem. Note also that the result is not reversed on the downside if borrowers can refinance when rates fall. So we should expect expected defaults to be higher for adjustable rate loans.
- <sup>12</sup> Intuitively, the probability of ever defaulting is just over 0.2 and the average loss is about 0.2 times loan balance, so, taking account of discounting, average loss is about 0.04 or \$4 per \$100 loan.
- <sup>13</sup> The strategic models are different in some subtle ways. For instance, the strategic models emphasize that it is the market value of the mortgage (not the outstanding balance) that counts as equity. The complication in the strategic models is that market value explicitly includes the value of the option to default later, which is not counted as part of equity in the option-based model (see Kau et al 1995). As a result market value is not exactly the same as the present value of remaining payments discounted at the same (10%) rate. In particular, as the option gets further into the money the value of the mortgage falls (the discount rate increases), so that the borrower will tend to defer defaulting now because of the enhanced value of the default option. This makes equity calculations much more complicated because it means considering all future possibilities at each node, which



greatly complicates computations. The models also *derive* the present value formulation for price, from zero arbitrage conditions, rather than assume it, as has been done here. Note that in both models borrowers will be less likely to default when interested rates increase because their (fixed rate) mortgage now has a below market rate (alternately it has a smaller market value).

<sup>14</sup> See Van Order (1990).

<sup>15</sup> Because the data are categorical, that is the  $x_i$ 's represent whether a variable is within a certain range (e.g., LTV between 90 and 94) the multipliers are simply  $e^{bx_i}$  where  $x_i$  is one if the variable is in the  $i$ th category and zero otherwise.

<sup>16</sup> Data are from the Office of Federal Housing Enterprise Oversight (OFHEO). They are average growth rates from the first quarter after the origination through the first quarter two years later. For data see [ofheo.gov/media/pdf/3q04\\_hpi\\_reg.txt](http://ofheo.gov/media/pdf/3q04_hpi_reg.txt).

<sup>17</sup> The model *assumes* that the multipliers are independent, so that a 95 LTV originated in 1981 is about 72 times more likely to default than is a below 80 in 1976, but that assumption may not be accurate for big differences.

<sup>18</sup> See Van Order (1990).

<sup>19</sup> See Quercia and Stegman (1992) for a survey.

<sup>20</sup> See Buckley et al (2001).

<sup>21</sup> See Straka (2000).

<sup>22</sup> Foreclosure in this case means Freddie Mac taking possession of the property.

<sup>23</sup> See Lea 2001.

<sup>24</sup> This is discussed in Van Order (2001).

<sup>25</sup> Alternately, a benefit of a fixed-rate loan is that when rates go up the borrower suddenly has a below market rate loan, which will make default less likely.

<sup>26</sup> The five are not mutually exclusive. For instance, a lender might sell loans to a securitizer with recourse back to the lender, and the securitizer might then hold the subordinated part of the pool, essentially covering losses above what the recourse will cover. An insurer might require that the originator share in the first loss on mortgages.

<sup>27</sup> Accounting benefits of sale vs. being off balance sheet have not been discussed. A reason for wanting to get an asset off balance sheet is so as not to have to hold capital against it. This can be a benefit if banks are constrained in their ability to raise capital, as opposed to debt or deposits. Sometimes there are tax consequences to funding with more or less capital. Many of these benefits evaporate if a good risk-based capital model is applied.



## Housing Finance in Transition Countries: Finding Bills on the Street

Robert M. Buckley and Robert Van Order

### ABSTRACT

The paper seeks to address questions about the appropriate public role in emerging mortgage markets, particularly the extent to which policymakers can or should identify innovations that may be, as Miller (1986) suggests, “sand in the oyster,” i.e., innovations that go on to become the pearls of a well-functioning financial system. The perspective is an application of the much-celebrated *irrelevance theorem* of Modigliani and Miller, which says that under a certain set of assumptions (e.g., perfect markets and symmetric information), the liability structure (and institutional structure that supports it) of the firm does not matter, in the sense that the sum of the values of the firm’s liabilities will be invariant to changes in composition, always adding up to the same value, which is determined by the value of the firm’s assets. The theorem suggests that particular institutional structures and policies are absent subsidy, unimportant, and probably futile. Our analysis focuses on the role of various violations of the model’s assumptions (e.g., symmetric information) in making some institutional structures better than others and in suggesting efficient types of government intervention.



# Housing Finance in Transition Countries: Finding Bills on the Street

*Robert M. Buckley and Robert Van Order<sup>1</sup>*

## 1. INTRODUCTION

In recent years the role of market-based housing finance has become increasingly important. For years it has played a significant role in the financial systems of many countries, and as a result the outstanding stock of mortgages in these countries has become quite large, e.g., relative to the size of their economy, as measured by GDP. For instance, the US has more than USD 7 trillion in mortgage debt outstanding, a number which is equal to about 70% of its GDP, and as Table 6.1 shows, there are similarly large ratios in the UK and Denmark. The table also shows that housing finance has achieved high levels of development in many other developed economies. For the past decade mortgage debt in Europe has been growing at more than 8 percent per year, more than double the rate of growth of GDP.<sup>2</sup>

The table also shows that housing finance in transition countries is at a much lower level relative to GDP. Of course, this result is not surprising given the absence of market-based finance in pre-reform countries, as well as the depth of the transition shock experienced by many of them. But more important than the low current levels is what might happen in the future. If the recent experience of Western Europe is taken as a benchmark, housing finance in transition countries could grow very rapidly for a substantial period of time. Not only are these countries now liberalizing their financial systems as much of Western Europe did a decade ago, but in addition, inflation in the region has been largely tamed, the rule of law and enforceable contracts embraced, and respectable, even rapid, rates of economic growth have been achieved. In such a context, growth rates for mortgage credit of 20 percent per year for a decade or more would not be surprising.<sup>3</sup> This has the possibility of being a boon to these economies or, if done poorly, disruptive force. Whatever the growth rate will be, financial innovation will certainly play a large role as foreign financial structures continue to be imported and modified to suit local conditions and demands.

*Table 6.1*  
Outstanding mortgage debt in selected countries

Country	Mortgage Debt as a percentage of GDP	Country	Mortgage Debt as a percentage of GDP
US	86	Croatia	8
UK	70	Czech Republic	6
Germany	53	Hungary	8
Sweden	47	Poland	3.8
Japan	50	Romania	4
Denmark	87	Russia	0.5
France	23	Slovenia	3.3

*Source:* For left hand column Judith Hardt (2004). For right hand column, Dübel (2004) and Woollett (2004).

*The questions this paper seeks to address are:*

- First, what is the appropriate public role in this emerging sector? That is, how can the public sector prudently manage rapidly growing housing finance systems? Recent history suggests that this question has some importance given the problems that have arisen in Western European economies, such as Sweden, Finland, and Germany as they deregulated their housing finance systems.<sup>4</sup>
- Second, can (or should) policy makers identify those innovations that may be, as Miller (1986) suggests “sand in the oyster,” that go on to become the pearls of a well-functioning financial system. As he documents, this identification is important because many of the innovations that take place are meretricious reforms designed largely to circumvent regulations or taxes.

*These questions are important for a number of reasons.*

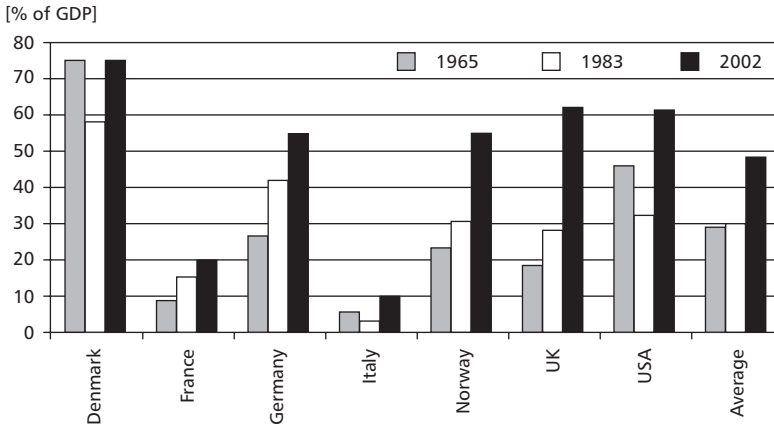
- First, in market economies the public role in housing finance is substantial. Every country that has a substantial housing finance system has an extensive, often complex and usually non-transparent public role. In addition, the opposite is also often the case: countries with less mortgage credit have generally followed policies which prevented mortgage market development. A number of studies have shown the important role that policy has played in mortgage market outcomes.<sup>5</sup> Thus, the sort of policy environment adopted can be expected to play a significant role not only managing growth, but also in determining how rapidly mortgage finance develops.

- Second, in many cases the current public role in housing finance in OECD economies is the result of government “financial innovation,” primarily deregulation, following an economic shock.<sup>6</sup> These public policy changes were then typically followed by a series of private sector actions that might be viewed as a form of tinkering with the system put in place by the public sector. In other words, as Calomiris (2001) has shown, for many years after World War 2, the financial systems of OECD countries simply did not innovate. The systems were highly regulated and non-competitive, characterized by interest rate and quantitative lending controls. Indeed, Zinjales and Rajun (2003) argue that the systems not only did not develop, they were less developed in 1980 than they were in 1913. These systems were, in short, overregulated and path dependent until the mid-1980s. Then, they began to deregulate, adapt, and grow, as is also shown in Figure 6.1. In every case shown except Italy’s, mortgage debt outstanding in the last year far exceeded the level of 20 years earlier (relative to GDP). In contrast, during the earlier path-dependent period there was little overall growth; some systems increased and the others declined.
- Third, public sector innovation is not just about deregulation; it is also about offsetting “market failures” that come about from information asymmetries and moral hazard that are sometimes important in financial markets. Private innovators in this sector have not always been the “life blood” of the financial system, as Miller (1986) describes it. Indeed, many of the government financial innovations in housing finance were designed to offset or reallocate some of the risks or moral hazards that arose due to private sector innovations in the sector. In other words, rather than relying on the private sector to spontaneously innovate and effectively “show the way,” most public innovations were designed to do the opposite: control private actions or stimulate them within well-defined parameters. Snowden (1990), for example, reviews the problems that arose with private sector development of mortgage securitization in 19th century America as an example of the sorts of moral hazard affecting private innovations.

More generally, a theoretical case can be made for some sorts of public intervention. For instance, in a recent review of financial innovations White (2003) suggests that one of the explanations for less financial innovation is that due to the information externalities associated with innovations that ultimately do become “pearls,” innovators are unable to appropriate all the returns from innovation. As a result, they invest less in doing so. Similarly, in considering the sorts of financial systems Eastern European emerging democracies should establish, Stiglitz says “there is no presumption in favor of unfettered markets” (1993: 15). Consequently, both history and theory suggest

providing incentives that make innovations that have positive effects on the rest of the economy more rewarding to individual entrepreneurs.

*Figure 6.1*  
Size of housing finance systems in high-income countries<sup>7</sup>



In sum, as shown by Miller (1986), over recent years financial innovations have played an extremely important role in the broader benefits provided by the US financial system. Given the situation in transition countries, it is reasonable to expect mortgage finance innovations to have similarly beneficial effects. However, as he also shows, it will be difficult to say what will work. What, in fact, is the sort of innovation that suits the particular environment in such a way that it will be broadly diffused? This suggests providing incentives (at a minimum a well-functioning legal and institutional background, perhaps supplemented by subsidies or guarantees) rather than picking winners.

This sort of question has long been raised about the role of financial policy in fostering economic growth. Gerschenkron (1962), for example, has famously argued that in some countries, such as Russia at the end of the 19<sup>th</sup> century, institutions were insufficiently developed for banks to play their crucial role in development. In such countries, he argued that new institutional arrangements could jump start financial and economic development. Is the same true of housing finance in transition economies? Can policy-makers in these countries jump start the development of their frequently underdeveloped housing finance systems? Can, for instance, the development of the securitization of mortgages or the establishment of a secondary mortgage market accelerate the development of housing finance? Or should the attention of policy makers be more modestly focused on establishing the legal underpinnings and infrastructure of simple, enforceable, and prudent mortgage contracts?



Before trying to answer these questions we must first briefly provide a perspective on how to look at the issues involved in integrating housing finance systems into broader financial systems. The perspective is an application of the much celebrated “irrelevance theorem” of Modigliani and Miller (M&M) (1958). This theorem says that under a certain set of assumptions, which mainly involve perfect markets and costless default, the liability structure of the firm doesn’t matter, in the sense that the sum of the values of the firm’s liabilities (e.g., debt vs. equity, long term vs. short term debt, callable vs. non-callable debt, secured vs. unsecured debt) will be invariant to changes in composition, always adding up to the value of the firm’s assets. Because our analysis is concerned with trying to identify the forms of financial innovation that are likely to have the opposite effect—that is, be relevant—we are, in effect, maintaining the hypothesis that, in contrast to the irrelevance theorem, the form of finance does indeed matter. For this result to occur, however, requires that the assumptions of the theorem be violated. So, after briefly reviewing the theorem, each of the next two sections focuses on ways that the assumptions underlying an irrelevance theorem for mortgage finance are indeed violated.

In both sections our analysis is largely heuristic and based on broad statistical trends in more advanced economies. We take this approach for two reasons.

- First, there is a multiplicity and complexity of details of the different systems. This institutional richness makes a more detailed quantitative analysis difficult if not impossible as highlighted by the range of qualifications Buckley et al’s (2005) place on their analysis of comparative credit policies in EU countries.
- Second, the large number of transition countries involved, 18, and the rapid rate of change in their policies makes any detailed analysis of their current policy stance out of date rather quickly. As a consequence, while we occasionally refer to the policies undertaken in various transition countries these references are more in passing than comprehensive.

**The irrelevance theorem**—Modigliani and Miller’s basic argument is similar to the joke about two economists walking down the street. One says to the other “I just found a \$20 bill.” The other replies “No you didn’t.” To which the first says “Why do you say that?” To be told “If a \$20 bill were lying on the street someone would have already picked it up.” The theorem’s similarity to the joke arises because under their theorem changing the way the firm finances its assets will not affect the value of the firm or the “all-in” (weighted average) cost of funds. Different financing strategies will all already have been priced so that none of them has an overall advantage. If a different strategy were to have a remaining advantage, in perfect markets it would have already been exploited just as the \$20 bill would have already been picked up.

From this perspective, financing strategies are simply different ways of rearranging the cash flows received from the management of the assets, and if investors are well-in-

formed none of the strategies hides the fundamental risks of the assets; they just reallocate them. Traders will tend to price the risks correctly, as long as they can measure them. In such a context, the traditional distinction between depository-oriented and bond market-oriented systems is also largely irrelevant.

The “M&M” theorem is one of those ideas that is obvious, but, of course, wrong—markets aren’t perfect; even if they are often rather good. Information asymmetries and default costs, among other things, can invalidate the theorem.

In this respect, the theorem helps us ask the right questions, such as: why should we expect one institutional setup, which simply funds mortgages by using different financing techniques, to parcel out the same cash flows, be expected to be better than another? And if markets do try to price risks properly, why don’t prices make us indifferent to different structures? What, for instance, might make deposit-based, as opposed to bond-based financing more attractive as a way to fund mortgages? More specifically, what role do information asymmetries and transaction costs play in explaining why there has been a preference for one type of system, like banks, which fund largely with deposits and equity, over, say, markets, which fund with bonds, equity and pass-through securities?

So the question is how important are violations of the theorem’s assumptions, and can they give us insights into what types of financial institutions will dominate?

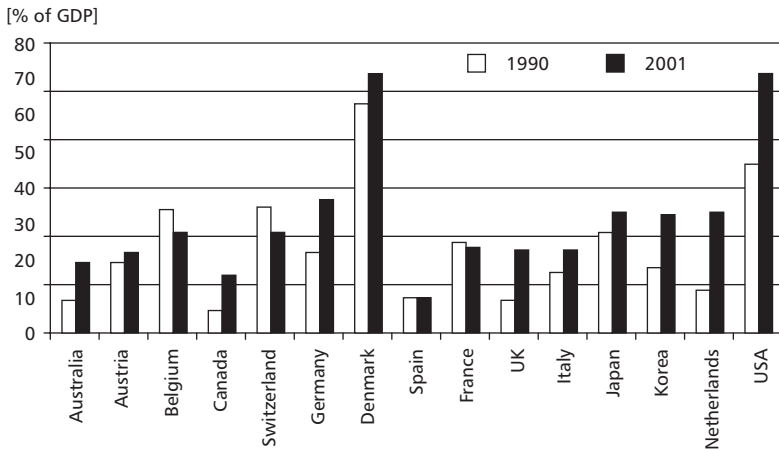
## 2. INFORMATION ASYMMETRIES AND THE STRUCTURE OF MORTGAGE FINANCE

**The mortgage lender’s perspective on asymmetric information**—It is critical for transition countries to ask what type of housing finance system or housing finance institutions are likely to do the best job in helping to mobilize and allocate savings. The perspective we take in answering this question is that a system’s efficacy has to be considered within a broader financial sector context, and not merely as a means of funding housing investments or housing low-income households. A reason for our perspective as to what is likely to be an effective housing finance system is based on the accumulating evidence that financial liberalization makes a significant contribution to overall economic growth.<sup>8</sup> If this is the case, then a more liberalized financial system will not only produce more mortgage credit, it will also contribute to a higher “growth dividend.” Hence, our broader perspective on what constitutes an effective housing finance system is how this system contributes to financial sector strength and resilience.

However, as Allen and Gale (2001) show this perspective does not tell us whether deposit-oriented or bond-oriented finance is preferable. In fact, their answer, as well as the findings of subsequent and more generalized bank research is that either approach can be effective. The issue is one of circumstances. Figure 6.2 provides some perspective on what circumstances have implied for bond market development in a number of countries.

It shows that in the last decade bond market development has advanced in almost all of the countries for which we have data—it declined in only 2 out of 15 countries. But, it also shows that by 1998 total bond finance in Europe, not just mortgage bond finance, was generally smaller relative to GDP than was mortgage finance, as described in Table 6.1. While bond market funding has continued to increase in recent years, it nevertheless accounted for only 20 percent of mortgage finance in Europe in 1998 (see below), with deposit-based lenders being the dominant means of finance. Only in Denmark and the US was the bond market significantly larger than the mortgage market. Hence, finance in most countries remains relationship- or deposit-based.

*Figure 6.2*  
Private bond capitalization (developed countries)

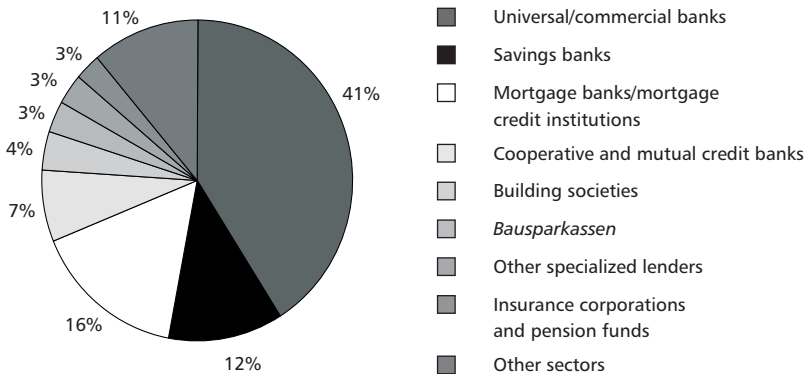


*Source:* Database of Financial Development and Structure, World Bank.

What, if any role does asymmetric information play in explaining this sort of structure? Perhaps the most basic insight it suggests is that information is expensive and some institutions or institutional arrangements are better at getting or processing it than are others. If that is the case, then the “all-in” cost of funds will not be invariant to structure; some structures will have lower information costs and some traders will demand premiums because they fear they will be “selected against” by those with better information, raising the costs of funds. In such cases different liability types will not be equally transparent and may well require compensation beyond what is justified by their cash flows. Lenders will develop relationship lending to minimize “agency costs,” which come from monitoring and other costs as well as premiums required by investors who know they are being selected against. Indeed, minimizing these agency costs is typically cited as the economic rationale for the existence of banks and intermediaries.<sup>9</sup>

The funding structure depicted in Figure 6.3 suggests that in 1998, roughly 15 years after financial liberalization had begun in Western Europe—about the same amount of time since liberalization began in transition countries—bond finance only accounted for 20 percent of mortgage funding, and most of that was accounted for by the more than 100 year-old mortgage bond systems of Germany and Denmark. Thus, deposit-based lending remained the unambiguously preferred funding method.

Figure 6.3  
Funding Europe's mortgage loans



Thus, as long as there are significant agency costs in intermediating between borrowers and lenders, it is not surprising that the lender is a bank-like institution which monitors the assets it originates and has difficulty assuring other investors as to the quality and homogeneity of the assets it has originated. The immediate result is that the mortgages are more valuable to the originator than they are to the investors. The ultimate result is that the bank-like institutions hold most of the mortgages they originate.

That, of course is not all there is to it. M&M also assume no transaction costs, but different liabilities often have very different transaction cost structures. For instance, depositories raise money in deposit markets, which often require branches and tellers and other costly ways of raising money from depositors that are more expensive than raising money in stock or bond markets, which may have scale economies. Certainly, as shown by LaCour-Little (2000), technological improvements and cost saving innovations in underwriting practices suggest that in the long run agency costs for bond market investors will fall and depositories will be under increased competitive pressures from bond-based methods of finance.

Similarly, the long-term successes of both the German and Danish systems of bond finance, not to mention the largely bond-based US system, suggests that there can be a splitting up of origination and investment functions to allow for the advantages of

specialization and economies of scale, which lower transaction costs. However, such specialization, in return, puts pressure on the system in the sense that parts of the system depend on other parts, thereby raising agency costs. For instance, investors depend on originators and servicers to act in their interest when the servicers might not have the incentives to do so. This system of “unbundling” the mortgage asset taps a low transaction cost source of funds (the bond market); and it allows a range of choice (fixed and variable rate mortgages) to borrowers and specialization among players, but there is a tradeoff due to the agency costs. Hence, bond markets may have an advantage from lower transaction costs that can offset the asymmetric information disadvantage.

Another reason that an M&M focus may be helpful in thinking about financial structures is the issue of the maturity balance of assets and liabilities and risk allocation between borrower and lender. That is, the liability structure of a lender may affect the nature of the assets supplied. For instance, a structure that relies on short term liabilities, like deposits, may also, for regulatory reasons (and without good markets in which to hedge interest rate risk), require that the assets it funds also be short term, e.g., so as to control interest rate risk. Hence, a bank-oriented system may affect resource allocation by forcing variable rate mortgages on borrowers. If, as seems to be the case in most situations, borrowers are not in a good position to accept some of the accompanying interest rate risk, there will be a smaller mortgage market, more credit risk, and a less efficient allocation of capital, suggested by the recent Miles report (2004) for the UK housing finance system.

The optimal structure, then, will do the best job of balancing the agency costs and transaction costs and provide a range of choice to borrowers among mortgage instrument types (e.g., long term vs. short term) so as to allocate risk well. Structures that manage these problems the same way are likely to be about equally desirable and will affect resource allocation and growth in more or less the same way.

The optimal institutional arrangement depends on a number of factors. If the key design issue is the ability to monitor agency problems, then the simplest way this can be done is if the institution performs all of the above-mentioned functions itself. This result occurs because the agents are likely to be driven by the objective of maximizing the profits of the institution, and when the recourse of one institution against the poor performance of another is difficult to accomplish, the incentive to move all activities within one institution and control the whole package increases.

In other words, as a firm's decision to buy or produce a particular input for the production of a product it sells will be based upon the costs of the two options, in transition countries where housing finance systems are just beginning to emerge, agency costs are likely to be much greater where the different functions are performed by different specialized institutions. In a new system each agent's attempts to maximize the profits of the institution it serves has the potential to create difficulties for the firms with which it interacts.

Consider, for instance, the relationship between a mortgage originator and an investor in a newly-emerging housing finance system. The investor needs assurance that the originator is using acceptable underwriting criteria in the origination process; otherwise, the investor could be stuck with poorly performing loans. The easier it is to obtain such assurance, the more likely the functions will be separated and vice versa. In the early days of their development, the systems now in place in developed countries were based in large part upon a single institution that performed all the intermediation functions.

Alternatively, in countries such as Denmark, where bonds rather than deposits are used for funding, a specific event—the 1795 fire in Copenhagen—created a need for mobilizing resources rapidly so that the city could be rebuilt. The method chosen making all the mortgagors in each bond issue jointly and severally liable for the default by other mortgagors, provided investors assurances that the risk of repayment would be minimized. More than 150 years later this system remains the basic financing channel used in Denmark today, suggesting that the somewhat extreme liability structure was sufficient to solve the agency problem. Similarly, both the US system and more recently a number of European ones, e.g., Spain, have made the transition from a system dominated by a single investor-originator institution type to one in which the functions are delivered by a wide variety of specialized institutions.

In this new kind of system, agency problems are addressed by a variety of policies that have been developed as specific problems have arisen. A major factor is the ability to foreclose in the event of default, so that borrower equity, which can generally be observed by the lender, acts as a major disincentive to default. Beyond this, investors or intermediaries often dictate underwriting criteria; investors can require equity participation by mortgage originators, have recourse to the assets of the originator or borrower in case of default, and have the technical capabilities to monitor the activities of the originators. These sorts of evolving policies, coupled with major advances in computer technology and the increasing credibility of the relationships between the institutions involved, have allowed these systems to un-bundle the various housing finance services and increase competition along each of these different margins—exploiting the efficiencies of the bond (as opposed to deposit) market.

But, the evolution has hardly been linear. For example, in the UK, although a secondary market and functional specialization have been introduced, housing finance is still dominated largely by depository institutions, although the share accounted for by building societies has contracted sharply. Agency problems between lenders and insurers have eroded the market share of centralized lenders, and mortgage insurers suffered losses on loans with high loan-to-value ratios in the late 1980s. The insurers were subsequently downgraded by the ratings agencies, resulting in a higher cost of credit enhancement for mortgage security issuers.<sup>10</sup> Nevertheless, the UK's increasingly bank-based, as opposed

to building-society-based, system is certainly better able to rely upon the bond market as well as the deposit market to fund mortgages.

When legal and regulatory structures are weak and agency costs are high, the kind of system that emerges in most developing countries is likely to be considerably less specialized than the US or European systems. Until people become more comfortable with the “financial rules of the game,” and until improvements in information technology are more widespread, the legal consequences of various actions better known, and the economic returns to investments better-documented and understood, the transition to a more liberalized housing finance system is likely to begin with less emphasis on specialization—such as secondary markets—and more emphasis on allowing market incentives to shape both the institutional forms used and the speed of liberalization.

Thus, an important conclusion of applying the M&M perspective is the realization that there is no single optimal housing finance structure that can be applied to all countries at all times. Systems will evolve.<sup>11</sup> The optimal form depends upon a variety of factors including the nature of the agency problems, relative transactions costs of various sources of funds, input prices, the technology of mortgage production and servicing, and even the nature of legal recourse in the event of default. But until the technological and legal systems are in place to monitor and control principal agent relationships, it is quite difficult to create successful specialized institutions of the sort established in Russia and Slovenia, which concentrate on only one or two functions.

Instead, the most productive efforts are likely to be focused on the development of the economic and legal environment needed to perform the basic functions of a market-oriented housing finance system. Of course both the bank- and bond-based systems of Western Europe are increasingly present in transition countries through their financial sector investments in these countries. Certainly over time many of these countries will no doubt be integrated into a pan-European financial system. Our conclusion does not argue against such a result. Rather, it suggests the sorts of steps for the domestic markets of transition countries that would be most welcoming of this integration. Moreover, we think that this result is likely to hold until the asymmetric information problem that constrains the demand for mortgage finance is addressed.

**The borrower’s perspective on asymmetric information**—Principal-agent problems also affect the incentives faced by the other side of the mortgage transaction in transition economies. They arise largely because of the way housing was privatized and the characteristics of the housing stock itself. Most of the housing stock in the transition economies is made up of multi-apartment buildings which in the case of the former Soviet Union (fSU) countries were constructed without reference to either underlying land values, or to economically-viable employment. For example, in a review of the data for seven transition countries Vecvagare (2004) shows that the share of the multi-apartment stock ranged from 46 to over 90 percent of the stock, figures that are three to six times higher than the 15 percent of the multi-apartment stock of the US.

This characteristic of the housing stock is important because if this share of the stock was built by private investors, as is largely the case in market economies, the density and location of the housing services provided would reflect market incentives. Under such circumstances, it would not matter whether a landlord owned the entire building or just a limited number of units. Rents would reflect the response of cost-minimizing suppliers. In contrast, when such multi-apartment buildings were built in locations decided upon by the public sector with perverse land/structure input ratios—i.e., low rise buildings built upon high value central city land and high rise buildings built on low value land on the outskirts of the city—rents reflect the choices of planners rather than the market.

Once property rights to these buildings are properly established economic incentives should lead to a process of creative destruction of the non-viable structures and redevelopment. However, in most of the region, and particularly in the fSU, few of these buildings have ownership rights to the buildings that have been clearly established, much less consolidated. In almost all transition countries, the government privatized individual apartment units under essentially giveaway terms, but the ownership of the fabric of the buildings—the roofs, elevators, and general energy efficiency—remain unmanaged. Analysis of the problems involved with this ownership structure has led to the discovery of one of the first new forms of market failure observed in the past 50 years.

This new market failure was identified by Heller (1998) in an analysis of the factors that constrained the privatization of real estate in Moscow. He argues that the way transition governments transferred property rights—by not endowing anyone with a bundle of rights representing full ownership—prevented effective resource usage. In other words, he argues that transition in Russia produced a contractual situation that in many ways is the opposite of the traditional “commons problem” in which no one has clear ownership rights to a shared good. In the Russian case, too many were given some form of claim on a particular piece of property. Just as too little control leads to over-usage of a resource in the commons situation, too much control in an anti-commons situation leads to under-usage and under-maintenance. Heller’s work was subsequently formalized in an economic model by Buchanan and Yoon (2000) and applied to other industries.

Certainly if one looks at the continuing problems with maintenance, much less upgrading, of the estimated USD 1 trillion dollars of residential real estate that was undertaken in the transition countries during the 1990s, anti-commons seems to be very much the problem.<sup>12</sup> Congested and ambiguous ownership rights to common property areas and severely under-priced maintenance fees continue to constrain the emergence of effective property management throughout the region, creating the sorts of principal-agent problems Basu and Emerson (2003) shows characterize many rent control regimes.

In such an environment, the demand for mortgage credit will necessarily be more limited. Besides the constraints principle-agent problems pose for mortgage lenders in



transition countries, they also create difficulties for the demand for mortgage credit. Until the excessively fragmented ownership structure of residential property is addressed there will be reduced incentives to invest in upgrading and redeveloping the existing housing stock as well as a reluctance of lenders to make loans against such ambiguous collateral. This will not only lower the level of finance it will impede the restructuring of previously socialist cities.

### 3. THE COSTS OF DEFAULT AND THE FORM OF MORTGAGE FINANCE

The structure of mortgage finance will also be affected by public policy and by how default costs affect the behavior of lenders and borrowers.

The lender's perspective—another premise of M&M's conclusion is that default has no "transaction" costs, the only cost to the lender being the difference between the loan balance and the value of the collateral backing the loan, and that the probability distribution of these losses is equally well known to all traders. However, asymmetric information problems affect this premise as well. Because lenders are often unable to discriminate between borrowers who are likely to repay and those who are not, and because borrowers know a lot about their own property value and propensity to default, lenders ration mortgage credit in order to prevent being selected against. They do this mainly in two ways: first, they either limit access to credit only to those demonstrably able pay, e.g., those who can afford to make significant down payments or those able to pay less than a specific share of their income for repayments. This rationing may make mortgage lending more prudent, but at the same time it reduces the welfare of those who are rationed out of the market by non-price means.

Such rationing characterizes mortgage lending in most countries. Indeed, down payments of 40 percent or more of initial house value are common in many economies, generating a variety of subsidy and insurance schemes to help mitigate the costs posed by the rationing, particularly for first-time homebuyers. In general two types of public policy solutions have been developed. One provides subsidies for households so that they are able to save enough in a second mortgage to "top up" the low loan-to-value ratio loan they can get from banks.<sup>13</sup> The other is the provision of default insurance whereby borrowers pay an insurance fee to be able to borrow loans with larger loan to value ratios. Neither of these approaches is costless, so the question we address is: how do they compare as ways to address the non-price rationing that characterizes mortgage lending?<sup>14</sup>

In addition to their effects on costs, these approaches can also be important because of the indirect effects they can have on the development of a country's financial sector. For example, these policies can affect lenders' ability to exploit geographic diversification

possibilities. For many of the transition countries this sort of diversification is important due to their smaller geographical size and correspondingly more limited geographical diversification possibilities. Can these smaller markets create a regulatory environment that is both prudent yet still welcoming of greater risk-bearing by more geographically diversified institutions?

As shown by Buckley et al (2005) the EU countries are not yet able to exploit geographical diversification possibilities. For full geographical diversification gains to be realized in EU countries, mortgage insurance prices in some countries—such as the Netherlands and Sweden—will have to be increased (or cross border lending or branching will have to grow, e.g., in the form of Europe-wide banks).<sup>15</sup> They argue that in other EU countries which provide subsidies rather than insurance as a way to reduce rationing, such as Germany, France, and Austria, or cross default guarantees by other borrowers, as in Denmark, it will be difficult for private insurers to compete. Thus, given the current policies in the EU countries, it is unlikely that private insurers will be willing to exploit the possibilities potentially available through EU-wide geographical diversification. When their larger, more financially developed EU neighbors cannot fully exploit geographical diversification it is unlikely that transition countries will be able to either, unless they rely on Europe-wide lending.

Nevertheless, when correctly structured with minimal risk exposure to the government, mortgage insurance programs can lead to more complete markets without the use of subsidies. As such, they can be more efficient than are schemes that rely on subsidies to address market incompleteness. However, poorly constructed programs with large guarantees from the government can be quite costly. Hence, while prudently-structured public default insurance can be more cost effective and efficiency-enhancing than are the frequently used *bausparkassen* subsidy schemes, there is still a danger of excessive risk-taking from poorly designed guarantees. Of course the development of insurance programs in such geographically limited countries will impose higher costs on borrowers than would be broadly diversified programs.

The borrower's perspective—purchasing a house is both a consumption and investment decision. As an investment decision, the choice of buying a home is framed as an asset allocation choice and, as a number of studies have shown, housing generally accounts for most of the wealth of most of the households in most economies. Goetzmann (1993), for example, examined how single family homes fit in an investment portfolio and found that in developed systems it functions as an excellent source of hedging risk because housing prices are negatively correlated to the stock market. But owner-occupied housing's attractiveness as an investment is vulnerable to local house price changes, and this vulnerability is heightened by the ability to leverage housing purchases through the use of debt. In effect, access to mortgage debt permits households "to plunge" in their portfolio strategy by taking a long position in housing. Indeed, as Kaplan et al show, most households in the US are significantly under-diversified, by holding too much of

their own housing.<sup>16</sup> This risk is compounded when the mortgage loans are issued not only with recourse to the house-value but also to the borrower's future earnings, as is the case in many Western European countries.<sup>17</sup> In sum, encouraging homeownership for poor and moderate income families through highly leveraged mortgage credit may well subject those with the least ability to bear macroeconomic risks to have to assume more of such risks than they are able to afford. Moreover, in many cases they do this without fully understanding what they have done until it is too late.

#### 4. COMMENTS

When the way a good is financed can affect savings, generate externalities, and has generally been extensively controlled by government, public policy concerns will naturally arise, particularly as transition countries move toward more liberalized financial systems and more accessible housing finance. The objective of this paper has been to give some perspective on the kinds of policies that are likely to be supportive of the development of housing finance in transition economies. This support is warranted for both positive and negative reasons.

With regard to the former, an effective housing finance system can have desirable spillover effects on the financial system generally. In particular, housing is potentially good collateral, and because it is long term it can be important in developing long term bond markets as well as being a laboratory of sorts for different financing techniques. For instance, as shown by Miller (1986), housing finance in the US began the move toward securitization and was instrumental in developing some financial derivative markets; for instance, the first long-term futures market was in mortgage-backed securities, and mortgages are often used in the creation of synthetic financial assets.

But, the effects of ineffective policy are also important to note, particularly when some of the “policy mistakes” in this area are considered, such as the USD 150 billion savings and loan crisis in the US. The collapse of these lenders in the late 1980s, as the US system liberalized, was the largest ever contingent liability ever realized by the US government. While this event is perhaps the best-known case it was by no means an isolated incident, as noted earlier. Many other developed economies—Sweden, the UK, Germany, and Finland, to name a few—experienced pronounced public sector difficulties and costs in the transition to more liberalized housing finance systems. Thus, while history suggests that the public sector has a large role to play in this sector it also suggests that less may indeed be more in the case of the public role in housing finance.

For instance, while working on encouraging transactions between financial intermediaries—a form of secondary market trading—as has been done in Croatia and Hungary, for example, is a good idea, it is even more important to get what might be termed the “front end” (origination) right. That is, it is even more important to have proper registration, foreclosure, and eviction procedures in place prior to setting up secondary

markets because of the potentially severe selection problems discussed in section II. If that is done, then many of the concerns about asymmetric information will diminish, enhancing the range of market institutions (bank and bond) that can work. M&M will be a good point of departure.

As was brought out by the US Savings and Loan crisis, keeping the system solvent (safe and sound) is important, and the provision of guarantees, whether explicit (like deposit insurance or the provision of insurance on mortgages) or implicit (as is the case with most European banks) can be very costly. Controlling safety and soundness requires serious consideration of risk-based capital, not old accounting-based capital ratios, but really risk-based standards that make companies hold more capital if they do things that increase risk to the company (or taxpayer stakeholders). As shown by Buckley, Klepikova, and Van Order (2001), the old Basle model does not do this. The stress-test-based standards currently being used by the US secondary market firms, “Freddie Mac” and “Fannie Mae,” as well as the internal-models approach being used to analyze capital requirements of banks, are major improvements. The encouragement of their use by lenders who are growing rapidly would provide a much better understanding of the risk exposures implied by various strategies. It is, in short, important to stay away from simple accounting ratios and arbitrary balance sheet distinctions. Finally, frequent audits and prompt response are also important. It is also important to limit the government’s role in risk-taking, if there is to be a role at all, to the “back end” of the process, so as to have most risk accepted by the private sector and limit the ability to select against government guarantees.

In the end, sand for the pearls in the oyster are hard to identify. M&M theorists would worry about the likelihood of finding a 20-dollar bill on the street. But for the emerging housing finance systems in transition countries it is almost certainly the case that such currency is not only on the street, it is waiting to be picked up. The financial systems of these countries are not perfect markets in which everything has been priced; asymmetric information and potentially high default costs characterize many of the mortgage transactions involved. It follows that the structure of finance is probably not only relevant, it matters very much.

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## ENDNOTES

- <sup>1</sup> Buckley is at the World Bank. Van Order is at the University of Pennsylvania. The views expressed in this paper do not represent those of the World Bank. We are grateful to Jozsef Hegedüs, Raymond Struyk, Michael Lea, and Loic Chiquier, to the participants in the 2004 workshop on housing affordability in Budapest for discussion and comments on earlier versions of this work, and to Kate Owens and Jerry Kalarickal for research assistance.
- <sup>2</sup> European Mortgage Federation. 2003, the period is 1992–2002.
- <sup>3</sup> To place this forecast into context Spain, Greece, Portugal, and Ireland all grew at more than 15 percent per year over the 1992–2002 period, according to Suarez and Vassallo (2004), and conditions conducive to mortgage lending have improved much more rapidly in transition countries. For instance, from 1998 to 2003, the average growth rate of the 18 European transition countries was more than double the EU rate. In addition, since 1998 the median inflation rate fell from more than 10 percent per year to less than 5 percent, with 6 countries having a less than 1 percent rate in 2003. Finally, EBRD reports that by 2003 three of the 18 countries had "well functioning financial systems" and four others had almost achieved this status. All of the countries, except Russia, had significantly improved their financial system. According to the EBRD, they had made substantial progress on bank recapitalization, auditing, and supervision, with a significant presence of private banks and little to no preferential credit. A decade ago the "average situation," in the same countries, again according to EBRD, was one of interest rates significantly influencing the allocation of credit, little confidence in the systems, and little private sector involvement.
- <sup>4</sup> See Englund on Sweden and other citations in his paper for Finland and Germany.
- <sup>5</sup> See, for example, Suarez and Vassallo (2004).
- <sup>6</sup> For example, what we will describe as the bond-based or arm's length system of mortgage finance, observed in the US, Germany, Denmark, and France were all developed by government actions in response to a perceived shortage in the supply of funds. The US system was established in response to the Great Depression with an extension of the role of bond-based finance following the savings and loan crisis; the German system, according to Goedecke, Karl, and Scholz (1998) arose in 1769 out of

the pressing need for credit, especially in Silesia following the Seven Years' War. The Danish system was established following a large fire in Copenhagen in 1795; and the French system, upon which the German mortgage banks were modeled, developed in 1852 in the Credit Foncier de France as a way to fund Baron Haussman's rebuilding of Paris.

- <sup>7</sup> The 1965 data are from Goldsmith (1985). The data for France and Germany in the first period are from 1960 and for Italy is from 1963. The 1983 data are from Dübel, Lea, and Welter (1997). The 2002 data for European countries are from the European Mortgage Federation and for the US is from the Federal Reserve.
- <sup>8</sup> See Levine (2001) among others.
- <sup>9</sup> See Diamond and Dybvig (1983), among others.
- <sup>10</sup> See Follain, Lea, and Mikelsons (1993)
- <sup>11</sup> See Stephens (in this volume).
- <sup>12</sup> This estimate of the size of the transfer is from World Bank (2001).
- <sup>13</sup> See Buckley, Karaguishiyeva, Vecvagare, and Van Order (2005) for a description of these subsidies and some of the literature on them. The most frequently used homeownership subsidy scheme to subsidize second mortgages is the *bausparkassen* savings scheme used in Germany, Austria, and France. This scheme takes a number of forms but generally first provides subsidies to young families to save for a number of years, and then provides them with a subsidized loan to top up their first mortgage loan. This subsidized loan is for a multiple of the amount saved. The objective is to use subsidies to encourage savings for larger down payments so there is less need for a second loan, and then to subsidize the higher costs of the second loan.
- <sup>14</sup> This question has some currency for transition economies as well, because at least six of them have recently adopted the subsidy approach while five have opted for public provision of default insurance. *Bausparkassen* subsidy schemes have been introduced in Croatia, the Czech and Slovak Republics, Hungary, Poland, and Slovenia. Public default insurance operates in Estonia, Lithuania, Slovakia, Slovenia, and Kazakhstan.
- <sup>15</sup> Insurance is still vulnerable to adverse selection, but large insurance companies may be better able than banks to invest resources in improving information to minimize asymmetry.
- <sup>16</sup> A lot of this depends on how long the owner expects to stay in the house and the source of price changes. For instance, if the owner expects to stay a long time, then the purchase of a house can be regarded as diminishing risk by locking in the services of the house at a fixed cost, and the mortgage can be regarded as diminishing risk by limiting the owner's wealth at risk. If, however, the quality of the house's services changes over time, then the owner is accepting risk that will be reflected in price changes.
- <sup>17</sup> As shown by Buckley, Karagushevia, Van Order, and Vecvagare (2005).



# Case Studies— Transition Countries



## Development of a Commercial-bank-based Housing Finance System in Poland

Jacek Łaszek

### **ABSTRACT**

The Polish housing finance market has been growing since 1994; however, the market is still small in scale as compared to the advanced EU countries. Major factors of successful development are economic stabilization, decreasing inflation and interest rates, growing optimism of consumers, privatization of the banking sector, the market base housing policy and international programs provided by the World Bank and USAID. Today the market is characterized by strong competition. Practically all banks offer mortgage loans, but the major players are the biggest universal banks. The sources of recourses for loans are short-term deposits. In Poland there is no contractual savings scheme, and specialized mortgage banks have a marginal share on the market. The market started with dual index loans, while today the biggest share in portfolios are foreign currency loans. Strong competition has caused a decline in margins and an increase in affordability of the loans, but so far the market offers only loans with adjustable rates. Future challenges, which will be the result of rapid growth of portfolios, are better supervision and risk management as well as more access to the capital market. So far housing policy stands away from mortgage market, but in the future it must address affordability issues using market tools.



# Development of a Commercial-bank-based Housing Finance System in Poland

*Jacek Łaszek*

## 1. OVERALL DEVELOPMENT OF THE MARKET

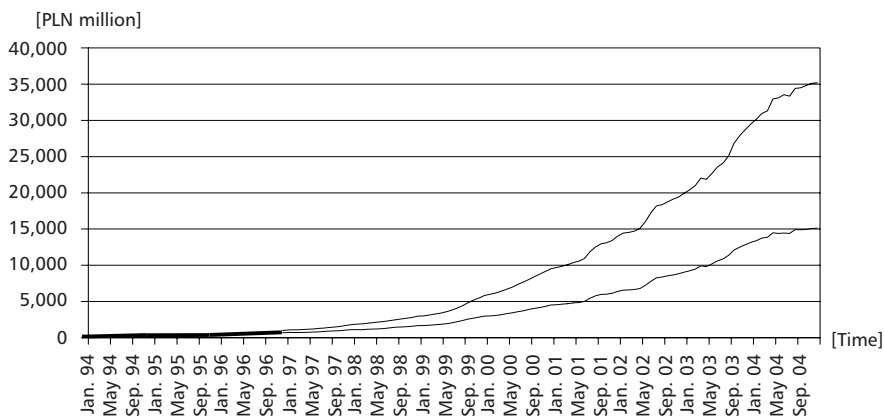
After 14 years of transition, the real estate financing system now covers residential property, building plots, and commercial property. Financing is available at the investment stage or for the purchase of an existing object. From the very beginning of transition, commercial property has been financed according to market principles. In the last 14 years the residential property finance system has evolved considerably; from a highly subsidized system based on a single, state-owned bank (PKO) to a commercial and highly competitive system.

The market of commercial loans for house purchase is, along with the residential property market, the best-developed market segment of the Polish housing sector. Primarily universal banks compete, offering mortgage and mortgage-construction loans to individuals and construction loans to developers. Despite its still relatively low volume in relation to the total amount of market transactions, commercial banks compete fiercely in this market. It manifests in a high growth of portfolios and offered credit conditions (Figure 7.1). The subsidized part of system consists in old cooperative loans—initiatives that do not exceed 10 percent of the market share.

A fast growth in portfolios results in an increase in the importance of housing loans in the sector. Although basic sector indicators and macroeconomic ratios differ considerably in this area from the levels prevailing in countries with a developed market economy, they already constitute a significant element of the sector and rapidly become more important (Table 7.1).

The following facts prove the scale and pace of growth of this market. In 1994 the World Bank and related organizations negotiated with large commercial banks in Poland to define participation in a mortgage loan project under development. Most banks thought mortgage loans would not be accepted in Poland due to the high risk for banks and lack of potential customers. Most of the negotiation participants saw the future of the construction industry in the continuation of the system from the socialist period, i.e., highly subsidized loans granted by PKO BP, a state bank.

*Figure 7.1*  
Housing loan portfolio in Poland, 1994–2004  
(nominal and real prices)



A USAID survey conducted at the beginning of 1997 showed that there were two groups of banks emerging in the sector but adopting different strategies (Łaszek 1997).

The first group consisted of banks that wanted to specialize in this kind of activity. As a rule, they took a more complex approach to the intended area of activity—introducing or intending to introduce a package of products to the secondary market, as well as finance construction of single-family and multi-family houses under various organizational forms—establishing separate units at the head office level and specialization at the branch office level.

The second group included banks for whom this kind of activity was of secondary importance. Their motivation to operate in the sector varied. Generally, it was the question of following competitors and market demand, as well as exploring new opportunities. They were not fully convinced that the development of the market would be successful, but they didn't want to lose out. They chose the simplest products without creating specialized structures.

A professionalism survey conducted at that time on a representative sample of ten banks which entered the sector, concerning their advancement level in comparison to experienced banks present in the sector (PKO BP, PBG), resulted in an assessment at the level of 30 out of 100.

By the end of 1998, after less than two years, the level was estimated at 40–50 points. By then, not a single bank was avoiding the mortgage market or considered it a dead end (Łaszek 1997).

*Table 7.1*  
Commercial housing loans vs. basic sector indicators and macroeconomic ratios

Turnover and its financing	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Housing loans outstanding balance, for loans extended by commercial banks, as a % of GDP	0.1	0.2	0.3	0.4	0.5	0.9	1.3	1.8	2.6	3.6
Share of commercial housing loans in banking sector assets, %	0.2	0.4	0.5	0.7	0.9	1.6	2.2	3.0	4.3	6.0
Housing construction per 1,000 inhabitants	2.0	1.7	1.6	1.9	2.1	2.1	2.3	2.7	2.6	2.6*
% outlay on housing construction financed with commercial loans	9.5	9.4	9.7	8.0	9.0	15.0	16.0	21.0	26.0	36.4
Transactions in the secondary housing market per 1,000 inhabitants	2.9	3.1	3.9	3.1	3.6	2.9	2.8	2.8	—	2.9
% turnover on the secondary housing market financed with commercial loans.	1.98	2.42	2.67	3.83	6.89	9.46	10.24	13.79	—	27.6
Housing loans outstanding to the total value of the housing stock in %	0.05	0.06	0.08	0.10	0.17	0.24	0.30	0.42	—	0.87

*Note:* \* Without "paper construction"—the result of changes in building laws.

*Source:* Author's calculations based on data from IGM, GUS, and NBP.

Currently we are witnessing full professionalism in the sector which includes large commercial banks as well as specialized structures. Mortgage loans are generally considered the best items in a portfolio.

The competition in the sector, particularly since 2000, has been rapidly increasing. This is reflected in falling bank margins in relation to the WIBOR 3M rate, the most frequently used benchmark, despite the risk remaining at a constant level. While in 1999–1996 banks' margins still reached the level of 7–9 percent, in 1999 they fell to 3.5–4.5 percent, reaching 2–2.5 percent in 2002. In subsequent years a level of 1–1.5 percent is expected. A certain decrease in requirements concerning the assessment of creditworthiness, in particular the assessment of stability of income (other sources of income, not only those related to a permanent employment contract are taken into account), and extension of repayment periods (initially 10–15 years, at present even 35) constitute another manifestation of competition.

## 2. DEVELOPMENT FACTORS AND THE REGULATION SYSTEM

Mortgage loans have never been a central housing policy objective for the government. Until the end of the 1990s mortgage loans were seen as rather marginal, something for the rich. The opinion prevailed that whoever could afford a mortgage loan could also afford to build a house without it. That system was purposefully and consistently developed in the years 1990–1994. The fact that a developed system of mortgage lending, besides an efficient market of building sites, is the foundation of a market-oriented, efficient housing sector was ignored.

The mortgage loan system is risk sensitive regarding political, macroeconomic, and microeconomic changes. The dominant opinion, justified by many years of experience, is that certain minimum conditions have to be met to make the system function. Among those conditions, the following are usually mentioned:<sup>1</sup>

- macroeconomic stabilization and low nominal and real interest rates as a requirement for broad availability of loans
- real interest rates on deposits as a condition for accumulation of savings in the banking system
- competition among banks forcing them to extend the supply offer by mortgage loans
- an efficient system of legal registration of real property and pledges on real property—supported by an efficient system of geodesic registration of real property—as a requirement for security of turnover and creditors
- an efficient system of debt collection (and eviction) as a foundation of security for the creditor.



At the beginning of the transition in Poland, none of the above conditions were met. After eight years of transition, two were essentially fulfilled—real interest rates on deposits and competition among commercial banks. After fourteen years a degree of macroeconomic stability and progress in the system of registration of real property was achieved. Despite that, the mortgage lending system is developing successfully.

The following factors determine the success of development of the mortgage loan system:

- rapid commercialization of the banking sector and intense competition among banks
- the experience of PKO
- expiration of cooperative housing loans in 1996
- participation by foreign institutions
- little interest on the part of the authorities in the mortgage loan system and consequently no experiments and subsidies
- perceptible, progressive stabilization and consumer optimism in larger cities during most of the period analyzed.

It is difficult to assess the weight of particular factors. Experience shows that many were relevant, so a clear synergy effect occurred. One should stress here the significance of long-term, active involvement by foreign institutions such as the World Bank, USAID, the European Bank for Reconstruction and Development, and the Polish-American Enterprise Fund. Those institutions, in particular the World Bank and USAID, launched large, multi-year programs supporting the development of the market. These programs—involving developers and banks—were implemented in sequence (first the World Bank, followed by the EBRD, and finally USAID), assuring induction and support for the reform process until 2000. Programs also impacted subsequent governments. In consequence, a massive flow of know-how took place, which laid solid foundations for future development, without the usual experimental mishaps typically experienced in such circumstances. Generally, the knowledge concerned three areas:

- Credit instruments operating under conditions of high inflation allowed the launch of mortgage loans already in mid-90s.
- Standard documents and procedures connected with mortgage lending created the basis for future development.
- Experience related to the housing policy was adequate.

Assistance to the banking sector was essential in the sense that despite privatization of the largest banks and their takeover by renowned, global banking groups, the impart of knowledge in this area was rather small.

PKO, a bank traditionally specialized in this sector, also received such assistance. Even though in the process of the adaptation of the World Bank experience, according

to the bank's own concept, major failures could not be avoided (the Alicja loan, based on a DIM<sup>2</sup>-type loan), a product was created. It was able to function on the market under conditions of high inflation and a lack of macroeconomic stabilization. PKO's significant success on this market demonstrated to other commercial banks that it was a prospective market, which was worth the effort.

Further development of the mortgage loan market was only possible after expiration of the old, subsidized loans from PKO, the legacy of socialism. A considerable success of the foreign institutions, primarily the World Bank, was the abandonment of the subsidized loan program. USAID, on the other hand, has to be given credit for its large contribution to the prevention of the development of a contractual credit system based on German patterns (*bausparkassen*). The examples of the Czech Republic and Slovakia show how this can block the mortgage market through a mass introduction of contractual saving schemes.

Another important factor was the relatively quick privatization of the banking sector, accompanied by a rapid growth in competition. It forced banks to enter the retail banking sector and search for new, unexploited areas.

Since mortgage loan programs were operated by foreign organizations, which intentionally separated themselves from budgetary subsidies, this area hasn't been included in the official housing policy, especially after 1995. Thus, fortunately, experiments and changes in policies typical for cabinet changes, as well as idle promises, were avoided. At the same time, thanks to a fully commercial character of the market, favorable effects of competitive pressure, such as a richer product offering, a reduction in banks' margins and an improved service quality, were seen.

Another decisive factor, along with the involvement of foreign institutions, was progressive economic stabilization and an increase in consumer income and optimism, in particular in larger cities. This had a significant impact on banks—convincing them of the decreasing risk of mortgage loans—and on consumers—persuading them to invest in real estate with the support of mortgage loans.

In consequence, the mortgage loan market got started with high interest rate and without an efficient system of registration and debt collection. Banks compensated and still compensate their risk with relatively high margins and low average loan-to-value (LTV) ratio (not more than 70 percent on average). Further development of the market, understood as a further decrease in margins and increase in availability of loans, in order to be economically reasonable and avoid excessive risk, requires a limit to risk associated with registration of property and collection of bank claims, as well as greater macroeconomic stability. A decrease in interest rates has proven to be of crucial importance to the increased availability of mortgage loans to the average citizen.

The Polish system of mortgage banking was created and grew on the basis of universal banks and one specialist bank. Other solutions have not gone beyond the experimental stage so far.

After the possibilities of financing with deposits were exhausted in the mid-90s, American concepts (securitization, a central mortgage bank) dominated the list of possible approaches to loan refinancing. In practice, due to the availability of resources and their cost, commercial banks and PKO BP financed lending with short-term deposits from individuals, and this approach prevailed in the banking system.

The Mortgage Fund Project launched by the World Bank in the mid-90s was based on the model of a central mortgage bank that refinanced universal banks with mortgage portfolios. Initially the Mortgage Fund was fed from the budget and by international organizations – ultimately to issue mortgage bonds. In the initial period these bonds were to be backed by the government and the international organizations, so the Mortgage Fund watched over the quality of refinanced loans and the standardization of procedures very restrictively and successfully.

The whole program including the Mortgage Fund and a technical assistance project financed by the World Bank, the EBRD, and USAID—despite its large impact both on the credit standards and, indirectly, on PKO BP, developers, and finally, on government housing policy—proved to be a fiasco in commercial terms. Apart from other factors such as excess liquidity in the banking system (especially big banks), still poor demand, and a complicated product, the essential factors proved to be the following: banks' reluctance to subordinate themselves to the rigors of standard credit procedures and ongoing monitoring of their portfolios, as well as a relatively high (despite hidden subsidies) cost of resources compared to deposits. The high cost of resources was connected with the existence of the intermediary—the Mortgage Fund. However, the psychological aspect was equally important, as banks did not want to share profits with an institution that bore neither credit risk nor the cost of building portfolios.

Due to the program's poor results, the low demand for mortgage loans, and commercial banks' lack of interest in the Mortgage Fund, the World Bank practically withdrew from active participation in 1996. All of a sudden, however, there was a considerable increase in demand for mortgage loans—numbers soared in subsequent years. Despite that, negotiations undertaken on a number of occasions by USAID (the only remaining foreign sponsor of the Program in 1997–1998) on the privatization of the Mortgage Fund, with commercial banks as future owners, indicated a complete lack of interest on the part of the latter. The program's failure shows that the Polish banking system was not mentally prepared for an advanced, two-tier mortgage system, regardless of whether it was compatible with the concept of securitization or the central mortgage bank system.

In 1996 German mortgage banks and *bausparkassen* appeared in Poland. They were modeled on the solutions functioning in Germany and in several other European countries. The Act on Mortgage Bonds and Mortgage Banks passed practically without any comment from either the community of Polish bankers or the theoreticians of financial systems. It resulted from the still modest significance of mortgage loans in the banking

system and a low level of knowledge in this area. The problems the act solved—i.e., liquidity and the potential for lower priced funds from the capital market—were of no significance or did not manifest benefits to the Polish situation. From 1997 to 1999 the mortgage loan market was subject to a number of changes. The decrease in inflation and interest rates was accompanied by a considerable increase in demand for mortgage loans, and the banks increased their interest in that product. The first three mortgage banks were established, acting under the Mortgage Act, and actions were undertaken to establish three others. However, the act did not meet the expectations connected with it, proving to be too restrictive, poorly adapted to the Polish legal system, and poorly adapted to the already entrenched practices in the mortgage loan market. The newly established mortgage banks could not enter into competition with universal banks, due to a considerable limitation in the scope of their activities, a lack of a distribution network, and more costly funds coming from the capital market. Two large universal banks withdrew from the concept of establishing mortgage banks; a third one stopped its actions taken in that direction. Certain concepts of amending the act appeared, among others allowing mortgage bonds to be issued by universal banks. In 2002 an initiative was undertaken to adapt the Mortgage Act and related regulations to conditions prevailing on the Polish mortgage loan market via some eased prudential ratios and extension of the scope of banks' eligible activities. Despite that, mortgage banks still constitute a marginal part of the market.

Beyond mortgage banks, which were subject to strict legal control, the mortgage activity of universal banks was subject to banking supervision under general principles. This was connected with the number and high quality of housing portfolios, not differing from international standards (with the share of irregular loans below 3 percent). The situation started to change in line with an increase in the share of mortgage assets in total banking assets and a decrease in the quality of portfolios. Their quality is still good in comparison with other loans, but the share of irregular loans is systematically increasing (3.2 percent in 2000; 4.5 percent in 2001; 5.9 percent in 2002). Taking into account portfolios' high growth-rate and the generally 2- to 3-year period when problems start to appear, a further increase in irregular loans may be expected, particularly when the dynamics of growth fall. Principles of control of mortgage and housing receivables were implemented in 2001, and in 2004 the weight of risks on mortgage assets were made dependent on the LTV (loan-to-value) ratio.

### 3. FINANCIAL INSTITUTIONS

In the initial period of transition from 1990 to 1994, PKO BP had a monopoly on the residential property market. Therefore development was to a large extent dependent on breaking that situation.

Loans granted to housing cooperatives during the socialist period constituted the principal part of PKO BP's portfolio. Starting from 1994 there were already three entities on the market: PKO BP, PAMbank, and several other banks grouped around the Mortgage Fund program operated by the World Bank, with the PBG Bank in Łódź being the largest. PKO BP and PAMbank had two distinct strategies targeted at two different income groups: PKO B at the mass of customers with a relatively low income (PKO BP loans were indexed and subsidized by the state), PAMbank at the elite customer with the highest income. The Mortgage Fund was located somewhere between those two groups.

In 1995 the state budget ceased to subsidize PKO BP mortgage loans, and the bank reacted by stopping the program entirely. New, indexed, and unsubsidized products (double- and single-index) were launched by PKO BP in the last quarter of 1995. Most highly subsidized cooperative projects contracted between 1988 and 1990 expired—there were no more cooperative fleets with cheap financing on the market. The resulting gap was filled up by other banks, who could then enter the market with their own commercial products. In subsequent years PKO BP's monopoly was gradually eroded.

Despite the loss of actual monopoly, PKO BP retained its important position in the market. Its huge distribution network and branch offices with experience granting housing loans, including indexed ones were essential. Another important factor was the received image of PKO BP as a housing bank and its identification with preferential loans redeemed by the state.

An important element of PKO BP's continued success were two loans offered from 1995 to mid-2000: an indexed and a normative loan. The former was a single-index loan with partial indexation; the latter was a classical DIM-type product with a regionally determined index of repayment only. It was complicated and difficult for the bank, not clearly understood, but taken up in anticipation of a reduction in interest rates. The bank had always calculated those loans incurring a considerable risk, counting on support from the state.

PKO BP also had a specific position given its size, its presence nationwide, and the loyalty of its customers. This assured the bank a leading position on the domestic deposit market and allowed financing of long-term loans, including deferred repayment loans financed with short term deposits.

Starting from 1998 PKO BP was under increasing pressure from its competitors, who offered denominated loans as a financial instrument applied under high interest rates. In line with the growth in competition and exhaustion of the best market of rich customers, all banks started deepening the market—opening to customers of average income, the traditional PKO BP customer. At the same time problems with the quality of double-indexed loans led the bank to withdraw from that instrument in 2000 and temporarily withdraw from the mortgage loan market. The bank did not offer other, competitive—particularly denominated products, which limited promotion to a con-

siderable extent. Thus it again lost a large part of the market to competitors. PKO BP's activity did not increase again until 2003.

At present practically all-large and medium-sized banks offer housing loans. From the beginning of the 1990s the following banks actively compete with PKO BP: the Polish-American Mortgage Bank, GE Capital Bank, Powszechny Bank Gospodarczy SA (currently incorporated into PKO SA), the Inicjatyw Społeczno-Ekonomicznych SA (BISE), Powszechny Bank Kredytowy S.A., currently merged with the Bank Przemysłowo-Handlowy. In the mid-1990s they were joined by: PKO SA, Bank Śląski, Creditanstalt SA, LG Petrobank. Other banks entered the market mainly from 1997 to 1999.

The structure of the market changed as a result of these processes—PKO BP went from monopolist to market leader as the market became highly concentrated (the five largest participants hold about 80 percent of shares).

Rough estimates of market shares and their growth dynamics for the largest market participants are presented in Table 7.2 (Łaszek 1997).

*Table 7.2*  
Largest estimated mortgage loan portfolios  
in the Polish housing sector [%] (as of December 31)

Bank/Period	1995	1996	1997	1998	1999	2000	2001	2002	2003
PKO BP new portfolio	73.6	74.6	71.5	68.7	59.8	50.1	40.7	36.0	35.0
PKO SA			2.0	2.1	4.4	10.3			10.0
PBG	3.4	5.7	5.3	4.1			12.6	13.1	
PAMB/GE	14.1	8.7	6.5	4.0	3.2	4.8	7.6	7.9	10.0
WBK				0.2	1.1				7.0
Bank Zachodni	0.7	1.0	0.7	1.0	1.6	1.9	4.5	6.3	
BPH			0.9	0.6	2.3	6.9			14.0
PBK			3.7	3.4	3.7	5.9	11.2	10.2	
Kredyt-Bank			0.7	1.3	1.5	2.0	3.4	4.6	5.0
Mortgage banks, housing portfolios							0.3	0.5	1.1

*Source:* Author's calculations.

#### 4. PRODUCTS—THEIR PRICES AND CONDITIONS

The quantitative development of the mortgage and housing loan market was accompanied by the development of lending instruments. The variety of products is still rather modest compared to developed markets. From the beginning, the Polish market has contained a high share of indexed loans. At the beginning of the 1990s double-indexed products offered mainly by PKO BP prevailed on the market; at the beginning of 2002 products indexed with the exchange rate were dominant. While the former provided a hedge against high inflation, the latter protected against high real interest rates at the cost of exposure to FX risk.

Another characteristic feature is a short repayment period. Despite the considerable extension of maturity already mentioned, products with a maturity of 10 to 15 years prevail, and such is the real life cycle of the products. Prepayments are still common, and the share of loans refinanced in other banks also increases in line with the increase in competition.

The third feature is the relatively small size of loans. This is a consequence of low incomes, high interest rates, and prudent attitudes among both banks and borrowers (see table 7.3).

From 1997 to 2000, the average size of loans granted by PKO BP varied from PLN 30,000 to 40,000; BPH SA—from PLN 40,000 to 50,000; PKO SA—from PLN 60,000 to 70,000; and in the case of loans drawn from the Mortgage Fund, from PLN 50,000 to 60,000. Surveys conducted between 2000 and 2002 by the Polish Bank Association indicated that the average loan ranged from PLN 50,000 to 60,000. As for mortgage loans, those amounts were relatively small.

Loans offered within the framework of the Mortgage Fund are typical examples of double-indexed loans, where interest is calculated with an index of 13-week treasury bills plus the fund's 1-2 percent margin, plus the margin of the participating bank. The GUS average wage index was applied as the repayment index. At present only the BISE offers them.

From 1995 to mid-2000 PKO BP offered its own indexed loans: the indexed loan and the normative loan. The former one was a single index loan with partial indexation, the latter was a classic DIM-type product but with regionally varied repayment index. From 1995 to 2000, PKO BP loans were based on the interest rate of 12-month deposits at the 5 largest banks excluding PKO BP, plus the bank margin amounting to 5 percent.

The basic segments of mortgage housing loans in Poland are the loans that serve to finance newly built flats, flats purchased from the existing stock of residential property, and repairs and modernizations.

*Table 7.3*  
 Indexed vs. traditional housing and mortgage products on the market (estimate, as of December 31)

Products	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total loans [million PLN]	578.40	1,019.50	1,815.20	2,985.40	5,837.90	9,542.10	14,022.4	19,951.8	29,496.60
Złoty loans [%], of which	99.84	98.02	92.15	91.28	91.05	77.24	50.27	41.30	37.50
Indexed złoty loans [%]	10.37	42.18	53.44	58.95	53.10	33.08	22.46	8.52	3.45
Denominated loans [%]	0.16	1.98	7.85	8.72	8.95	22.76	49.73	58.70	62.5
Indexed and denominated złoty loans [%]	10.53	44.16	61.28	67.68	62.05	55.84	72.19	67.22	65.90
Growth of portfolios [PLN million]	223.50	441.10	795.70	1,170.20	2,852.40	3,704.30	4,480.30	5,929.00	9,544.00



Classic mortgage loans—loans for the purchase of existing flats built by a developer or purchased from the existing stock—certainly constitute some 50–60 percent of the banks' portfolios. According to the NBP data the portfolio of mortgage loans amounted at the end of December 2002 to nearly PLN 11.6 billion; it is not known, however, what part of the existing portfolio would receive mortgage collateral.

The remaining part of banks' portfolios is composed of housing loans or mortgage building loans for individual customers for advance financing of the costs of construction of a flat by a developer or building cooperative. In the case of mortgage building loans, collateral appears over a long period of time (following the completion of the construction of flats and the establishment of a perpetual book) or does not appear at all, where the loan is repaid before the maturity date established in the loan agreement. This product was made necessary by the developers' market, who imposed the advance financing of newly built flats prior to completion of construction, or where a constructed flat is still the property of the developer, and it is not possible to secure the loan with a mortgage. At the initial stage, classic mortgage loans are most frequently secured by an insurance company, due to the time-consuming process of registering mortgage claims at the perpetual book courts or the necessity of establishing a perpetual book.

According to loan size, maturity, valuation, and collateral, it is possible to distinguish between mortgage and housing loans, even though such a distinction does not exist in official analytical material.

Housing loans are those not secured with a mortgage. Their maturity ranges up to five years, and they amount to PLN 30,000–50,000. These are usually repair loans, or supplementary loans upon the purchase of real estate. Loans that exceed those amounts may be qualified as mortgage loans. As an alternative security to mortgages, PKO BP offered loans pledged by shares in the Pioneer investment fund.

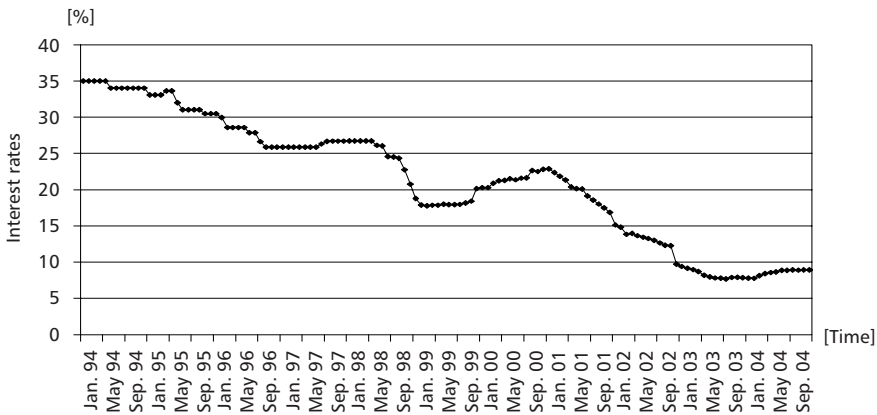
Taking into consideration availability, mechanism of repayment, and hedging against inflation, the market offers loans to be repaid by annuity—so-called averaged repayment loans, decreasing installment loans, and denominated loans (foreign currency-indexed loans and double-indexed loans).

In most cases loans offered by banks are classic housing loans with a variable interest rate. In the repayment formulas of loans financing the purchase of a flat or a house, systems of decreasing repayments or annuity repayments prevail. Only certain banks applied an averaged repayment formula. Apart from the Mortgage Fund program, PKO BP, and PBK, none of the banks offered loans with double indexation or deferred payments. At the beginning most banks based the interest rates of their products on the so-called base rates of the bank, which usually included the bank's costs, risk premium, and profit. They varied as a result of changes in costs or market competition. At present, most banks, as in countries with a developed lending market, use external indexes such as central bank interest rates or cost of money on the interbank market (the most popular are WIBOR 3M and 1M). This is a sign of the ongoing civilizing process of the market

and an increase in the importance of the money market as a benchmark of alternative costs. The capital market, due to its weakness, is not yet considered a benchmark in this respect. In 2000 mortgage loans with fixed interest rates appeared on the market for the first time.

From the very beginning, inflation and high interest rates on zloty loans have been the principal barriers to the development of the market. In the 1990s, in particular in the first half of the decade, interest rates on zloty loans were very high, often several dozen percent. This was the reason for the dominance of denominated and indexed products on the market. In the long-term, however, the level of interest rates on zloty loans was steadily decreasing (cf. Figure 7.2).

*Figure 7.2.*  
Interest rates on housing loans in Poland, 1994–2004



The lowest historic level of interest rates on zloty loans was recorded at the end of 1998, only to increase again in 1999 by 6–7 percent. At that time banks offered housing loans for up to 20 years (e.g., the DOM loan of PKO SA) with a variable interest rate only, in zloty or convertible currencies: USD, DEM, ATS, or FFR. The lowest interest rates (on zloty loans) were offered by the BPH (16.15 percent) and PKO BP (16.4 percent p.a.—at the base rate of 11.4 percent). For loans in convertible currencies the margin added to the index (LIBOR/FIBOR 6 M or 3 M) amounted to 6–8 percent. Commissions varied from 0.5 to 3.5 percent of the loan amount, and only certain banks charged for the application processing and fees for administering the loan. The maximum amount of the loan varied between 60 and 80 percent of the real property cost/valuation. Mortgage on the credited property was and still is the basic security required;

temporarily, since it was established, another security is required (endorsement, pledge, guarantee, blockade of funds). The recurrence of inflation in 1999 resulted in an increase in interest rates on zloty loans up to 24 percent in the case of variable rate loans (the fourth quarter of 2000). The fall of inflation in 2001 resulted in a decrease in interest rates on zloty loans to 13–15 percent (in the first quarter of 2002), and a year later even up to 7.5–8 percent. Competition also forced a decrease in the margin on denominated loans up to 4 percent. Due to the recession and low interest rates, loans denominated in euro, Swiss francs, and yen became increasingly popular on the market.

Declining inflation brings falling interest rates, whereas competition on the market enforces a gradual decrease in margins, extension of loan repayment periods, and better tailoring of loans to the financial conditions of the borrower (through the differentiation of the product offering). Amortization periods offered on the market (up to 35 years) practically do not diverge from those prevailing in countries with a developed market economy, whereas margins and interest rates still remain higher (cf. Table 7.4).

In 2000 mortgage loans with fixed interest rates were launched on the market. The most extensive promotion was for a product of Deutsche Bank. The bank proposed an interest rate of 15.75 percent, compensating its risk with a 10 percent commission (vs. regular 1.5–2 percent). The loan was granted for a period of 5 to 25 years, with the fixed interest rate binding for a period of 5 years, after which the interest rate was to be changed, or the customer could switch to a variable interest rate. Another offer of this type by the BRE-Rheinhip was of a similar nature. Its interest rate was based on 52-week treasury bills. The refinancing period amounted to 2, 3, 4, or 5 years, and the fee for early repayment equaled 1–2 percent of the prepaid amount. Both products were highly speculative and intended to have a marketing effect; therefore they did not win customer recognition. In 2002, in connection with the decline in inflation and the expected decline in real interest rates, products of that type appeared with interest rates at the level of 12–13 percent—still speculative. However, starting in 2004 products with a fixed interest rate at a level close to market conditions began gaining popularity, but with a contractual period of the binding fixed rate limited to one or two years. Therefore an increase in the popularity of products with fixed-variable interest rates, common in Europe, may be expected.

A product that has already been present on the market to a limited extent, and now is increasing in its popularity, is the insurance of the pledge on a loan. In Poland, due to high interest rates, an LTV ratio of 75–80 percent was a barrier the borrowers could not cross. A decline in interest rates, the introduction of indexed loans, and differentiation of income-levels among the public resulted in a situation where at the end of the 1990s this parameter remained a barrier to a small portion of customers. Consequently a product insuring loans up to 100 percent was launched by certain insurance companies.

*Table 7.4*  
 Changes in the basic mortgage credit conditions in the years 2001–2004, as exemplified by three market leaders

Bank	Interest rates [%]				Maximum repayment period
	Q1, 2001	Q1, 2002	Q1, 2003	Q1, 2004	
PKO BP	PLN from 20.3	PLN from 11.31	PLN from 7.78	PLN from 6.48	2001–20 years
	USD from 5.9	USD from 4.9	USD from 6.14	USD from 2.99	2004–25 years
	CHF from 9.06	CHF from 4.75	CHF from 4.10	CHF from 2.29	
	EUR from 10.21	EUR from 6.35	EUR from 5.30	EUR from 3.92	
PKO SA	PLN from 17.5	PLN from 9.5	PLN from 7.24	PLN from 5.55	2001–22 years
	USD from 3.11	USD from 5.41	USD from 4.56	USD from 5.06	2004–25 years
	CHF from 7.81	CHF from 3.98	CHF from 3.33	CHF from 4.17	
BPH PBK	PLN from 20.91	PLN from 10.7	PLN from 7.6	PLN from 6.64	2001–25 years
	USD from 10.71	USD from 5.54	USD from 4.62	USD from 2.62	2004–32.5 years
	CHF from 9.2	CHF from 4.80	CHF from 3.99	CHF from 1.45	
	EUR from 10.41	EUR from 6.59	EUR from 6.15	EUR from 3.39	

The most recently introduced products, an innovation on the market, are credit-line loans. They are patterned after corresponding products offered quite recently in the USA and the UK. Just as in those countries, due to their flexibility, they may turn out to be a desirable product among customers.

On the other hand, offering products allowing the capital invested in property to be regained without changing its ownership rights is relatively poor. Loans pledged by mortgage are offered by most large commercial banks, while no reverse mortgage products have been introduced in Poland.

Another factor limiting the availability of mortgage loans are banks' prudential regulations. Most frequently they include:

- A documented regular income stream for a (minimum) period of six months. Under higher risk conditions related to a particular customer, banks may require an approved income statement for the previous year or even two years. Banks usually assume the level of income at 1.5 of the average wage at least, and no less than 0.5 of the average wage or the minimum wage per family member remaining after the repayment of monthly commitments due (resulting from the loan and other fixed liabilities). The TDR ratio accepted as the share of the loan repayment in the borrower's income, safe for a bank, is set at maximum 38 percent. Some banks do not require a minimum income surplus and calculate the TDR ratio at the low level of 25 percent.
- Occupation or current job: in industries/sectors where no crash is expected.
- Age: below 50 years of age for the longest loans (due to the long-term character of the loan and a life insurance policy requirement applied at certain banks).
- Place of residence/location of the financed property: due to the short development period of the real property market, its low liquidity, and limitations in getting sound information on transactions in order to derive value, as well as a lack of social acceptance of potential collection of the property, banks generally limit their scope of activity to properties located in towns and cities.
- Proportion of the loan amount to the value of the property: without additional collateral, banks usually accept the maximum proportion at the level of 75–80 percent.
- Collateral: entry of the mortgage burden on the financed property as the first item, until then—other forms of bank security including credit insurance with an insurance company.
- Valuation: banks apply valuations by experts, either outsourced or internal.

The analysis of bank policies for the last five years indicates two trends: attempts to formalize and standardize requirements are balanced with attempts to liberalize requirements. This grows out of experience allowing for the size of risk to be assessed and from competitive pressure. The approach to borrower's income has been particu-

larly liberalized and rationalized—at present banks also accept income generated from contracts for deed and commissioned jobs. They only require documented long-term regular income stream and apply risk ratios. On the other hand the practice of granting large housing loans on the basis of analysis of the borrower's income for the last three months was discontinued. While at the beginning banks financed 50–60 percent of the costs of a property, at present, without additional security they finance even up to 80 percent of the property value; sometimes even 100 percent (with the upper 20 percent of the value insured at the same bank). At a certain amount of the credit, valuation of the property by bank's or external experts has become a standard.

Competition forced a departure from the obligatory life insurance with assignment to a bank, and lowered the commissions and fees for processing a loan application.

After incurring rather unfavorable experience (up to 30 percent irregularity) banks have become much more reluctant to finance developers' investments with classical building loans. In fact, they are financed indirectly by building-mortgage loans, where the entire risk is borne by the future buyer of the flat. The model of the development sector in Poland is a separate issue still requiring resolution.

As far as bank security requirements are concerned, mortgages are increasingly accessible. Banks specializing in loans to such households operate on the market. Those banks specializing in loans to households with medium incomes do not require a mortgage as a precondition to grant a loan and apply a low TDR ratio, with a possible soft condition of income surplus after repayment of the loan. A low TDR ratio at the level of 25 percent is unfavorable for high income households, therefore banks specializing in large loans for wealthy households apply the ratio at the level of 38 percent and eliminate less wealthy customers by using a high ratio of income surplus per member of household. It may be expected that an increase in competition and income of the public will lead to increasing market penetration.

Distribution of mortgage products is also increasing. In the 1990s the basic distribution channel consisted in a network of branch offices. The development of insurance and pension funds at large banks involved brokers working for those funds in the sale of mortgage products. However, their share in total sales has never become dominant, similar to the sale of products performed by developers and real property agents. After 2002 large domestic and foreign companies, acting as an intermediary in the sale of consumer credit, also got interested in that market. Their market share shows an increasing tendency. According to surveys, certain retail banks, in particular the smaller ones with a lower capital base but with good access to customers, are also interested in the intermediation or resale of mortgage loans.

## 5. MORTGAGE LOANS, HOUSING NEEDS, AND AFFORDABILITY

Mortgage loans are important, but just one of the elements determining the development of the housing sector. One must also ask to what extent loans will contribute to satisfying housing needs and what are the principal barriers of the sector's development. Table 7.5 presents approximate creditworthiness in relation to housing loans divided into deciles in 2002.

*Table 7.5*  
Average creditworthiness of households in 2002

Deciles	Available credit [PLN]	Available amount of square meters
1	23,000.47	12.78
2	33,387.77	18.55
3	40,065.33	22.26
4	46,742.88	25.97
5	53,420.44	29.68
6	60,839.94	33.80
7	69,743.35	38.75
8	122,926.37	68.29
9	149,992.72	83.33
10	253,747.08	140.97

*Note:* Estimates were calculated with the use of prudential criteria commonly applied in Polish banks. For lower income groups that do not fulfill the prudential criteria the acceptable proportion of loan cost to income is 15 percent.

*Source:* Author's estimates.

Table 7.6 presents estimations of the global creditworthiness of households in 2000 and 2002 and predictions for year 2008 in Poland.

*Table 7.6*  
Household global creditworthiness

Year	2000	2002	2008
Global creditworthiness [billion PLN]	15.0	43.5	60.0

This data indicates a considerable, nearly threefold increase in creditworthiness of households from 2000 to 2002. It explains the reasons for significant growth and the scale of gain in portfolios. It resulted both from the decline in inflation and related decline in nominal interest rates on zloty loans, change in the structure of loans towards an increased share of cheaper denominated loans, as well as a decrease in interest rates on those loans. The most important factor in terms of market development—the decline in inflation and related decrease in interest rates—explains at least 40 percent of the phenomenon.

Considering changes in global creditworthiness on the horizon in 2008, such drastic changes should not be expected. The increase in creditworthiness of the population achieved in 2002, mostly thanks to denominated loans, largely discounted the future decrease in interest rates. Consequently, assuming a moderate yearly growth of income at 1.5–2.5 percent, a yearly increase in creditworthiness to the level of PLN 55–60 billion can be expected. A question arises about the relation of this theoretically calculated creditworthiness to the housing needs of the population and the sector.

Table 7.7 presents the current level of demand for mortgage loans, the creditworthiness of the population, and the sector needs.

*Table 7.7*  
Current demand for mortgage loans, housing needs,  
and sector needs [estimate, PLN billion]

Purpose of loan	New mortgage loans issued in 2002	Demand for mortgage connected with potential housing needs (rough estimation)
Housing construction	4.8	7.5
Repairs	0.7	4.2
Secondary market	4.5	13.4
Total	10.0	25.1

Demand was estimated assuming the repair rate increases to 3% yearly (with 50% of the value in loans), the annual number of transactions on the housing market increases to 5–6 per 1,000 households (with 40% of the value in loans), and housing construction increases to 90–100,000 per year (with 60% of the value in loans).



Comparing consumer creditworthiness (PLN 43.5 billion) against housing and sector needs (PLN 25.1 billion) shows no macroeconomic obstacle to the development of the sector. It shows that the mortgage loan should become the primary instrument for covering housing needs in Poland. The basic tool increasing the availability of those loans is appropriate macroeconomic policy maintaining low inflation and low interest rates. State guarantee programs and targeted subsidy programs should become an important element of housing policy, allowing housing loans to penetrate the market and reach lower income groups who are currently crowded out of the market and left to the social sector.

## 6. CONCLUSION

The estimates presented here show that—contrary to prevailing opinion—neither income nor demand are the principal obstacles to the development of the housing sector. Changes in consumer preferences towards other kinds of consumption, particularly to less capital-consuming ones that do not require long years of sacrifices in the form of savings and repayment of long-term loans, seem to be equally important. These behavioral patterns are strengthened with extended protection of tenants and highly subsidized rent in the resources of flats to let, which, particularly in large cities, form a large portion of the market. An important factor limiting the demand of households is the high risk of losing money due to the model of housing construction based on advance payments commonly applied in Poland.

Problems in the construction plot market combined with excessively time-consuming permission procedures and a lack of information have slowed the construction of housing in large cities. This increases risk and exerts a dampening effect on building demand and on banks (loans make up 60–70 percent of the value of newly constructed units). The involvement of the financial sector in the residential property sector has been relatively modest so far. The activity of banks has also been prudential, that is why the problems affected the banking sector to only a limited extent. This situation is subject to rapid changes: mortgage portfolios will soon constitute a significant asset, and competition enforces a higher risk. It may then be expected that future experience will not be as unequivocally positive for banks. In the near future, banks should pay more attention to risk assessment and risk management. Both activities must be supervised by a government agency.

Consumer protection must also be improved (which is yet to happen even within the EU). Although Poland has adopted general rules concerning consumer loans and mortgage loans, mortgage agreements, and consumer information are in many cases unfavorable for clients.

The financial system in Poland is still in a very early stage of development compared to developed countries. So far housing policy has created additional risks rather than

serving as a stabilizing element. This situation has to be changed. Without a long-term and complex housing policy, the sector will be unable to house the population efficiently. The place of mortgage loans in overall housing policy must also be defined—especially as it relates to deepening the market to include lower income groups. Authorities must provide guarantees and subsidies for these strata while also developing private or semi-public rental housing with modest rents.

The challenges facing the mortgage system have been solved in various ways in other countries. The Polish system is based on universal banks, household deposits, and variable interest rates, but future developments will see an increase in interest-rate and liquidity risk, so access to the capital market will be necessary. Existing mortgage banks issuing mortgage bonds and loans under the current Mortgage Law are subject to a strong supervisory regime and still play a marginal role in the market. For years, specialists have been suggesting that universal banks be allowed to issue mortgage bonds. Another solution lies in securitization, entering into legal effect this year. However, the law is still incomplete and the system even more complex.

The problem of entering the mortgage market is connected in many cases with a required down payment. This problem may be solved by contractual saving system or mortgage insurance. So far experiences with German-style contractual savings were unsatisfying—politicians and lobbyists introduced these systems to compensate for the unfavorable economic environment. Private insurance systems covering different risks (especially delayed mortgage registration) are developing gradually and successfully, perhaps becoming a logical choice for housing policy makers.

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## ENDNOTES

- <sup>1</sup> USAID is of a similar opinion, considering that only a partial realization of those postulates is necessary. See USAID (2000).
- <sup>2</sup> A Dual Index Loan (DIM) is a special mortgage instrument developed for economies with high inflation. The borrower payment is set up once in the beginning and then adjusted with the income index. In the long run this payment should cover real interest rates and principal. The outstanding balance is adjusted with the market interest rate. As a consequence, part of the nominal interest is

capitalized and mortgage debt rises in nominal terms but should decline in real terms. In practical use this is a very complex instrument that creates a lot of problems especially in underdeveloped banking systems (characteristic of countries where it tends to be introduced). This tool may fend off payment tilt problem while increasing several new substantial risks.



## An Evaluation of the Hungarian Mortgage Program

József Hegedüs and Eszter Somogyi

### ABSTRACT

The onset of transition from socialism found Hungary's housing system bankrupt due to the long-term, low interest (1–3 percent) state housing loans issued in the 1980s. According to a World Bank study the total budget and off-budget subsidies to the sector amounted to 7.5 percent of the GDP in 1989. The two most important items were the interest rate subsidy—30 percent of the total subsidy—and the subsidies to the public sector including both direct and indirect subsidies (indirect referring to foregone rental income on public housing stock)—44 percent of the total. Through the consolidation of the banking sector and “old loans” and by privatizing the public rental stock the housing subsidies decreased to 1.2 percent of the GDP by 1998.

Meanwhile, by the middle of the 1990s, a deep crisis could be detected in the housing sector. New construction diminished to 20 percent of the level of the 1980s—around 0.5 percent of the existing stock—the deterioration of the housing stock accelerated, housing finance activities essentially vanished, the social rental sector decreased to 4 percent of the stock, and several social problems emerged in the management of the housing stock (arrears, etc.). Housing loans practically disappeared: while outstanding loans were 16–17 percent of the GDP in 1989, they were reduced to 1–1.5 percent by the end of the 1990s.

In 2000 the right-wing populist government announced a new housing policy, which aimed to increase the new investments in the housing sector, creating a competitive mortgage market and supporting the revival of the rental sector as well. The new subsidies supporting borrowing were introduced in 2000. However, the government was under constant pressure by lobbying groups, and the conditions and eligibility criteria for the subsidies changed step by step. By 2002, before the election, the potential fiscal cost of the mortgage system had become critical. According to our calculation, the present value subsidy of the loan to be issued in 2003 would be equivalent to 2–3 percent of GDP, while the result of the

program can be questioned both in terms of efficiency and in terms of the social effects.

The new left-wing government elected in 2002 promised to keep the subsidies unchanged in the housing sector and even promised increases in some elements of the subsidy system (e.g., increasing the premiums for the contract savings and increase in the upfront down payment subsidy for new construction). The new government postponed decisions on modifying the subsidy system for two years, but the fiscal burden forced them to introduce changes at the end of 2004. This chapter describes the program and evaluates the results versus costs from the viewpoint of public policy.

# An Evaluation of the Hungarian Mortgage Program 2000–2004

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## INTRODUCTION

The onset of transition from socialism found Hungary's housing system bankrupt due to the long-term, low interest (1–3 percent) state housing loans issued in the 1980s. According to a World Bank study the total budget and off-budget subsidies to the sector amounted to 7.5 percent of the GDP in 1989. The two most important items were the interest rate subsidy—30 percent of the total subsidy—and the subsidies to the public sector including both direct and indirect subsidies (indirect referring to foregone rental income on public housing stock)—44 percent of the total. Through the consolidation of the banking sector and “old loans” and by privatizing the public rental stock the housing subsidies decreased to 1.2 percent of the GDP by 1998.

Meanwhile, by the middle of the 1990s, a deep crisis could be detected in the housing sector. New construction diminished to 20 percent of the level of the 1980s—around 0.5 percent of the existing stock—the deterioration of the housing stock accelerated, housing finance activities essentially vanished, the social rental sector decreased to 4 percent of the stock, and several social problems emerged in the management of the housing stock (arrears, etc.). Housing loans practically disappeared: while outstanding loans were 16–17 percent of the GDP in 1989, they were reduced to 1–1.5 percent by the end of the 1990s.

By the mid-1990s there had been no housing loans in Hungary and the situation was similar in other Eastern European countries. It must be pointed out, however, that in some countries there had been no loans even before the political changes, unlike Hungary, where the loan portfolio in 1990 amounted to 15 percent of the GDP (Hegedüs-Várhegyi 2000). Early in 2000 an energetic program targeting the establishment of a housing loan system was launched in Hungarian housing policy. During the four years of the “mortgage subsidy” program the housing loan portfolio grew to 8 or 9 times its previous size; whereas at the beginning of 2000 the loan portfolio was only approximately HUF 130 billion, by September 2004 it was HUF 1,836 billion. As a result, the loan ratio within the GDP increased from 1.5 percent in 2000 to 10 percent at the end of the year 2004.

The paper will tell the story of this program and evaluate results versus costs from the viewpoint of public policy. There are two key questions in the scholarship on housing finances in transition countries—defining “optimum” housing finance institutions and developing an efficient framework (both legal and institutional) for housing finance in transition economies. Options include mortgage banks, commercial banks, secondary mortgage institutions, and contract savings. The second question is about the possible role of housing finance subsidies. The fact is that at the end of the 1990s (8 to 10 years into the transition period) housing finance was in deep crisis in most transition countries. Several important measures were then taken: formation of new legal frameworks, banking reform, privatization of banks, and development and introduction of new financial institutions and innovative mortgage products. However, no real progress had been made in terms of the issued loans, number of households using credit, and the credit-to-value ratio, etc. Despite the high level of “need” for housing, the population with purchase capacity remained low. Thus it was crucial to see whether a subsidy was needed to generate demand and—if yes—what kind of subsidy programs should transition countries use.

In the first part of the study we describe the macroeconomic and housing policy background of the program. One of the interesting points is that the situation before the program was similar to other transition countries. The Hungarian program represents a response—not necessarily the best one—to this challenge, which is worth studying. The second part of the paper describes the program and its changes between 2000 and 2004. There are a lot of technical details which are impossible to present in the framework of this volume; however it is important to understand the process and motives of policy making. In the third part of the paper we try evaluate the program from the viewpoint of public policy.

## 1. HOUSING POLICY, HOUSING FINANCE, AND SUBSIDIES BEFORE 2000

### Housing Policy

After the political changes at the end of the 1980s, three stages in housing policy can be outlined. In the first period (1989–1994) the government tried to manage the housing crises related to economic decline and the “deep subsidy” system of the socialist period. The government “moved out from the housing sector,” decreasing subsidies and diminishing their direct role. Decentralization was part of this process, as local governments were asked to manage the housing allowance program partly financed from their own



resources. The housing policy of this period largely entailed crisis management. The Law on the Rental Sector (1993) and the Social Law (1993) made it clear that the government does not take responsibility for housing, but leaves it open to future intervention. The subsidy system had been changed in order to decrease the burden on the budget, but no major changes were realized in the concept of housing policy. Decisions from this period made it clear that politicians had not accepted “targeting” as a concept. Nevertheless, this idea became more and more important in the “white paper” programs.

In the second period (1995–2000) new institutions were established and the legal basis was improved. Meanwhile, the level of subsidies gradually decreased as a consequence of decreasing housing output. Two basic financial institutions were set up: contract savings banks and mortgage banks. The law on contract savings banks was very controversial as the subsidies for savers made the housing subsidy system regressive, and there was no direct relationship between subsidies and an increase in housing investments. Changes in the legal basis of housing finance were important. Attempts to curb inflation and changes in the subsidy system had temporary effects on the housing sector. The housing policy concept declared the need for a reform in the subsidy system, but changes mainly served the purpose of reducing the budget burden. From 1998 on, a new aspect of housing policy was stressed—the need to support middle-income households—but no significant moves were made for two years. The third period started after 2000, when the government launched an active program backed by positive macroeconomic changes.

Soon after the change of regime, the country undertook structural reforms and stabilization measures. By the mid-1990s, as a consequence of deterioration in macroeconomic performance (the government budget deficit), the country responded with a second round of deep and far-reaching reforms that included the enterprise, banking, and public sectors. Structural reforms were complemented with a strong fiscal stabilization package (1995–98) and the maintenance of sound macroeconomic policies. Robust economic performance followed, with real GDP growth averaging 4.4 percent over the 1997–2001 period. Unemployment had been on the decrease from the middle of the 1990s and stabilized at 5–7 percent at the turn of the century.

## Macroeconomic Background, Privatization of the Construction Industry, and Housing Investments

Since 2000, economic policy priorities have shifted from structural reforms to rebalancing living standards and upgrading public infrastructure. Wages, pensions and public sector investment have increased. Yet some structural reforms remain pending, notably in financing the health sector, in sub-national finance, and capacity building.

*Table 8.1*  
Macroeconomic indicators, 1990–2003

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Real growth of GDP (previous year=100)	96.5	88.1	96.9	99.4	102.9	101.5	101.3	104.6	104.9	104.2	105.2	103.7	103.3	103.0
Inflation (previous year=100)	128.9	135.0	123.0	122.5	118.8	128.2	123.6	118.3	114.3	110.0	109.8	109.0	106.0	104.7
Unemployment rate (%)	1.9	7.5	12.3	12.1	10.9	12.7	9.9	8.7	7.8	7.0	6.38	5.5	5.9	5.9

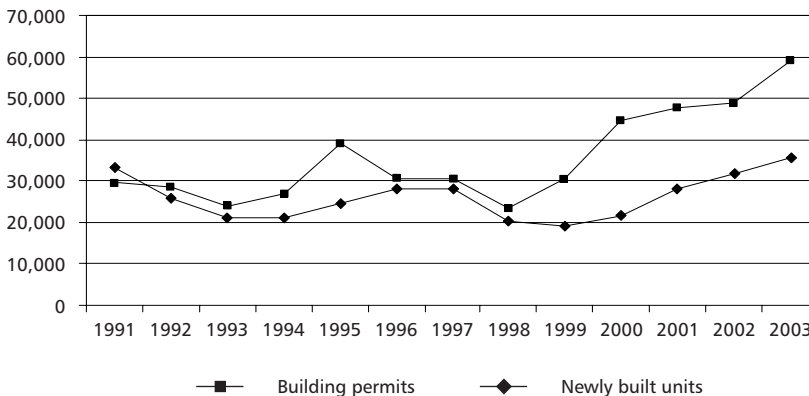
*Source:* Hungarian National Bank.

The change in the regime and the following transitional recession had its effect on the housing sector (Hegedűs and Várhegyi 2000). The real estate market has been transformed quickly; huge construction companies have been broken up and privatized; the sale of construction materials has been liberalized, restrictions on owning property have been lifted, and a significant portion of state owned housing has been privatized—all this has paved the way for a market-oriented housing model. However, there have been many signs that the transformation process was not smooth: housing construction rates have fallen; the housing stock has further deteriorated; problems maintaining and renewing privatized (and non-privatized) housing have emerged, housing expenditures have been taking an increasing part in household incomes and housing-related arrears have become a social issue.

Because of economic depression, the housing investment decreased and housing output went down as well. Changes in the subsidy system had an effect on the housing output, but by 1998 the number of new units dropped to an even lower level than before. Interestingly enough, macroeconomic changes had not influenced housing investments before 2001.

*Figure 8.1*

New construction and building permits between 1989 and 2002



*Source:* Central Statistics Office.

The housing situation improved in the 1990s partly because there was no demographic pressure on the housing sector and the demand for housing had been postponed (see Table 8.2). Housing units with 3 or more rooms did not increase, and 15 percent of the stock was obsolete and in critical condition.

*Table 8.2*  
Basic indicators of housing conditions  
in Hungary, 1960–2000

	Units [millions]	Persons per 100 inhabited units	Number of rooms per 100 units	Units with 3 or more rooms [percent]	Units without comfort [percent]
1960	2.79	349	147	n.a.	n.a.
1970	3.14	327	164	10.8	65.9
1980	3.55	302	199	24.3	37.7
1990	3.86	274	237	40.5	18.7
2000	4.06	274	263	45.9	15.0

*Sources:* Central Statistics Office.

## Housing Privatization and Housing Subsidies

As a consequence of housing privatization, 15–20 percent of the total housing stock moved from state ownership to the owner occupied sector. In the Hungarian housing system the state rental sector had a 25 percent share before transition. Its role was decisive in the urban areas, where privatization caused a dramatic change in the tenure structure. Privatization was basically a giveaway, with prices at around 10–15 percent of market value. As a consequence, in 2000 the estimated share of the rental sector was 8 percent, of which 4 percent was public (CSO 2003). Thus Hungary’s housing sector came to be dominated by owner occupation. Even if privatization was a contradictory process from the point of view of housing policy, it had a positive fiscal effect in the short run, as 2/3 of the revenues of public sector rentals came from state subsidies.

Now the housing subsidy system has changed. In the 1990s officially measured housing subsidies<sup>2</sup> reached 3.7 percent of GDP, and more than 2/3 of total homeowner subsidies in 1990 went to subsidizing interest on “old loans” (See Hegedüs, Mark, and Tosics 1997). In 1993–94 the subsidies related to borrowing were reduced, and the VAT exemption on housing investment was abolished. As a compensation of these austerity measures the upfront “housing construction and purchase grant” was increased. The increase had a temporary effect on the market and on new construction, but its effect was later inflated (See Figure 9.1). By the end of the decade the share of the interest rate subsidy diminished to 35 percent of total subsidies and made room for new programs (see Table 8.6 in the appendix). Beside the “old loan” subsidies, the most important subsidy was the housing construction allowance, which was a capital grant subsidy for new construction depending on the number of the children in the family. Among the housing finance subsidies the premium for contract savings and housing loan subsidies

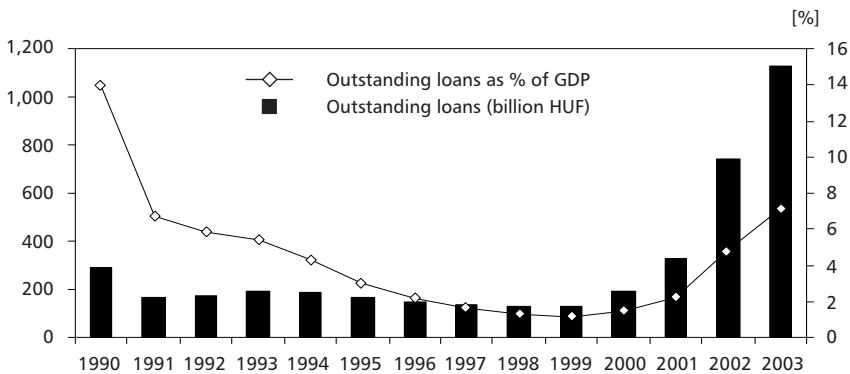
was important. Total budget and off-budget subsidies decreased to 0.8 percent of the GDP by 1998 from 1.2 percent in 1993.

## Housing Finance: Mortgage Loans, Interest Rates

Housing loans as sources of housing finance had practically disappeared: while the outstanding loans were 16–17 percent of the GDP in 1989, they had decreased to 1–1.5 percent by the end of the 1990s (see Figure 8.2). Paradoxically, while market economy institutions including a competitive banking system have been created in Hungary, the housing finance sector has grown differently than in developed economies, where 60 to 80 percent of housing investments are financed from loans.

In an earlier paper (Hegedüs-Várhegyi 2000), we gave an explanation of the shrinking of the loan sector. Besides the worsening and unpredictable income situation of households, two other factors had major roles: loss of value of property and high real interest rates on loans. By 1998 the real loss of the housing value reached 40–50 percent of the value of the 1990s, and a turnaround started in 1998–99.

*Figure 8.2*  
Outstanding housing loans, 1990–2003

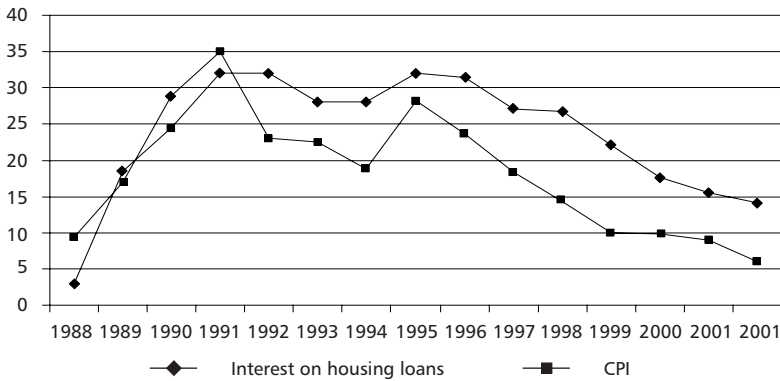


*Source:* Hungarian National Bank.

Housing prices in the 1990s decreased in real terms by 40 percent, and started to increase again from 1998. This was one factor which had a positive effect on household housing demands. The facts and expectations of a continuous house price increase made the household housing investments profitable. In the next Figure 9.4 the rate of return on real housing prices shows positive changes from 1998. However, this trend seems to have stopped by 2002, which supports the assumption that in that year we reached the peak of a price bubble.

The interest rate was around 30 percent between 1991 and 1997, which made the expansion of the loan sector basically impossible. Innovative loan products (e.g., Deferred Payment Mortgage) were not able to significantly change the situation.

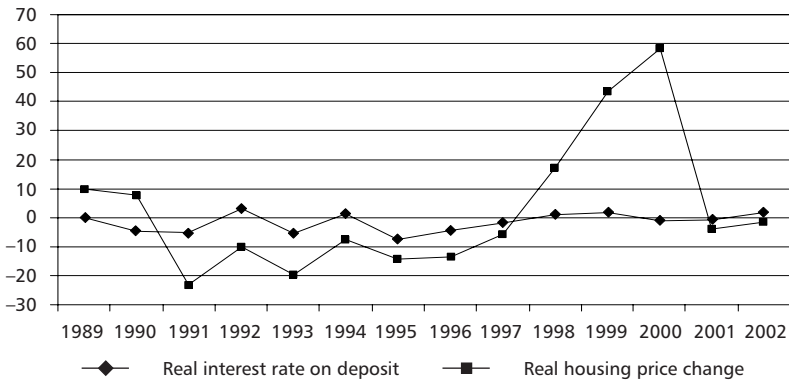
*Figure 8.3*  
Interest rates on housing loans and CPI, 1988–2002



Source: Hungarian National Bank.

In the 1990s the combined effects of these two factors could not be offset by the housing subsidy system and innovations in the housing finance system. Until 1998 the investment in real estate had a lower “return” than rendering the saving as deposits.

*Figure 8.4*  
Real return on deposits and housing in Hungary, 1989–2002



Sources: OTB Bank, Hungarian National Bank, MRI, own calculations.

By 2000 it was not only the macroeconomic situation that had changed, such as inflation, house prices, unemployment, GDP, etc., but the institutional reform had had its effect as well, especially in the banking sector.

## The Institutional Structure of Residential Housing Lending System in Hungary

By the end of the 1990s the main institutional and legal changes that initiated a more extended, long-term mortgage lending activity had been implemented. As a result of the institutional development of the nineties, three main types of financial institutions participate in housing finance: commercial banks, mortgage banks, and contract savings banks.

The mortgage lending activity started to grow significantly when the new housing loan subsidy system that gave interest rate subsidy to housing loans was introduced. The idea was to establish an interest rate subsidy that makes mortgage loans more available for households until the inflation decreases to a level that allows for acceptable conditions for long-term mortgages. Therefore, the subsidy scheme was designed so that the subsidy declines in parallel with the fall in inflation. Two different types of interest rate subsidies were introduced: an interest rate subsidy to mortgage bonds and an interest rate subsidy for loans connected to new construction. The program was launched in January 2000, and the mortgage bonds have become the primary resource for mortgage loans due to their subsidization.

Until the late 1990s, the housing lending market was highly concentrated and dominated by OTP, the former state bank, and only from 1996 have other **commercial banks** started to enter the housing finance market. While in the case of retail lending the monopoly of OTP had shrunk substantially, in the area of housing loans OTP's share declined only slightly: as late as 1997 OTP still had nearly 90 percent of the market. Due to reasons mentioned earlier—low demand, high inflation rates, high credit risk—commercial banks moved into the housing lending market only later and with a very cautious business strategy. They were mostly following OTP's policy, as a result of which there was no genuine competition between banks. The lack of competition was also felt in the slow decrease of real interest rates in housing loans. Owing to the new subsidy policy introduced in 2000, the number of commercial banks and financial institutions on the housing lending market has considerably grown in the past three years. According to Hungarian Central Statistics Office (HCSO) data, 16 commercial banks, 3 mortgage banks, and 179 savings cooperatives operated in the market in 2002, as a result of which the market is now less concentrated.

Setting up **mortgage banks** became possible with the enactment of the Act on Mortgage Credit Institutions and Mortgage Bonds (1997). Currently there are three

mortgage banks in the market: the Land and Mortgage Bank (FHB), the German-owned HypoVereinsbank (1999), and the OTP Mortgage Bank (2001).

The first mortgage bank, the state-owned FHB, was set up in 1998. At the outset, housing lending was not central in the bank's strategy: the bank primarily targeted the upper segment of the market and did not deal with subsidized loans, which it did not consider safe enough. Initially, with the introduction of the new subsidy program FHB gained a central role in housing finance—at the beginning only the FHB was entitled to receive the subsidy for mortgage bond issuance. Because the FHB was not authorized to issue its own loans, loan origination was organized in cooperation with commercial banks and saving cooperatives in the form of refinancing agreements or on a commission basis. The reason for such arrangement was to break OTP's monopoly in the market. However, FHB's monopoly on subsidized bonds was cut back later, and other mortgage banks gained the right to issue subsidized mortgage bonds. FHB was then permitted to issue its own mortgages as well. As a result of these changes, OTP established its own mortgage bank. The recent pattern of mortgage lending is that the FHB has refinancing agreements with nine commercial banks and issues its own loans through its five branches, while the OTP Mortgage Bank does not issue its own loans but has an exclusive refinancing agreement with OTP commercial bank. With the current arrangement OTP regained its leading role in mortgage lending: 2/3 of the mortgage loans were issued by the OTP in 2002.

Although 8 percent of households have contracts with savings banks, these financial institutions have a marginal role in housing lending. The main reason is that the conditions of their loans became less favorable with the introduction of a new interest rate subsidy system. However, contract savings banks enjoy high subsidies on the savings side.

## 2. LOAN SUBSIDY PROGRAM AFTER 2000

Since January 2000 the subsidy system has been changed and two new subsidy programs have replaced the old system in the area of housing finance. Housing mortgage programs were frequently changed, betraying government impatience. Changes came in such rapid succession that there was no time to evaluate the effects of the interventions. Beside the two mortgage subsidies, the modification of the PIT advantages had an important effect as well.

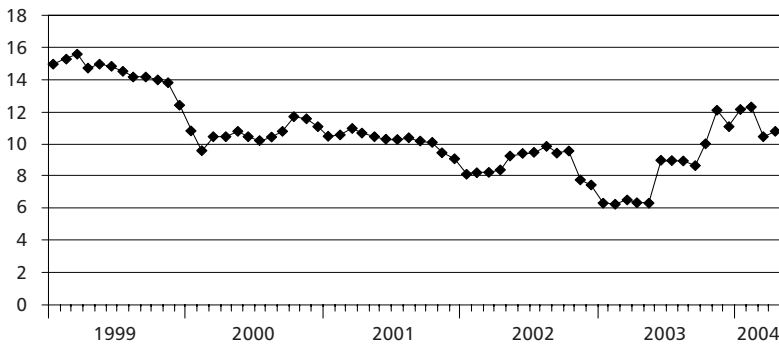
### 2000 to Spring 2002

The demand-side mortgage subsidy aimed at increasing affordability for new construction. According to regulations, the interest subsidy was equal to the yield of government bonds less 4 percent provided that the bank charges an interest rate not more than the



yield of the government bonds plus 4 percent for a loan with 10 years maturity (see Table 8.3). So the borrower paid maximum 8 percent for the whole life of the loan as interest and service cost, and the subsidy will decrease if the inflation (the yield of the government bond) decreases. In the beginning, only “first-time buyers” were eligible for the subsidized loan (a first-time buyer is defined as a household who does not own a house at the time of purchase or construction). The government bond rate for one year was decreased from 11.2 percent in 2000 to 6.4 percent by 2003 (see Figure 8.5), thus the subsidy would have decreased from 6–7 percent to 2–3 percent with the original condition.<sup>3</sup> The expectation was that this program would have a relatively high initial cost, but later its fiscal effects would be managed easily. Moreover, the demand-side mortgage subsidy was limited by the fact that only households buying (or constructing) new units were eligible.

Figure 8.5  
The government bond rate, 1999–2003



Source: Hungarian National Bank.

Thus the subsidy in the beginning was tied to the government bond interest rate with the condition that the interest rate of the loan would have a ceiling. To give an example, the subsidy was equal to the government bond interest rate minus 4 percent ( $10 - 4 = 6$  percent) and the maximum interest rate was equal to the government bond plus 4 percent ( $10 + 4 = 14$  percent). Therefore the household maximum burden was 8 percent and was independent of the actual interest rate.

The other program was the *funding-side mortgage subsidy (support of the mortgage bond)*. In 2000, a 3 percent subsidy was given to support the issue of mortgage bonds (special long-term securities) to finance mortgage loans both for buying and building new homes and for buying existing units. The mortgage bank raises the funds with the government support required for lending on the capital market and channels them to the borrower through its own branch network or its partners (commercial banks,

*Table 8.3*  
Changes in the condition of the demand side mortgage subsidy  
(new construction)

	January 2000	June 2000	June 2001	October 2001	June 2003	December 2003
Maximum loan (million HUF)	8	10	10	10	15	15
Term of the subsidy	10 years	10 years	20 years	20 years	20 years	20 years
Eligibility	First-time buyers, and new homes	New homes (Not necessarily first-time buyer)	Plus construction period loan	Same	Same	Same
Subsidy	GBR- 4 %	GBR-4 %	GBR 4 %	GBR-2 %	GBR-2 %	GBR*0,6
Maximum interest rate	GBR+4 %	GBR+4 %	GBR+4 %	GBR+4 %	GBR+4 %	GBR*1,1+4

*Note:* GBR = Government Bond Rate

*Table 8.4*  
Changes of the subsidies-to-bond issues related to housing loans

	January 2000	January 2001	June 2001	October 2001	February 2002	June 2003	December 2003
Maximum loan (million HUF)	30	30	30	30	30	15	New: 15 Existing: 5
Maximum subsidy %	—	—	—	7	10	—	—
Interest rate subsidy (%)	3	4.5	6	MBI	MBI+2	New: MBI E: MIN (MBI-1; GBR*1,05)	New: GBR*0,6 E: GBR*0.4
Maximum loan interest rate (%)	MBI+1.5	MBI +1.5	MBII	MBI-1	6	New: 6 E: 4	GBR*1.1+4

*Note:* MBI = Mortgage Bond Interest rate; GBR = Government Bond Rate; E = Existing Unit

savings cooperatives, insurance companies). The subsidy is granted for 5 years, after 5 years—the law says—with the new issuance the subsidy will change provided that the household burden does not change. Initially, this program provided a 3 percent fixed interest rate subsidy for the mortgage bonds issued to support housing investment (see Table 8.4). It stipulated that the maximum interest rate of the loan from these resources could not exceed the mortgage bond interest rate plus 1.5 percent. In January 2000 the mortgage bond interest rate was 11 percent, the loan issued from these resources had a maximum interest rate 12.5, while the cost of the bank was 8 percent (11–3).<sup>4</sup>

The third subsidy program was the Personal Income Tax (PIT) *mortgage payment allowance*. From 1994, the maximum amount which could be deducted from the tax payment was 20 percent of the mortgage payment (interest and capital), maximum 35 thousand HUF.<sup>5</sup> Its effect was not very influential, as the ceiling was very low.

Both mortgage subsidy schemes—despite their technical problems mentioned before—could be considered efficient in starting the mortgage loan finance for housing. It was clear to the observers that this policy would help the upper middle and middle-income groups to have access to housing loans with a “shallow” subsidy system. In this way it would be possible to target the remaining part of the subsidies to the needy social groups. It seemed to be a reasonable price for building up a modern housing finance system. However, the government had been under constant pressure by lobbying groups, and the conditions and eligibility criteria for the two schemes had changed step by step.

The funding-side mortgage subsidy was increased from 3 to 6 percent by June 2001, and in October the subsidy was tied to the mortgage bond interest rate. By February 2002 the interest rate subsidy was equal to the mortgage bond interest rate plus 2 percent with a ceiling of 10 percent. As the mortgage bond interest rate was around 9 percent in the beginning of 2002, the interest rate subsidy was 10 percent—a huge subsidy.

The conditions were relaxed as well to include not only individuals but local governments and developers; not only new construction but also renewals, extensions, etc. became eligible.

Although the future cost of the program increased as a consequence of these changes, the scheme still had some advantages. As the government bond price decreases, the subsidy decreases as well. The household burden (interest and service cost) was maximized up to 8 percent up to October 2001—6 percent afterwards. The total size of the demand-side subsidy was constrained by the quantity of new construction (as only loans issued for new construction were eligible), however this was not true for the other mortgage subsidy (the support of the bond issue), which was tied to the transaction of existing and new units.

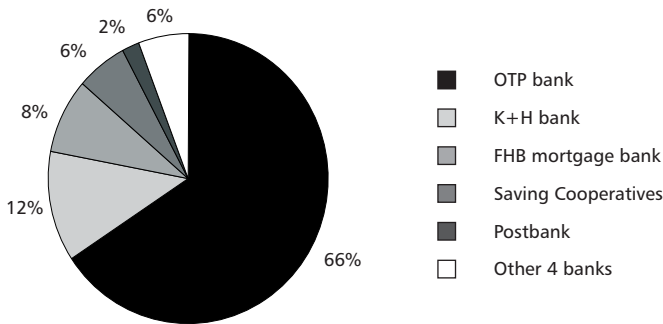
The PIT mortgage allowance was modified as well. In 2001, the maximum deduction was increased to 40 percent—240 thousand HUF/year in the case of the new construction. Before the election (in the spring of 2002) the personal income tax deduction was expanded to loans for buying existing housing units as well.

## Hesitation: 2002 to June 2003

The new left-wing government elected in 2002 promised to leave subsidies unchanged in the housing sector and even promised increases in some elements of the subsidy system (e.g., an increase in premiums for contract savings and in the down payment subsidy for new construction).

By the end of 2002 it had become clear that the volume of housing loans increased very fast as a consequence of the subsidies. One of the reasons was that the biggest Hungarian Bank (OTP) entered the market and could optimize its position by issuing private bonds. Soon it became a leading institution on the mortgage bond market.

*Figure 8.6*  
Loans issued in 2002



*Source:* Monitor Report<sup>6</sup> (2003).

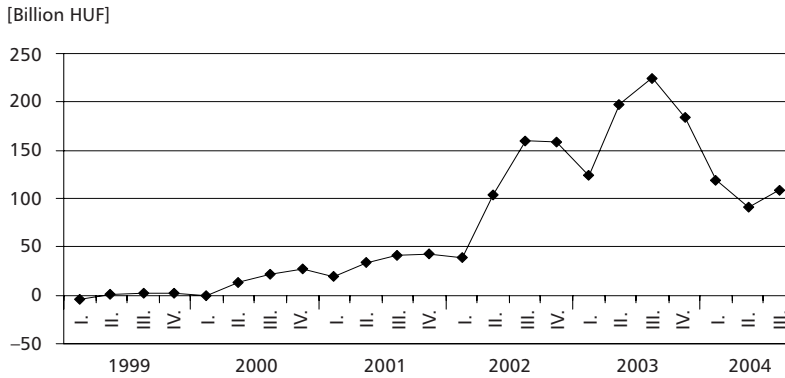
However, the fiscal effects of the mortgage programs were not projected correctly. In October 2002 one of the prominent economic research institutes estimated the future cost of the two mortgage subsidy programs at 42 billion HUF for the year 2005, while the expectation was 140 billion HUF<sup>7</sup> (Molnár-Pichovsky 2002).<sup>8</sup> Other research institutes (like MRI) evaluated the program as unsustainable, but the government did not pay attention to the warning (Hegedüs and Teller 2004).<sup>9</sup>

The government—for political reasons—kept postponing the decisions. Moreover, in 2002 the government increased the subsidy for the contract savings and the housing policy allowances to demonstrate that they wanted to support the sector (see Appendix).

After a long political discussion the government changed the conditions of the mortgage program in June 2003, but much less radically than was expected. There was no change in the mortgage demand subsidy program. In the funding-side mortgage subsidy program, different formulas were introduced for buying existing units and for buying or building new units. The subsidy decreased by 2 percent in the case of new

units, and it became equal to the mortgage bond rate; it decreased by 3 percent in the case of the existing units. The size of the maximum spread was different for new and existing units; the subsidy decrease in the case of the new units was less significant in an effort to support new construction.

*Figure 8.7*  
Changes in the housing loans of the household sector



*Source:* Hungarian National Bank.

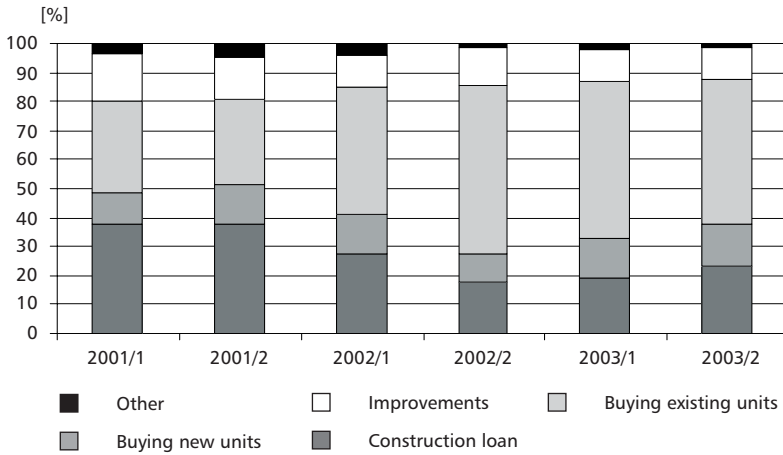
Parallel to the modest cuts, the government changed the law on public servants, which gave a guarantee to civil servants up to the difference between the value of the home and the loan given according to the underwriting procedures of the bank. This guarantee existed from July 1, 2001 with a ceiling defined by “socially accepted housing needs” specified in the law. From July 2003—because of anecdotal evidence that public servants used this possibility for investment purposes—some constraints have been introduced.

### Period of 2003 June until 2003 December

Because of the increased government deficit and worsening macroeconomic conditions, introducing substantial changes became inevitable by December. The cost of the program became evident by the end of 2003. In 2003, the mortgage loan issuance increased, and there was no sign that it would decline. The macroeconomic changes affected the fiscal cost of the program as well. The government bond rate increased above 12 percent, which made the mortgage program more expensive. The changes of the subsidy programs were influenced by the “construction lobby” that argued that most of the subsidies went to the existing housing market and had not helped the housing investments.

Figure 8.8

The type of housing investment used by the issued loan, 2001–2003



Source: Central Statistics Office.

In the case of the mortgage demand subsidy program the size of the subsidy decreased, and it was defined as 60 percent of the government bond rate. Before December 2003, the subsidy was equal to GBR minus 2 percent, thus the subsidy decreased from 10 percent to 7.2 percent (at a level of 12 percent of the GBR). In the case of the funding-side mortgage subsidy for existing units a more severe cut was used: the subsidy was set at 40 percent of the government bond rate.

The tax exemptions in PIT for mortgage repayment had been cut severely as well. The maximum tax deduction was decreased to 120,000 HUF from 240,000 HUF, and the borrowers were eligible for a maximum of 4 years. In the case of buying existing units, the maximum deduction was equal to 30 percent of the mortgage payment, while in the case of new units it remained 40 percent.

## Back on Track

As a consequence of the cuts in subsidy the issuance of mortgage loans decreased, but the total decrease was less than expected, as a new foreign-exchange-dominated mortgage loan was introduced. In the last quarter of 2004, 100 billion HUF in new loans were issued, 50 percent of which were foreign-exchange-dominated mortgage loans. This created a new challenge to find ways to manage the EX risks of the new loans. The fiscal burdens, however, will become smaller, as no subsidy is given to these loans.

Housing policy remained in the focus of politics. At the beginning of 2005 the government started a new program which will have important effects on the mortgage finance. A government guarantee program was designed to introduce both the subsidized mortgage and the foreign exchange dominated mortgage. The government again increased the housing construction subsidy (see appendix) and expanded its use to the market of the existing units at 50 percent of the subsidy level. These program elements were a reaction to criticism that the mortgage subsidy program has helped the relatively rich, as its loan-to-value ratio is around 50–60 percent, leaving households without intergenerational transfer and substantial savings out of the program.

### 3. OUTCOME OF THE MORTGAGE PROGRAM

#### The Macroeconomic Effects: Housing Construction, Loans Issued

The market reacted to the housing subsidy changes, but with a substantial and increasing “lag.” Building permits as well as new construction increased. The present 3.5 built units per 1,000 inhabitants is in the lower middle range in Europe, but is one of the highest among the transition countries (see Figure 8.1 ). It is a question how much of the increase is due to the subsidy program and how much is due to the macroeconomic changes (GDP increase, lower inflation, etc.).

The major part of the increase in housing investment was due to professional developers. The share of “self-built” housing decreased from 52.8 percent to 35.5 percent between 1998 and 2003, thus 87 percent of the surplus was generated by professional developers. However, the mortgage program seems to have a distorting effect on the market in terms of the over-supply of small, low quality units, while in international comparison the Hungarian housing market is dominated by “average” housing units. This distortion was caused by the fact that the subsidy system provided incentives to invest in medium size or small housing, where both developers’ and buyers’ price risks are smaller.

The mortgage program with its 2002 parameters was unsustainable, and political discussions on the program had a negative effect on the market. First, households brought forward their housing investment decision because they believed the government would withdraw subsidies. This fact led to over-demand for new housing for which developers were not prepared, and it had a negative effect on the quality and price of the new units. Secondly, after the government changed the subsidy scheme, developers ended up with unsold units and several bankruptcies are now foreseen among developers. Probably, this will not result in a burst of the price bubble, as new investment does not dominate the market but could cause other disadvantages such as a low level of transactions, etc.



The outstanding loan increased very fast, and the share of the loans related to buying existing units increased much more after 2002. There is a discussion among experts and housing politicians over the optimum mix of subsidies to new investments and existing units. The argument is that subsidies for existing units lead to rise in prices because of the rigidity of the supply. However, the market of the existing units and new investment cannot be separated. 56 percent of the buyers enter the market selling their previous units. Thus the existing market and new market are strongly inter-related. According to the housing survey of 2003, 85 percent of buyers of existing units renew their homes,<sup>10</sup> thus the transaction generates real investments as well.

In the years of rapid expansion of housing loans household savings decreased substantially, which contributed to macroeconomic problems at the end of 2003 (Palocz 2003).

### **Mortgage Boom in House Prices: Expansion without a House-Price Bubble**

House prices have been quite volatile in the last 15 years. In the 1990s, real house prices decreased by 40–50 percent until 1998, and between 1998 and 2001 a 100 percent real increase took place (see Figure 8.4).<sup>11</sup> The real increase preceded the mortgage program, thus it is clear that the house-price increase was not fuelled by the mortgage boom. A study in 2000 (Valkovszky 2000) warned housing politicians that a mortgage subsidy program would lead to a price bubble. This did not happen, despite the fact that by the end of 2003 outstanding mortgage loans had increased by three times compared to the 1999 amount, and from 2 percent to more than 9 percent of the GDP. No substantial price increase could be observed on the market until 2004.

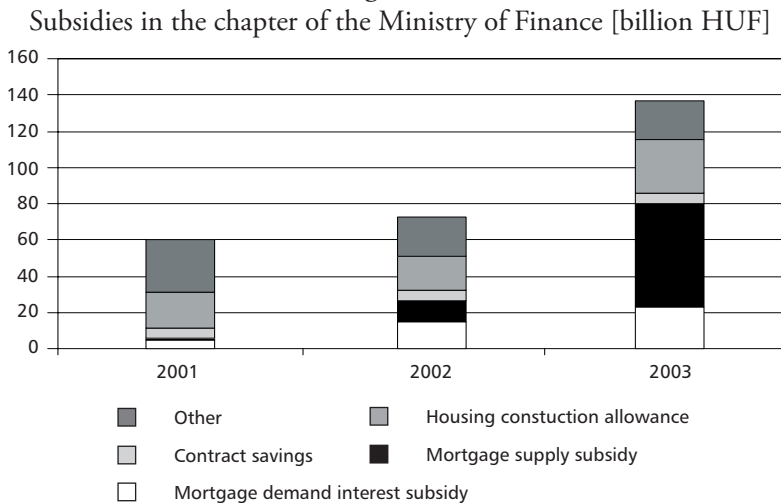
The 1998–2000 house-price increase can be explained by several factors such as stock market changes, interest rate decrease and the role of foreign investors (Kiss 2002). However, house-price trends have to be explained in a longer-term perspective (Hegedüs and Várhegyi 2000). In the years of the economic recession of transition households' housing demand decreased, and as a consequence of special equity withdrawal<sup>12</sup> housing supply was stabilized in spite of the substantial decrease in the new construction. The macroeconomic stabilization changed the market parallel with the collapse of the stock market. The price increase impacted housing investment, which can be demonstrated through permission data (see Figure 8.1), but actual new construction did not have a substantial role in slowing down the price increase (new construction represents only 20–30 percent of all transactions). The increase in mortgage loans did not have a direct influence on investments, because the majority of the surplus demand went to the market of the existing houses not to the new construction.

Our explanation is that the Hungarian real estate market had moved into a price bubble in the years of 1998–2001, and it was close to “bursting” when an additional demand appeared, and this slowed down the price decrease. To put it in another way, the price increase of 1998–2000 could be realized only in a certain part of the market (that is, increased asking prices; however, the effective demand did not increase, thus the number of transactions was limited). After the mortgage boom, the effective demand increased basically at the same price level as the asking price. Thus the number of transactions increased (according to our estimates from 3 percent of households to 6 percent in a year). The mortgage funds “leaked” from the sector through transactions, not through direct borrowing. The survey and other indirect information do not support the hypothesis that the leakages were directly connected to borrowing.

## Fiscal Effect

The mortgage program had very serious fiscal effects on the budget. There was a debate among experts about the future fiscal cost of the program. The government argued in 2000 that the fiscal burden would be manageable if interest rates went down. The weak feature of the interest rate subsidy is the unpredictability of the true cost of subsidy in an inflationary environment. Moreover, because of the frequent changes in terms, it was very difficult to follow the issuance of the different type of loans and estimate the future costs. Even the comparison from one year to another was impossible, because of the lag time between authorization of the loan and actual withdrawal of money.

*Figure 8.9*



Source: Ministry of Finance.

As a consequence of the mortgage program, the share of housing subsidies in GDP increased from 0.8 percent to 1.7 percent between 1998 and 2003 (see Figure 8.9). However, the problem of the interest rate subsidy is that it means a long-term commitment to the budget. After a certain point it shrinks the housing programs' flexibility. It was clear in 2000 that the fiscal effect depends on how fast the magnitude of the outstanding loans is increasing, and how "deep" the interest rate subsidy is, that is, the difference between the "cost of the money" and the effective interest rate paid by households. Commitments could be measured by the present value of the interest rate. According to our recent estimates, the present value of the subsidy commitments connected to the loans issued in 2002 and 2003 is 3.6 percent of the GDP (Hegedüs and Teller 2004).

The other problem is that mortgage subsidies will dominate the housing budget, which means that most expenditures will be related to past housing activity. Similar to the beginning of the 1990s, the share of "old loans" will have more than 75 percent of the housing budget, which gives no room for any new housing programs.

## Affordability

In the last three years prices increased faster than household incomes. However, other affordability indicators (e.g., Housing Affordability Index and Housing Opportunity Index) improved because the housing loan interest rate decreased substantially—partly because of macroeconomic changes, and partly because of the interest subsidy (see Table 8.5). It is important to emphasize that the price increase preceded the subsidy program.

*Table 8.5*  
Affordability indicators<sup>13</sup> in Hungary, 1999 and 2003

	1999	2003
Price/income ratio (HP/I)	4.1	6.2
Housing opportunity index (HOI)	40%	60%
Housing affordability index (HAI)	15%	30%

*Source:* Central Statistics Office.

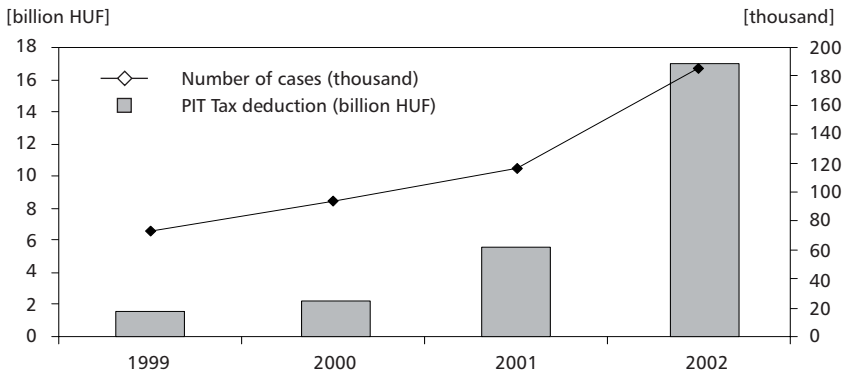
## The Social Effects

The interest rate subsidy was successful in terms of the outstanding loan, and in starting the expansion of the housing loan sector, but it was less successful in initiating new

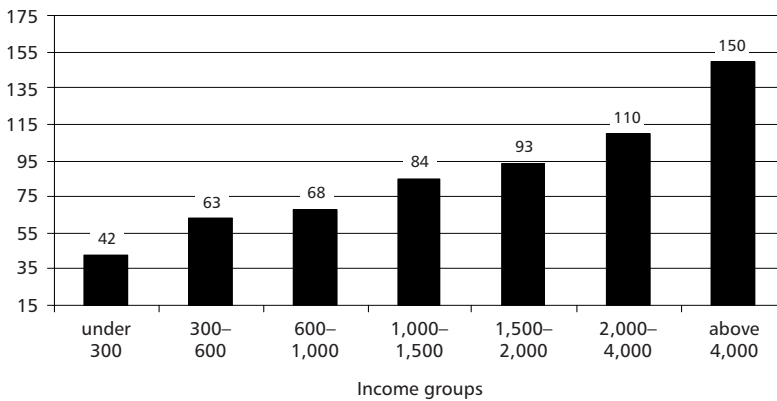
construction. However, the subsidies had a very regressive income effect, and a serious fiscal effect on the public sector.

We do not have data related to the income composition of the households who had access to interest rate subsidies. However, through Personal Income Tax data we can make inferences and conclusions about the social effect of the program. As a consequence of changed conditions, the PIT deduction related to mortgage payment increased substantially from 5.6 billion HUF to 17.0 billion HUF. The expected volume was above 30 billion HUF for 2003, meaning this subsidy represents more than 1/3 of total housing loan subsidies (see Figure 8.9).

*Figure 8.10*  
PIT deduction related to mortgage payment, 1999–2002

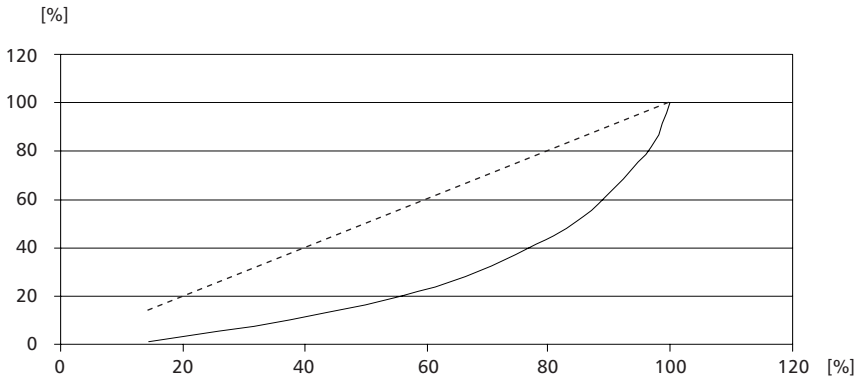


*Figure 8.11*  
Average size of PIT deduction by income

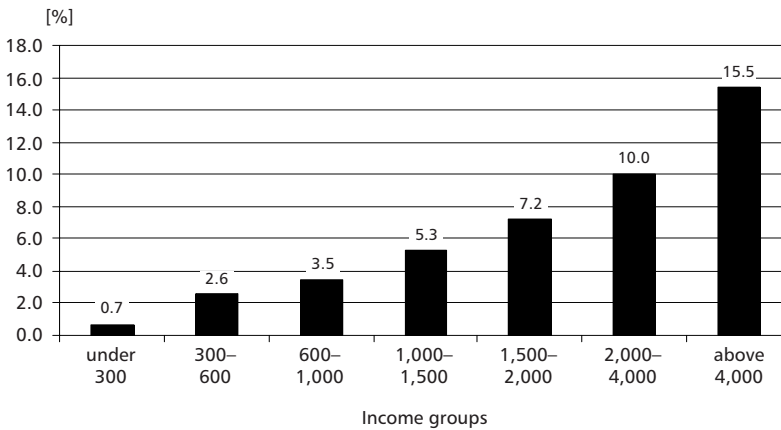


*Figure 8.12*

GINI-curb of subsidy allocation among households according to income groups

*Figure 8.13*

Share of households who claim PIT deduction by income



The subsidy is allocated regressively among income groups (see Figures 8.10–8.13). As a result of this distribution, the upper 20 percent income bracket claim 60 percent of the subsidy; the upper 40 percent claim 80 percent of the subsidy.

Why accepts this unfair subsidy system? The logic of regressive systems is to share some of the advantages with lower middle class people as well. Housing affordability increased as a consequence of the subsidy program. However, the actual loan-to-value Ratio (LTV) is not 80 percent,<sup>14</sup> but 50–60 percent, which means that the condition to have access to the loan (and to the subsidy) is to have savings which cover a minimum of 40 to 50 percent of value. The research we recently finished proved that opportunities to obtain a home are the slightest for first-time buyers. This is a result of the fact that

they do not have accumulated capital in the form of a dwelling. Interestingly enough, the real situation is far better than indicated by the model. On one hand, our model used individual, “separate” households as a basis. In the case of real first-time buyers, parental assistance is an important factor. As mentioned earlier, the role of intergenerational transfers is significant in housing finance. It is known from the CSO housing study that somewhat more than 50 percent of parents over 50 had helped their children in some way to obtain an apartment. This means that in the case of 50 percent of first-time buyers savings (and income as well) are complemented by parental assistance. It could be an important question as to how housing policy should treat this fact in principle and in practice when developing subsidy programs.

#### 4. CONCLUSION: WAS THE MORTGAGE SUBSIDY NECESSARY TO DEVELOP A MORTGAGE MARKET?

One of the key questions related to housing finance development in the region is whether subsidized mortgages are necessary to initiate substantial lending. Scholarship on housing policy suggests that the best strategy is to separate subsidies from market finance. The Hungarian case tends to support the view that a subsidy program is needed to launch significant mortgage lending. Even if this is true, it is not clear how great and in what form subsidies must be to provide a real impetus to mortgage lending.

Even the Hungarian case does not demonstrate clearly the need for subsidization instruments. The basic factors were macroeconomic: household income, expectations, etc. Some comparative housing indicators (housing investments, transactions, etc.) suggest that the subsidy programs do not have major effects on market “fundamentals.” In the evaluation of the outcome it is very important to take into account that households were bringing forward their decisions to move, but it is almost impossible to measure the real effect.

The financial community was very influential in forming an institutional structure for the housing finance system (two major latent interest groups were the “construction” lobby and the “financial” lobby). An important factor in Hungary was the competitiveness of the market (banking sector reform and privatization). It is true even if the share of the OTP Bank, the biggest Hungarian bank, is 66 percent (see Figure 8.6). While still high, it has decreased significantly (it used to be close to 90 percent). The “leading bank” had a huge impact on the formation of housing finance institutions (the significance of the *bausparkasse* system and mortgage banks became evident after OTP stepped in).

However, it is unquestionable that the size of the subsidy was too high. On the basis of the household survey, we estimated the demand of the loan among the households who indicated the intention to move. The actual figures were 60–80 percent higher than our estimates. This means that households took loans in order to make investments.

## APPENDIX

### PRINCIPAL TYPES OF HOUSING SUBSIDIES IN HUNGARY

In the text we already described three subsidies (two mortgage subsidies and tax allowances) which are not included in the summary below.

#### Expenditure for the “Old” Fixed-rate Loan Stock

Between 1971 and 1989 housing loans were fixed rate with relatively low interest (3–3.5 percent). The difference between the market rate and the low fixed rate was financed through retail banks by the central budget. In 1991 Parliament raised the interest rate of the old loans and offered borrowers two options.

1. They could choose the current market interest rate for their loan (32 percent at that time), and in this case their actual outstanding debt was reduced to half the real balance. The forgiven half of the debt was taken over by the central budget. In order to cover this amount the budget issued two types of government bonds. The capital and interest payment of these bonds was a heavy burden on the budget until 1998: the total cost of the bonds was 19 billion HUF.
2. Alternatively, borrowers could choose a preferential interest rate (15 percent at that time). The outstanding debt remained the same, but the central budget was obliged to pay the difference between the preferential interest rate and the market interest rate to housing finance banks. Expenditure in the central budget for this purpose was 4 billion HUF in 1993.

Beside these items local governments inherited “old loans” as well, which were used at the end of the 1980s for local programs. The difference between the fixed rate (approximately 8 percent) and the market rate was paid by the budget. It was not a large item.

*Table 8.6*  
Housing subsidies, 1998–2003

	1998	1999	2000	2001	2002	2003
Direct subsidies						
Housing Construction Allowance	20.4	19.9	24.0	19.5	18.9	30.1
VAT allowance	0.2	1.9	5.0	5.9	6.4	9.0
Municipal rental capital grant	0.0	0.0	9.3	23.4	21.4	15.6
Municipal implicit rent program	22.5	22.8	24.6	27.2	27.1	23.4
Special targeted programs	1.2	1.8	1.5	1.6	4.2	1.2
Housing investment grant for the handicapped	2.1	1.8	2.3	2.3	3.1	2.8
Energy saving housing investment	0.0	0.0	0.2	1.4	0.6	0.5
Military/Police housing	3.2	3.3	4.7	6.0	5.7	5.9
<b>Subtotal</b>	<b>49.6</b>	<b>51.5</b>	<b>71.6</b>	<b>87.2</b>	<b>87.6</b>	<b>88.6</b>
Housing loan subsidies						
Subsidy to old loans	24.1	19.5	14.5	11.7	11.3	9.0
Repayment subsidy	8.0	7.2	6.0	5.4	4.1	1.1
Construction period loan subsidy	3.0	1.8	2.2	2.7	1.8	0.6
Demand-side mortgage subsidy	0.0	0.0	1.3	4.8	15.0	23.5
Funding-side mortgage subsidy	0.0	0.0	0.6	0.8	6.7	56.3
Contract savings subsidy	3.0	4.5	5.1	6.5	5.7	5.9
<b>Subtotal</b>	<b>38.1</b>	<b>33.0</b>	<b>29.8</b>	<b>31.8</b>	<b>44.5</b>	<b>96.3</b>
Tax expenditures						
Housing savings subsidy	0.2	0.2	0.2	0.1	0.2	0.1
PIT tax allowance for mortgage payment	1.2	1.6	2.2	5.6	17.0	31.1
Duty tax subsidy	1.0	2.6	5.4	11.4	17.6	26.6
<b>Subtotal</b>	<b>2.4</b>	<b>4.4</b>	<b>7.7</b>	<b>17.1</b>	<b>34.8</b>	<b>57.8</b>
Grant total	90.2	88.9	109.1	136.1	166.8	242.7
As a % of GDP	0.8	0.7	0.8	1.0	1.2	1.7

Source: Hegedüs-Teller 2004.

## Repayment Subsidy

The interest rate subsidy was changed to a subsidy for loan repayment between 1989 and 1993. The preferential subsidy was available to families building or buying a new house or flat and the magnitude of the subsidy depended on the number of the children. Since January 1994 the repayment subsidy has been available only in a very limited area; borrowers with a “Youth Savings Contract” could get a repayment subsidized loan for buying or building a new house. After 1994 the budget paid a subsidy equal to 4



percentage interest on credits drawn for construction or purchase of a new home during the first five years of repayment, 3 percent during the second five years, and 1 percent during the third three years. To be eligible houses had to meet the same requirement as HCA: new units had to be within certain limits on the number of rooms and cost. This program was ceased in 2000, and was replaced by mortgage subsidies.

## Interest Rate Subsidy for the Construction Period Loan

Preferential schemes were used for housing developers during the construction period. In cases where credit was repaid in one year the budget paid 75 percent of the interest, 50 percent if repaid between 1 and 2 years. This program was replaced by mortgage subsidies.

## Value Added Tax Allowances

Until the end of 1994, 60 percent of the VAT paid for housing purposes was reimbursed, up to a total 400,000 HUF. The total amount of the VAT could be reimbursed if the VAT refund had already begun by the end of 1992. The VAT refund was abolished at the beginning of 1995 and reintroduced in 1999 with the same conditions: 60 percent of the VAT can be reimbursed up to 400,000 HUF.

## Duty Tax Allowance

The rate of the transfer tax on housing sales depends on the purchase price; it is 2 percent up to 4 million and 6 percent for the part of the price above 4 million. The transfer tax for other real estate was 8 percent and increased to 10 percent. New units have been free from tax as of January 1, 2001. Young home buyers (under 35) have a 50 percent allowance up to 40,000 HUF buying units with a maximum value of 8 million HUF.

## Premium for Contract Savings

The Law on Housing Savings Banks was passed in 1996. The government paid a premium of 30 percent of the money saved up to 36,000 HUF per year. The ceiling was increased in April 2003 to 72,000 HUF/year (moreover, condominiums, and maintenance cooperatives had a special ceiling depending on the number of units in a building).

## Housing Construction Allowance

The grant is available when a family constructs or buys a new housing unit; the magnitude of the grant depends on the number of children in the household. Families are qualified for subsidies if (1) at the moment of applying for the grant they have no dwelling of their own (they do not own and are not renting a state rental unit) and (2) the standard of the new home is below the centrally decided standard size and cost limit.

Beginning November 2001 households with 3 or more children have been eligible for 50 percent of HCA in the case of reconstruction or extension. From February 2005, young households have become eligible for 50 percent of the HCA in the case of buying existing units.

*Table 8.7*  
Changes in the magnitude of social policy allowance

	1993	Jan 1994	Nov 1994	Dec 2002	Apr 2004	Feb 2005
For the first child	50	50	200	500	800	900
For the second child	150	250	1,000	1,100	1,200	1,500
For the third child	400	600	1,000	1,100	1,200	1,400
For each additional child	50	50	200	500	800	800

## Local Government Subsidies

Local government subsidies were developed based on the special local social subsidies which were first established as early as 1983. These are interest free loans and grants not to be repaid. Local governments use their own free resources to cover the gap between the rent and the cost of the municipal housing units.

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## ENDNOTES

- <sup>1</sup> We are grateful to László Harmati for his comments on the paper.
- <sup>2</sup> Housing subsidies were not measured “systematically.” They contained budget subsidies and certain types of off-budget subsidies dictated by the interests of the policy regime. The calculation never included tax allowances in the PIT, or the implicit rent subsidies.
- <sup>3</sup> There was a difference between the fixed and variable rate of loans. In the case of the variable rate, the one-year government bond was the reference rate, in the case of the fixed rate the five-year government bond was the reference rate.
- <sup>4</sup> The two programs can be combined. It means that subsidized resources through mortgage bonds can be used for the loan supporting new construction or purchase of newly built houses/flats. As a consequence, the real interest rate could be negative.
- <sup>5</sup> This is equal to 180 USD/year.

- <sup>6</sup> DEM Office of Information and Economic Research LTD.
- <sup>7</sup> Projection made by the Ministry of Finance in October 2004.
- <sup>8</sup> After 1998 housing became a hot political issue. The leading political parties got into a “game” promising more and more support to the housing sector without understanding the fiscal and social consequences of the proposed programs. Thinktanks often supported by different interest groups were indirectly interested in justifying the programs (they are typically “captured”—the culture of independent thinktank policy research is still immature). Probably this phenomenon is related to the “immature” public policy culture in these countries. It is partly related to the fact that the government does not have the capacity to predict the possible effects of their policy, but the lack of a real interest in monitoring effectiveness may even be more important.
- <sup>9</sup> A report by the Hungarian National Bank in 2004 judged changes in the mortgage subsidy program in the spring of 2002 to be unsustainable, but this was not indicated in the Financial Report of 2002, which had a section on the role of housing.
- <sup>10</sup> 40% made major renewal (extension, refurbishing, upgrading comfort level, etc.), 46% basic maintenance (painting, etc.).
- <sup>11</sup> The decrease in real prices was a consequence of diminishing real household income and a shift in household portfolio decisions (Hegedüs-Várhegyi 2001). Housing privatization and the consolidation of old loans (which could be paid back at discount rates) could be other factors explaining the trends.
- <sup>12</sup> The end of the 1980s saw an overinvestment in housing in the East European housing systems compared to the GDP (Hegedüs, Mayo and Tosics 1999). In Hungary, as a part of the structural adjustment, households used their equity to maintain their consumption in terms of direct downward moves in the housing market and in terms of postponing housing investments. Housing privatization itself did not play a determining role in this process; however, it made equity withdrawal easier.
- <sup>13</sup> House price/income ratio (HP/I): The house price/income ratio is the most frequently applied indicator comparing the price (average or median) of a given flat with the annual income of a given household (average or median). Housing affordability index (HAI): The affordable house price/average house price ratio indicates what percentage of the value of an average home is the value of the home affordable by way of a loan for which one with average income is eligible. The index compares the average household’s income to an “ideal income level,” which is high enough to purchase an average home. Typical loan criteria include 20% cash, 30% debt service/income ratio 25-year term. Housing opportunity index (HOI): The housing opportunity index indicates what percentage of the homes in a given market the average household is able to pay for. The values of the indicator are based on household survey data.
- <sup>14</sup> Affordability indicators assumed an 80% LTV.

## Housing Finance in Slovenia: The Key Role of the National Housing Fund

Andreja Cirman

### **ABSTRACT**

The transition to a market economy has brought dramatic changes to the system of housing finance in Slovenia. In this period the National Housing Fund emerged as the most proactive institution in housing policy. Until recently the Fund has had a dominant position in the provision of housing loans for individuals and non-profit housing associations. With the structurally inhibited supply, this has resulted in a persistent increase in housing prices.

The development of mortgage financing and introduction of the National Housing Savings Scheme made it possible for the Fund to withdraw from lending to individuals and concentrate on the supply side. Although the Scheme was not flexible enough for the dynamic transitional environment, its introduction seemed relatively reasonable in 1999, and had an important role in transforming the way the housing policy intervened on the housing market. However, its terms in the current time only distort the market. Therefore, no new tender for the Scheme took place since 2003 and the provision of housing finance is now in the hands of the banking sector. Today, the Fund operates as a provider of financial resources mainly for the non-profit sector and as an investor in housing—in order to boost housing construction.

In the future the government should restrict its position in allowing mortgage interest rate deduction or the subsidization of specific groups of potential homeowners, and support the secondary market with relevant legislation and necessary instruments. The Fund could find its role as an

important player on the as yet undeveloped secondary mortgage market and in the provision of non-profit housing. It should also withdraw from construction and establish itself as a promoter of quality and sustainable housing construction.

# Housing Finance in Slovenia: The Key Role of the National Housing Fund

*Andreja Cirman*

## INTRODUCTION

The transition to a market economy has brought dramatic changes to the system of housing finance in Slovenia. The swift turn from an approach to housing based on *providing* to an approach based on *enabling* resulted in a total withdrawal of the state from the system of housing finance in the first half of the 1990s. In the absence of a well-defined housing policy and with a slowly developing system of mortgage financing, the Housing Fund of the Republic of Slovenia (known as the National Housing Fund) emerged as the most proactive institution in Slovenian housing policy. In this article we shall deal with the development of housing finance in Slovenia with an emphasis on the role of the National Housing Fund.

## 1. THE SLOVENIAN HOUSING MARKET

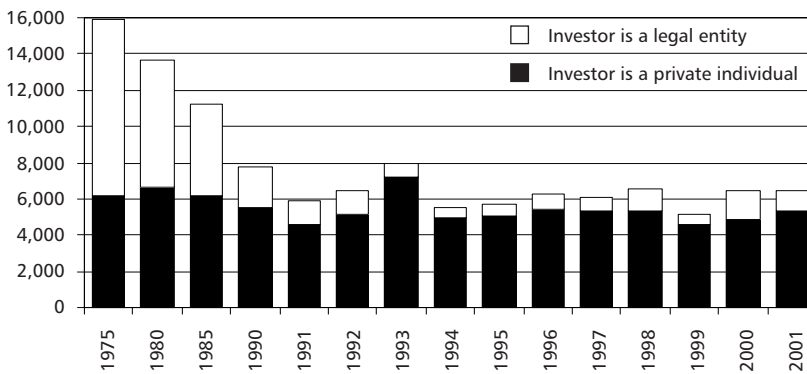
Slovenia has a population of 1.964 million, with 684,847 households and 777,772 dwellings—of which only 665,111 are occupied (Census Data 2002). The introduction of a market economy in the housing sector meant the introduction of extensive reforms in housing policy. In the process of privatizing socially owned dwellings in the early 90s some 66,000 social housing units were sold and with this sale the rental tenure was reduced from 31 percent in 1991 to 11 percent in 1993 (Hribar 1994; Žnidaršič and Hribar 1995). By 2002, the rental sector was reduced to 10 percent (7 percent of social rental tenure and 3 percent of private rental tenure). The proceeds from privatization were distributed as such: 10 percent to the Restitution Fund, 20 percent to the Housing Fund and 70 percent to previous owners of the social housing stock (firms and municipalities).

Reforms have also led to the disappearance of some mechanisms previously contributing to the maintenance of a relatively stable housing supply. In the past new dwellings were almost exclusively of two types. Apartment blocks in urban areas were financed by earmarked payroll taxation and distributed partly by local government and partly by employers (enterprises and other institutions) to their employees, who became tenants in

those dwellings. Some units were also sold on the market by construction companies. The purchase of those units was predominantly financed by loans that were distributed by employees and usually carried a negative interest rate. The second type of construction comprised privately financed individual houses. This was also partly financed by favorable company loans, together with private savings, commercial loans, and through self-construction (Lavrač and Verlič-Christensen 1996).

New housing construction almost came to a halt after 1991 due to new regulations that abolished the system of financing of new public housing in the form of financial contributions from the salaries of employees and enterprise profits. Lack of financing accompanied with high nominal interest rates due to high inflation accompanied with high real interest rate in the banking sector, lack of building land due to restitution, and long and complicated building procedures have affected construction activity most severely. However, the rate of housing built by individual families and households has more or less retained its pre-transition level, since such housing has always been predominantly constructed on individual family initiatives (Sendi 1999).

*Figure 9.1*  
Dwellings completed in the 1975–2000 period



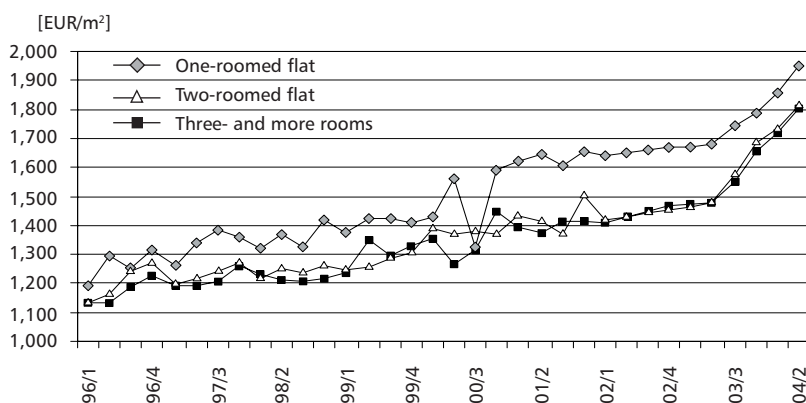
Source: Statistical Office of the Republic of Slovenia, 2003.

On the other hand, the demand for housing was stimulated by macroeconomic stabilization with decreasing inflation and interest rates, a growing number of households, loan disbursements by the National Housing Fund and development in the banking sector. This resulted in a strong increase in housing prices. Prices in the capital city of Ljubljana (denominated in EUR) grew on average by 4 to 7 percent per year in the 1996–2003 period; however some halt in growth occurred after the introduction of the National Housing Savings Scheme (first release occurred in July 1999, followed by regular annual releases), because over the 2000–2003 period the favorable terms of the



scheme kept the money out of the housing market. The situation in the market could also be illustrated by the fact that every time a tender for favorable interest rate housing loans at the National Housing Fund was successfully completed, the inflow of money caused an evident increase in housing prices. In comparison to other transition countries, Slovenia has one of the highest cost-to-income levels for newly constructed dwellings in Europe. The median house-price-to-income ratio is 7.0 (Pichler-Milanovič, 2001).

*Figure 9.2*  
House prices in Ljubljana, 1995–2004



Source: Slonep 2004.<sup>1</sup>

## 2. THE NATIONAL HOUSING FUND BEFORE 2002

The Slovenian Housing Fund was founded by the government in 1991 on the basis of the Housing Act. Its initial sphere of activity was to support the construction, renovation, and maintenance of housing by offering long-term housing loans on favorable terms to households and to non-profit housing organizations. With a capital of 60.9 billion tolar (EUR 264.5 million) in 2002, the fund is one of the biggest financial institutions and the most important housing institution in Slovenia.

According to the Housing Act, the fund is entitled to receive 20 percent of the revenue from the sale of the socially rented dwellings. Although the state is legally obliged to financially support the National Housing Fund (NHF), the first transfer of funds from the central government budget was received as late as in 1995. From 1995 to 1999 the state annually strengthened the NHF capital base in the range between EUR 5 to 10 million. Since these funds were not sufficient for exercising all the activities, the management of the NHF decided to raise some additional funds by issuing debentures.

In 1995, the NHF issued the first series of housing fund debentures. The main characteristic of this first issue was that the securities were given to individuals instead of housing loans to be used as a means of payment for housing. Construction companies were supposed to receive these securities instead of cash when selling housing. The second and third series of debentures followed in 1998 and 2001. They were sold to the public and the income generated was entirely designated for disbursing loans to individuals.

With its lending activity in the nineties the fund contributed to the demand as well as supply side of the housing market. On the demand side it used the funds to disburse low interest rate loans to households. In 1995, the interest rate in real terms for those loans was 3 percent, in comparison with the average banking interest rate of 12.8 percent. The last tenders were carried out in 2001 and 2002, with a real interest rate of 1.75 to 2.25 percent and a maturity of 10 to 20 years. The amount received depended on the size of the household and income. Special groups, such as young households and disabled people were treated preferentially.<sup>2</sup>

Similar to banking practices, the loan could be insured by a mortgage, guarantors, or an insurance company. The loans were granted by public tenders that were usually heavily oversubscribed. Therefore, a proportional reduction of requested amounts was necessary. The use of loan proceeds was limited to housing with no limitation to the size or price. However, each tender was limited to a certain use of the loan proceeds, for example renovation, construction, and purchase. Before 2002 the NHF managed to carry out 24 tenders for low interest rate loans to households in an amount totaling almost EUR 300 million.

The National Housing Fund also tried to stimulate the supply of non-profit rental housing. After privatization, the Slovenian housing market suffered a severe shortage of affordable rental housing. The tenure structure reveals a high homeownership rate, with only 7 percent of households in the socially rented sector and 3 percent in privately rented accommodation, concentrated mostly in larger towns (Statistical Office 2003). However, due to the institutional arrangement of non-profit rental housing provision with low rents that were highly regulated and the poor capital base of housing associations, the demand for NHF's loans by non-profit housing associations is relatively low. In the period from 1991 to 2002 the fund carried out eight tenders and distributed EUR 55.6 million in loans. By the end of nineties the loans carried a real interest rate of 1.95 to 2.25 percent, with a maturity of 25 years.

In this period the fund was also active in the reconstruction after the Posočje earthquake. It distributed 1381 loans on favorable terms to households and started to build rental units suitable for the elderly.

### 3. HOUSING LOANS OFFERED BY THE BANKING SECTOR

In the past as well as at the present, there has been no specific banking institution in Slovenia that has specialized in housing finance, though most of them offer housing loans as one of their financial products. Mortgage lending, in the sense of house-purchase loans secured on the dwellings themselves, was introduced in Slovenia only in 1997. Prior to that, housing loans were secured by guarantors or insured by insurance companies. Housing loans in Slovenia amounted to some EUR 950 million in 2001. Commercial and savings banks and the National Housing Fund shared the market in a relation of approximately 2:1.

Unfortunately, mortgage loans at the end of the nineties played a smaller role in housing finance than they did in more developed financial systems. Banks mostly preferred insurance policies as collateral, since possession in the case of borrower default was a lengthy and difficult procedure (it still takes a minimum of two years). This results in high up-front costs with loan closing costs up to 5% of the loan amount. Loans secured on insurance are limited to ten years, because insurers do not issue insurance for longer periods.

The typical mortgage in Slovenia in the nineties was a ten-year repayment mortgage. The short mortgage term was the result of the relatively high nominal interest rate, which made long-term mortgages relatively unattractive. Most mortgages were offered with interest rates that were fixed above the level of inflation. The typical LTV ratio was quite conservative, at 50 percent, and the income criteria applied by lenders limited mortgage repayments to no more than 1/3 of the borrower's disposable income. Because of the country's high housing prices and the loan-to-income ratio, borrowers were rarely in a position to borrow even as much as 50 percent of the purchase price.

The situation today is similar, except that the reduction in the rate of inflation and in interest rates has prolonged the average loan maturity to some 15 years and the LTV ratio is now 60 to 70 percent. With foreign, mainly Austrian banks entering the Slovenian market, the competition has somehow increased, although their market shares in the nineties and in early years of the new millennium were still small.

### 4. CHALLENGES FOR THE NEW MILLENNIUM

The housing situation—with low affordability of housing due to rising housing prices—called for changes in housing policy at the end of the nineties. The challenges for the Housing Fund were how to assure further access to affordable lending and how to stimulate supply and assure affordable housing. In order to achieve this, two new instruments were introduced. In 1999 the National Housing Savings Scheme was introduced, and in 2001 the National Housing Fund was transformed to a real estate fund, enabling it to invest in the provision of housing.

In March 1999 the Slovenian government adopted the **National Housing Savings Scheme** as a tool for promoting long-term saving, including premium granting, and with the purpose of increasing the supply of affordable long-term housing loans. The Scheme was modeled on the Austrian *bausparkassen* system. It consisted of 5- and 10-year savings contracts with a selected commercial bank. The interest rate for the 5-year contract is  $TOM^3 + 1.65\%$  and  $TOM + 3\%$  for the second type of contract. With the 5-year contract, every 12 months the government grants a “13th month amount premium,” meaning an 8.33 percent annual savings. The 10-year contract entitles the saver to a premium of 10.42 percent of annual savings. After the period of contractual saving the savers participating in this scheme can obtain a favorable housing loan. The banks are obliged to provide savers with a loan which must be at least double the sum they have managed to save. With the 10-year contract the saver can obtain a 20-year loan with a pre-fixed interest rate of  $TOM+3.8$  percent. The 5-year contract gives the saver the right to the 10-year loan and the interest rate is 2.45 percent per annum. For NHSS loans, banks are not allowed to charge additional costs for granting the loan and for its administration. The right to a housing loan is transferable not only to spouses or partners, but also to children and grandchildren. The loan proceeds must be spent on housing in a period of one year after the savings period is over. However, the use of proceeds from savings is not limited to housing.

Contracts on savings within the NHSS began on July 1, 1999. With the limited amount of subsidy the number of available contracts was limited. The first issue of NSVS with almost 23,000 contracts was “sold out” in a week. By the end of 2003, 82,644 contracts had been concluded, the majority of them for a period of five years.

The NHSS instrument was introduced in order to force banks towards a more competitive approach to housing finance. According to the survey, conducted in 1999 for the Ministry of Finance, foreign consultants highlighted several specifics of the Slovenian mortgage banking system. They noted that there was actually no true system of mortgage finance in Slovenia, since only a low proportion of housing loans was secured by mortgages. High real interest rates of around 6 percent in 1999 enabled banks to charge relatively high interest margins. The closing costs amounted to 3 to 5 percent of the loan amount. For the funding of housing loans, which typically have maturities between 10 and 20 years, Slovenian lenders rely primarily on savings deposits of up to 1-year maturity. With this structure of funding the interest rate risk for Slovenian lenders is relatively high.

At the time of introduction the NHSS was a very competitive product. While the effective interest rate (interest rate earned after the premium) was comparable to the interest rates of other banking products, the interest rate on loans was less than half of the interest rates charged by banks for their loans (see Table 9.1). Therefore it came as no surprise that 22,800 people entered into the first scheme, and since the government maximized the yearly grants, the available amount of savings contracts at each subscription was reached within a few weeks.

*Table 9.1*  
The National Housing Savings Scheme vs. bank loans

	<b>Banks</b>	<b>NHF<sup>4</sup></b>
Interest rate	5.8%	2.45%
Funding	up to 1 year maturity	with NHSS 5–10 year deposits
Interest rate margin	approx. 2–3%	0.8%
Closing costs	Yes	No
Maturity	10–20	10–20
Loan insurance	same instruments	

Due to its attractive features, a high amount of money started to pour into the NHSS. According to surveys conducted by the NHF over 80 percent of savers that entered the contracts in 1999 expressed the intention of taking out a loan after the saving period. This was expected to activate around 100 billion tolar (about EUR 420 million) in a period of one year, which is 10 to 20 times the amount of the loans disbursed by the NHF on the basis of an average tender. Therefore, there was a reasonable fear that this amount of money would lead to a housing market bubble in 2004 and probably result in a liquidity shock within banks. Consequently, the government was forced to take serious measures on the supply side of the market, otherwise all of the effect of subsidies would diminish and end in profits on the supply side of the market.

The government reacted with two sets of measures. On the one hand it finally implemented long neglected reforms in spatial planning and real estate market regulation in order to speed up new construction. On the other hand the government, as the owner of the National Housing Fund, transformed the institution to a real estate fund. With the introduction of the NHSS, the fund was also able to withdraw from lending activities to households. This enabled the NHF to free some of its capital for other purposes. This capital, and the status of the real estate fund, made it possible for the fund to enter the housing market as an investor and finance new construction, in order to build up a new supply of housing with affordable prices.

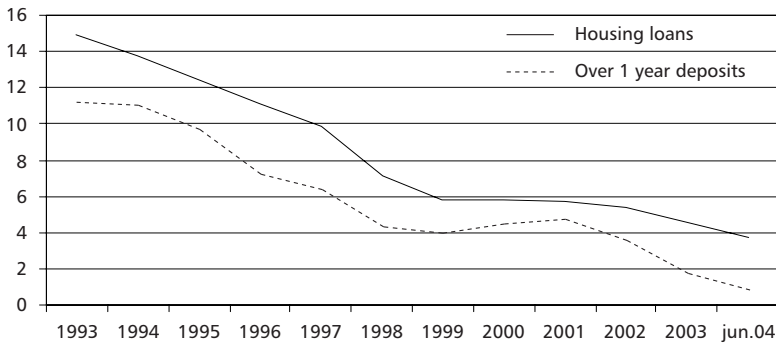
In 2001, the fund entered into 41 joint construction projects with 36 municipalities. This resulted in over 500 new non-profit rental units, while an additional 100 units were sold on the market. The second round of joint projects with municipalities that took place in 2004 is expected to result in an additional 650 rental units and 200 units for sale. By buying large quantities of newly constructed dwellings the fund also managed to attain favorable prices, and in 2003 sold 429 apartments in the expensive capital city and coastal area. The prices were in the range of EUR 1,100 to EUR 1,300 per square meter, some 20 percent below the prevalent market price. Through the acquisition of

land the fund also financed new construction that resulted in 852 dwellings, with the same price range that came to the market in Ljubljana and the coastal area this year. The Housing Fund has also bought larger quantities of land and plans for an additional 5,000 apartments to enter the market by 2007.

On the other hand, the macroeconomic situation also meant that no major liquidity shock took place. Ongoing macroeconomic stabilization, the intention of entering European Monetary Union by 2007 and, above all, decreasing interest rate trends on worldwide financial markets, have resulted in the fact that by 2004 the housing loans offered by the banking sector<sup>5</sup> are competitive enough to keep reducing the number of savers that are actually exercising the right of low interest rate loans.

*Figure 9.3*

Average banking interest rate on housing loans and 1-year deposits



*Source:* Bank of Slovenia Bulletin 2004.

## 5. CONCLUSION

The first privatization that took place in Slovenia was the privatization of social housing in 1991. But after that the government put housing on the backburner for almost a decade. In this period the Housing Fund emerged as the only real actor in the housing sector. With strong leadership, it acted proactively most of the time. Until recently the fund has had a dominant position in the provision of housing loans for individuals and non-profit housing associations. With a structurally inhibited supply, this has resulted in a persistent increase in housing prices. The development of mortgage financing in Slovenia made it possible for the fund to withdraw from lending to individuals and step over to the supply side. Today it operates as a provider of financial resources mainly for the non-profit sector and as an investor in housing—in order to boost housing construction.

This switch was very much facilitated by the introduction of the National Housing Savings Scheme. Upon its introduction the design of the scheme seemed very shortsighted. The terms of the scheme attracted many people to enter contracts and a resulting price bubble and liquidity crisis in 2004 seemed highly probable. However, it brought the necessary pressure to force the government to rethink its lack of policy with only minor measures that as a rule boosted the demand side of the market and resulted in higher prices. A new legislative framework improved functioning of the land market,<sup>6</sup> shortened bureaucratic procedures, and further developed mortgage financing that were also beneficial to the construction industry. With favorable macroeconomic trends the outcome in terms of housing prices is probably not much different to what would have happened if the lack of policy had been maintained.<sup>7</sup> But there is an important difference—infrastructure has improved and the Housing Fund has emerged as a strong player on the supply side of the market—therefore improving the outlook for future development.

The changed macroeconomic environment also changed the features of the scheme. Once attractive due to its favorable interest rates on loans, it attracted people who wanted to spend proceeds on housing. In 2004 the terms are no longer so advantageous on the borrowing side, while the savings interest rate has become extremely appealing for investors. Since the use of savings proceeds is not restricted to housing, the government could end up in the position that it no longer subsidizes housing but all sorts of other investments. Therefore, no tender for the National Housing Savings Scheme has taken place since 2003.

The most probable future scenario is that the instrument will gradually fade away. The banking sector is already quite competitive and by entering the European Monetary Union in 2007 the banking system will face even stronger competition and probably become the prevalent provider of housing finance products. Although the National Housing Saving Scheme seemed reasonable, at the turn of the millennium and had an important role in transforming the way the housing policy intervened on the housing market, its terms in recent times only distort the market. With the banking sector offering housing loans with maturity up to 30 years, it seems unreasonable to promote *ex-ante* saving (through subsidization in the savings period) instead of increasing the affordability and enabling earlier transition to homeownership by *ex-post* saving through competitive housing loans offered by banks.

In the future it would be reasonable for the government to restrict its position to allowing mortgage interest rate deduction or subsidize specific groups of potential homeowners and support secondary market with relevant legislation and necessary instruments. However, for a more efficient mortgage market the government will have to speed up foreclosure procedures in order to allow full development of the mortgage finance market. While for the fund, one of the possible scenarios is that it will operate as an important player on the not-yet developed secondary mortgage market and in the provision of non-profit housing. It should definitely withdraw from its activities as

an investor on the homeownership part of the market. On one hand, the present high homeownership rate does not support strong subsidization of this sector, while on the other hand, NHF investment activities (NHF being a part of the public sector) seriously distort the market for new construction. In its new strategy the fund should also aim to establish itself as an important promoter of quality and environmentally sustainable solutions in housing construction.

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## ENDNOTES

- <sup>1</sup> On the Slovenian real estate web page, Slonep gathers information on asked prices from newspaper and web advertisements and provides data on average prices per quarter.
- <sup>2</sup> Criteria for loan distribution were set by the National Housing Fund.
- <sup>3</sup> TOM is an interest rate used as a proxy for inflation. It is set by the Bank of Slovenia on the basis of average inflation in the preceding three months.
- <sup>4</sup> Conditions for the prevalent 5-year contract.
- <sup>5</sup> Especially loans in euros and based on EURIBOR offered by foreign banks were very competitive due to the low EURIBOR.
- <sup>6</sup> However, one of the most important instruments for efficient land policy—the introduction of property taxation—was postponed until 2007.
- <sup>7</sup> Figure 8.2 shows a high increase in asked prices in the last year. Still, according to real estate brokers, this also reflects increased expectations on the sellers' side, fuelled by the NHSS. As a rule those expectations are rarely realized.



## The Long-lasting Impacts of Earlier Housing Policies on Housing Finance in Romania

Ileana Budisteanu

### ABSTRACT

Through mass-privatization in the early 90s Romania became a *super-homeownership country* with over 97% of the stock in owner-occupancy. Government policies and programs of the 1990s were dominated by a strong bias toward owner-occupancy, *laissez-faire* in the existing stock, and neglect of the development of a proper rental sector. Dissatisfaction with the quality of the existing housing and changing housing consumption models built up demand in the housing sector. But affordability and access to housing were constrained both by macroeconomic volatility and by restricted options and immobility in the existing stock.

The positive economic development that started in 2000 energized a rapidly developing credit infrastructure. Recent development shows a promising mixture of specialized institutions and instruments co-existing and competing in a process of evolution. The expanding mortgage market still needs more legal and organizational measures to become supportive of a well-functioning housing finance sector.

The contention of this chapter is that the late start of the mortgage market in Romania can be retraced to the housing policies of the early 1990s, which had long-lasting impacts on the whole housing system.



# The Long-lasting Impacts of Earlier Housing Policies on Housing Finance in Romania

*Ileana Budisteanu*

## INTRODUCTION

In response to Mark Stephen's previous essay on housing finance, this section examines the relationship between housing policy and housing finance in the evolution of the housing system over the last fifteen years in Romania. Specifically, we will look at the ways in which the housing policies in 1990s Romania succeeded or failed to develop a housing finance supportive of a well-functioning housing sector.

The first part of the paper outlines the wide and long-lasting consequences of privatization. The second part is a review of government policies and programs in the 1990s which aimed at improving the affordability of housing. The last part is devoted to the recent development of mortgage finance and its expected impact on the housing sector. The conclusions of the paper emphasize the role early policies have had in the slow development of a housing finance market. We conclude that the right mix of policies, their timeliness, and their degree of coherence exert a long-term influence on the entire housing system, which cannot be corrected in the short-term.

## 1. PRIVATIZATION IN THE 1990s AND THE EMERGENCE OF A HOUSING MARKET

The words "housing crisis" were heard in Romania repeatedly over the past decade. As a result of wide-scale privatization, Romania became a nation of homeowners with 97 percent of the existing stock in owner-occupation. Divestment in new production and rehabilitation, high utility costs, and lack of affordability induced the overall perception of a housing crisis.

The two phenomena that dominated the housing sector over the last decade were:

- massive privatization followed by accelerated decay of the privatized housing stock
- affordability for "young households"—the main target of government policies and programs.

Government policies and programs were contradictory: a generally laissez-faire attitude toward existing housing stock amidst strongly ownership-oriented, government-supported programs.

The housing system inherited by Romania in 1989 from the former socialist regime had many common features with other Eastern European housing systems. However, soon after 1990 Romania's housing sector gained a particular feature through rapid privatization—the homeownership rate jumped to over 90 percent, reaching 97 percent by 2000. Though this figure also includes the not fully accounted for private rental in owner-occupied stock (estimated at 3–4 percent), it situates Romania among “super-homeownership” countries.<sup>1</sup>

With a population of 21.69 million inhabitants, Romania has a sizeable housing stock of about 8.11 million units. In the strictly numerical sense, the existing stock would seem adequate. As indicated by the last census—of March 2002—the number of dwellings exceeded by 9 percent the number of households (though a large part of the so-called vacancies represent secondary dwellings mostly for recreational purposes). Meanwhile, the quantitative indicators of the stock improved slowly but steadily over the decade.

Far from jumping to the conclusion that the existing stock is satisfactory, a closer look at its tenure structure, the physical condition of the dwellings, and the evolution of households leads to a gloomier picture. Though multifamily structures account for only 39 percent of the whole stock, in urban areas apartments in blocks of flats represent 71 percent of all dwellings. Poor initial construction and long deferred maintenance and repair have led to the early and rapid aging of the buildings, visible both outside (on façades) and inside (poor thermal insulation, obsolete technical equipment, leaking roofs, etc.). Obviously, these blocks of flats are in urgent need of major repair and rehabilitation. A great concern is also the consolidation of some hundred pre-war high-rise buildings in Bucharest, which were damaged by three major earthquakes in the last three decades.

Wholesale privatization induced a misleading perception, which pervaded all housing issues during the first phase of transition, that access to homeownership should be the prevailing type of tenure (if possible in a quasi-free way such as privatization). Despite its initial benefits, drawbacks soon surfaced. Fifteen years later, both home-owning families and authorities are looking for ways to cope with the consequences of mass privatization. The almost total transfer of the public stock to private ownership resulted in more than one distortion in the housing system.

First, most owner-occupiers cannot meet the maintenance and refurbishment costs of their deteriorating dwellings, costs which are compounded by soaring utility fees. New housing consumption models and the upward filtering of high-income owner-occupiers further contribute to the deterioration of the existing stock. For those left behind the burden of maintaining and up-grading their housing became even further beyond their means.

Second, authorities were left with a negligible residual public stock; they cannot cope with the most urgent social needs or provide alternative permanent housing in cases of eviction or natural disasters. Third, development of a proper rental sector was neglected. Those in need have to turn to private rentals that have developed in the owner-occupied sector and pay, more often than not, a speculative price (which runs from USD 250–300 and up for a standard two-room unit). Moreover, privatization also proved counter-productive to the economic objectives of the government<sup>2</sup> for labor mobility: there was no elasticity in housing options, with over 90 percent of households captive in their privatized units; those finding a job in another city could not move out of their unit and find affordable housing there. After 15 years, ownership of privatized dwellings still continues to distort consumption decisions in the direction of consumer goods and immobility.

It is obvious that a large part of the existing stock built in the last forty years in multifamily structures but also most of the traditional buildings in central urban areas could not be written off overnight. *The rapidly depreciating asset value of this stock is still unaccounted for.*

Intervention in the existing stock would imply a combination of approaches—from refurbishment to rehabilitation, demolition, and recycling—all of which need appropriate legal and institutional backing. Rehabilitation would not only increase supply in the existing stock, but would also avoid social tensions that are already building up.

One of the main benefits of privatization was the rapid development of a housing market in the early 90s, the emergence of a fluid real estate market, mainly in the existing stock. Over the whole decade, prices for existing units hovered around USD10,000–15,000 for typical standard 2-room units.

The advent of the Euro in 2000 and the improvement of the economic environment were followed by four years of steep price increases:<sup>3</sup> house prices reached unprecedented levels in 2003 and the trend continued in 2004. By early 2005 prices have trebled (due also to the *overvaluation of units in order to obtain larger housing loans*).

In terms of *housing need* there is neither demographic pressure nor a severe overcrowding problem in the existing stock. On one hand, demographic projections indicate that Romania's population will shrink considerably over the next decades. Family size is also expected to diminish due to population aging and changes in social patterns. On the other hand, housing consumption has slowly but steadily increased during the past decade. However, housing need is certainly driven by the need to replace and upgrade existing units, especially in some urban areas, especially large residential areas with multifamily structures and in the old city centers.

*Potential demand* reflects the changing housing consumption models but is mostly fueled by dissatisfaction with the quality of the existing stock, especially as it is degrading steadily due to the long deferred upgrading and modernization.

As concerns young adults' difficulties to accede to the market—theirs is the first generation confronted with a market, not having benefited from the windfalls of privatization. They find it hard to come to terms with a situation where the only viable option is to buy.

*Effective demand* includes a variety of strategies based on size and quality criteria: trade-ups, extensions, refurbishments. For most the 1990s demand was restricted both by income-related factors—low wages, no access to housing finance, and high and volatile interest rates—and non-income-related factors—preferences for other consumer goods (cars, household appliances, etc.).

## Prices and Affordability

The macro-economic environment and the lack of housing finance were the main culprits rightly incriminated for affordability problems during the 1990s. Declining wages and the reluctance of banking institutions to issue long-term loans contributed to affordability problems and to the late start of an active housing finance sector.

As construction costs went up just as steeply as the prices of existing units after year 2000, preferences shifted more and more to single family houses whose price equals that of a centrally located apartment. Increase in demand for land and the scarcity of it in urban areas pushed prices higher.

It is common practice to hoard agricultural land at the outskirts of cities for a few cents/m<sup>2</sup>, hold it while it gains urban status, then sell it after servicing for speculative prices of up to USD 150–350/m<sup>2</sup>. A speculative land market is also developing in relation to construction of shopping malls and major infrastructure (pushing the price of land up by 50–100 percent).

Generally the current price structure reflects market conditions, i.e., large variations in *location and quality*. In Bucharest, prices currently range from USD 1,200/m<sup>2</sup> in fashionable areas to USD 350/m<sup>2</sup> and up if building through the National Housing Agency (NHA). An old pre-WWII townhouse fetches USD 100,000–150,000 and a centrally located modest “villa” goes for USD 800,000. Units in multifamily standard structures sell for USD 25,000–30,000<sup>4</sup> (for a studio) up to USD 30,000–45,000 (for a 2-room apartment).

The up-scale market, the most active sections, for both new construction and refurbishments, caters mainly for top executives, investors (for resale), multinationals, and a relatively small number of upper-middle income families. Construction of new housing is currently affordable for families with an annual income of over USD 150,000. Analysts say that if demand would quickly absorb the existing supply, developers would build expensive housing. The next medium- and long-term goal is “building for the middle class,” targeting up-and-coming families with an income of USD 80,000–150,000.

With inflation falling (to 14.1 percent in 2003 and 9 percent in 2004) and banks lowering the spread between deposit-rates and lending-rates (currently hovering around 10–15 percent), affordability is enlarging. However, households with median income can generally afford only smaller rehabilitation loans. Buying existing standard units is affordable to households with an annual income of over USD 10,000.

Predictions as to the evolution of prices are contradictory. In some analysts' view, the market has come to saturation; prices are expected to fall by 2006, when housing sold in 1996 to sitting tenants through restitution come on the market.<sup>5</sup> Others think prices will continue to increase due to the scarcity of land in urban areas.

## 2. HOUSING POLICIES

Considering housing policies in light of tenure structure and access to housing, we refer to policies of early transition which advocated for a free market in the housing sector, where supply and demand would adjust freely to meet various needs without the intervention of authorities and institutions. Due to general hardships during the early years of transition, with (statistically) everybody housed, housing policies stayed on the backburner for most of the 1990s.

Throughout the 1990s the main aim of *government policies and programs* at the national level was to reduce the gap between market house prices and family incomes, especially by granting access to home-ownership for young individuals and families. Programs were dominated by two major issues: complete the unfinished stock from the 1980s<sup>6</sup> and build new housing for young individuals and households. A number of small-size programs were devised to this end. Young households (under 35) were offered fixed-rate loans to purchase their first dwelling from among unfinished units. The loans were disbursed by the State Savings and Deposit Bank and a state subsidy covered the difference between the fixed rate and the adjustable market-rate charged by the bank. The minimum down-payment of 30 percent was also covered by a budget grant. The program was operational between 1997 and 1999. It had to be stopped in 1999 when public expenditures soared. Other programs included: settling-grants for white collar employees moving to rural areas, granting free plots of land in villages, etc.

As by law housing provision is the responsibility of local governments and a considerable share of local budgets is dedicated to “housing-related” expenditure. The term designates expenditures which include winter subsidies for utility payment as well as construction of general infrastructure—paving roads, building basic infrastructure and public utilities in rural areas, implementing land registration, etc.

Direct housing support was financed or co-financed from the state budget, e.g., housing loan interest subsidies (see above), subsidies for a very small number of social

housing units, for the unfinished buildings, and for consolidating properties damaged by previous earthquakes.

Direct investment in public rental and social housing has been kept at a negligible level up to now. This was due both to the scarcity of funds and to the received wisdom that there was no actual need for more “social housing”—a term that came to (pejoratively) signify the entire multifamily stock built in the last 40 years (though in fact this stock contains a rather wide diversity of quality and location). Nonetheless, the issue of public (social) housing became topical in recent years due to the growing number of evictions (for large utility payment arrears, but also due to the repossession of dwellings by former owners) and the prospects of emergency situations (earthquakes, floods).

The major government program of the last decade was the creation of the National Housing Agency (NHA) in 1999 with the aim to re-launch new housing construction and grant access to first-time buyers, especially young households. The NHA’s scheme started on the basis of an international credit granted to the government and transferred to the agency as a budget allocation. The agency managed to keep prices lower through subsidies that came in the form of up-front budget allocation and the contribution of local governments with serviced plots of land free of charge.

The agency acts both as a developer and a funding institution.<sup>7</sup> Beneficiaries are households selected according to a number of criteria (among which being under 35 and able to repay the debt rank the highest).

Another line of activity of the agency is that of a creditor for selected applicants. Legislation adopted in 1999 enabled the agency to grant mortgage loans from its own resources to investors (individuals and legal entities) and to general contractors

The program is basically a “government-run, build-and-sell program”—dwelling prices are set by the NHA at a lower level due to land leased free of charge for the life of the construction. However, the NHA was the first institution to promote housing mortgage finance through selected banks that originate mortgage-loans and retain the administration of the mortgages.

Over the last couple of years the NHA embarked on a more diverse set of programs, which also include the construction of rental and social housing.<sup>8</sup> It even envisages a “phasing out” of its current program of build-and-sell, by selling out its portfolio and reshuffling to building-for-rental at moderate rents and social housing.

The activity of the NHA met with mixed feelings both from specialists and the general population. With its strong focus on access to home-ownership and its initial success the NHA program further strengthened the perception that *owner-occupancy should be the main way to accede to a dwelling*. Early success in delivering on its objectives reinforced the tendency to believe that such an agency working through market mechanisms is the only way to address housing problems. Yet, in mid-term, the agency failed to reach down to its main target-group, i.e., middle-income young households in need of a dwelling.



On the other hand, some critics<sup>8</sup> saw in the program the risk of channeling substantial public funds from municipalities to the construction of housing-related infrastructure. With growing demand and restricted supply of serviced land, costs and prices are expected to increase. The NHA housing construction program succeeded in avoiding these problems so far, only because the subsidy takes the form of free access to land for development. Furthermore, the benefits accruing to the agency represent a great advantage over other developers, with whom it should have competed freely on the market (UNECE 2001).

### 3. THE DEVELOPMENT OF MORTGAGE FINANCE

During the 1990s Romania's economy had a sinuous evolution, with periods of deep recession and high inflation (1990–92 and 1997–1999) alternating with short periods of growth (1993–96). The unbalance culminated in 1997, when inflation rocketed to 151 percent. The decline came to a halt in 1999, and 2000 was the first year of economic growth, a trend which is still continuing. Five years of growing GDP secured a leading position for Romania among EU candidate countries over the last period. In the opinion of analysts and international organizations the country is finally on a sustainable economic track (Ernst and Young 2003). Incomes still lag well behind certain other countries in the region, though here also a positive trend is clearly visible.<sup>9</sup>

Over the last decade, housing finance has been severely constrained by negative economic growth, low real wages, high, volatile interest rates, and extremely large gaps between banks' lending rates and deposit rates.

As of 2000, domestic consumption expanded rapidly, stimulated by increase in real incomes, consolidated trend of disinflation, and the aggressive stance of banks. With economic conditions improving and related legislation in place, a more active housing finance sector is rapidly developing, and households turn eagerly and hopefully to the newly developed mortgage market.

The restructuring process of the banking sector is almost complete, with a number of privatizations, consolidations, mergers, and foreign investments. Presently, there are 30 commercial banks<sup>10</sup> and 8 branches of foreign banks in Romania. Of these, 5 major banks hold almost 2/3 of total assets and total deposits. The major Romanian bank—Romanian Commercial Bank (BCR)—will complete its privatization in 2005. The only fully state-owned and state guaranteed bank—the Savings and Deposits Bank (CEC) is currently in pre-privatization as well.

The dynamic development of the banking sector is supported mainly by non-government credits, which almost doubled in 2003 (48.5 percent in real terms) as compared to 2002, of which credits to the population is the most dynamic segment. The growth-rate

of this segment exceeds that of corporate credits by far: in 2003 credits to the population grew by 214.6 percent as against 24.6 percent in the corporate sector (NBR 2003).

## The Size of the Mortgage Market

Under the new conditions, the banking sector developed new crediting infrastructure for medium- and long-term loans. After a late start, the mortgage market developed very rapidly over the last 5 years. All major banks and a number of smaller ones and other financial institutions offer a wide array of housing finance products under various conditions. At the outset their portfolios were small and their share in the banks' portfolio of loans was very low. However, the rate of increase was considerable: four times in real terms (though sinuously) over the period June 31, 2000 to December 31, 2002.

*Table 10.1*  
Size of the mortgage market, 2001–2002<sup>11</sup>

Time [t]	Mortgage as % of total loans	% quarterly growth rate of mortgage loans (t/t-1)	% growth rate of mortgage loans as of June 30, 2000 (t/1)	% arrears
June 30, 2001	0.49	99.29	116.61	0.43
December 31, 2001	1.24	254.27	296.51	0.21
June 30, 2002	0.95	86.64	256.91	0.41
December 31, 2002	1.54	157.21	403.88	0.19

*Source:* Deloitte Touche Tohmatsu 2003.

With all its rapid evolution the mortgage market is still underdeveloped. By the end of 2002 the total mortgage loan portfolio of the banks was of about USD90–100 million i.e., 1.95 percent of the total non-government credit (0.22 percent of GDP); it increased in 2003 to USD 500 million and attained USD 700 million by mid-2004.<sup>12</sup> Estimates for 2006 expect it to reach USD1.2 billion i.e., 2.2 percent of GDP.

In the first couple of years after 2000, two-thirds of the mortgage loans were issued in national currency (ROL), and then the proportion reversed in favor of the Euro. Presently, the national currency is being favored, after two consecutive years of appreciation. Banks improved their procedures and started competing for customers by providing more flexible loans to meet customers' needs under current conditions.

The types and number of crediting institutions is growing. With the adoption of a special law on "collective saving and crediting for housing" in 2004, Raiffeisen Group (Austria) and Bausparkasse Schwäbisch Hall (Germany) created the Raiffeisen Housing

Bank offering savings-schemes for buying and building housing—the first *bausparkasse*-type institution in Romania. Two specialized mortgage credit institutions Domania Credit and Imofinance attract customers with rapidly approved credits. As the perception of Romania’s economic situation is improving, investment funds seem interested in the Romanian real-estate market—expecting a higher return (14–15 percent) than in other countries in the region (8–10 percent).<sup>13</sup>

Typical housing finance has adjustable interest rates, L/V 75–80 percent, with property and/or life insurance and the eligibility income base often including all family members (sometimes income from dividends, and independent activities too).

Table 10.2  
Main types of housing finance

Type of loan/Bank	Term [years]	LTV [%]	Interest rate	Currency	Paying capacity coefficient	Maximum amount
Mortgage loan BCR	20	75	8–10% in Euro adjustable quarterly	ROL Euro USD	35%	500,000 Euro
Housing loan BCR	10–15	85 (with warrants) 75 (no warrants)	8–10% in Euro adjustable quarterly	ROL Euro USD	35%	100,000 Euro
NHA	25 (young h.hs)	75	7% (y.h.hs) 9% other	ROL	35%	50,000 Euro average
Contract Savings Raiffeisen Housing Bank	Savings period 2.5–7	50	3% for saving* 4–7% average 6%			172 mill. ROL average

Note: \* plus a 30% bonus on savings.

Despite increased demand for mortgage lending, banks are still reluctant to lower interest rates, though the central bank reduced the reference rate three times (from 21.5 percent to 17 percent) during 2004. Loans are still very expensive: there is a significant gap between the general interest rate of the national bank and that charged on mortgages and the costs are very high.

Housing loans are currently funded from short-term deposits. The expansion of mortgage credits created the conditions for alternative funding, namely the issuance of mortgage bonds and the development of a *secondary mortgage market*. Presently related legislation is in preparation and is expected to be in place in 2005.

The explosion of consumer credit in 2003 prompted the National Bank of Romania (NBR) to adopt more restrictive regulations for mortgage credit in February 2004, limiting the monthly repayment burden to a maximum 35 percent of net income. A credit bureau started its activity in fall 2004.

As a reaction, banks turned to housing loans (which fall under the incidence of the Civil Code where the eligible income base includes all family members).<sup>14</sup> They extended the term of housing loans to 20 years (against the former 10–15 years period of reimbursement) and in some cases eliminated the hard currency risk (which used to lower the amount of the loan granted by 10 percent). Though housing loans becomes more expensive (as banks might require life insurance for all family members) they are more affordable to families with a monthly income of around USD 800.

## Mortgage Lending Risks

Despite the lending boom of the last years, the rate of defaults was very low and dwindling. Though there is no overall overview available, the percentage of arrears hovers around under 1 percent of all housing loans.<sup>15</sup> Yet, credit risk persists, as there is no alternative funding and no underwriting.

Interest-rate risk persists in both the national currency and hard currency. Though the anti-inflation policy bore fruit in the form of diminishing interest-rate risk in national currency, banks are still over-cautious to reduce interest rates. On the other hand, loans in hard currency could affect households through fluctuating exchange rates.

## 4. CONCLUSIONS

Reform of the housing system proved more lengthy and difficult than expected. Romania has come a long way since 1989. The years of transition were strongly marked by the legacies of the former socialist system, of which the most important for our argument is the precarious state of large parts of the existing housing stock, lack of elasticity in supply, and restricted housing options.

Could the late start of the mortgage market be retraced to the early housing policies of the 1990's?

Government policies and programs of the 1990s were dominated by mass-privatization, a strong bias toward owner-occupancy, and *laissez-faire* toward the existing stock—leaving everything else to the market. All of this had marked effects on the evolution of the entire housing system over the 1990s.

The early interest-rate subsidy programs proved to be unsustainable. The activity of the National Housing Agency produced mixed results. On one hand, the NHA was

the first institution to promote housing mortgage finance and address affordability constraints of a number of young first-time buyers. On the other hand, it did not meet the expectations of those most in need of housing, but rather catered to a category which could have accessed the market by its own means. The heavily subsidized construction programs of the NHA and the margin squeeze induced anti-competitive features on the housing market.

Affordability problems pervaded the whole housing sector, as access to housing was constrained by low incomes, high house prices, and lack of housing finance. Due to high inflation, banks were reluctant and households couldn't afford to embark on long-term investment. Options were restricted to buying or building which together with the poor targeting of scarce public funding, further increased access and affordability problems.

Mass-privatization prevented the government from achieving its economic objectives. The large owner-occupied sector still displays a high level of immobility, impacting negatively on labor mobility in a restructuring labor-market. The supply side was neglected, hampering the development of a more functional rental sector (both in the existing stock and through new construction).

Meanwhile, the chronic neglect of the existing stock made homeownership unsustainable for most households. On the emerging housing market, existing units keep losing their asset-value as reflected in the decreasing number of transactions on the secondary market, thus restricting supply in the existing stock and lowering housing mobility.

Privatization has had also perverse effects on the behavior and mindset of owner-occupants, inducing the overall perception that buying is a unique option, distorting their consumption decisions and diverting them from saving.

The late start of the mortgage market coincides with macroeconomic stabilization and steep lowering of inflation. With economic growth set for the fifth consecutive year on a positive and sustainable track, the need for housing finance is rapidly growing. The aggressive stance of banks and financial institutions signifies that financial institutions will invest in housing in a sounder financial environment. Though there seems to be no optimal housing finance structure,<sup>16</sup> the recent development of housing finance shows a promising mixture of specialized institutions and instruments co-existing and competing in a process of evolution. The rapidly expanding mortgage market still needs more active work to improve the legal and organizational basis for a mortgage-risk insurance system. Though the quality of credit has improved, the registering of a mortgage is still lengthy and costly; legislation to promote mortgage bonds and develop a secondary mortgage market is still ahead; foreclosure is largely untested. In order to reduce market risk, anti-inflation policy should continue.

Housing policies of the past decade years worked in the direction of restricted options and immobility. The improvement of macro-economic conditions lifted some

affordability constraints (with housing finance helping as well) but it would take some time to balance options and supply and to develop a more flexible market.

The lessons of the past fifteen years in Romania clearly point to the need for a coherent mix of policies, which would include further public support for managing the rapidly growing housing finance system and to safe-guard whatever is possible of the existing stock.

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## ENDNOTES

- <sup>1</sup> See Stephens in this volume.
- <sup>2</sup> See Stephens in this volume.
- <sup>3</sup> References to the US dollar and the DM in Transylvania switched to the euro overnight.
- <sup>4</sup> Early 2005.
- <sup>5</sup> According to SGA Romania, real-estate consultants.
- <sup>6</sup> Romania entered the 1990s with a sizeable stock of about 100,000 unfinished housing units, in various phases of completion.
- <sup>7</sup> As a developer the agency approves contractors, supervises construction, and finally sells units to eligible households. The NHA selects contractors through tender. They have to provide their own design and financial packages. The construction cost limits and the profit margin (of max. 5%) are also set by the agency.
- <sup>8</sup> Its large project of a “new urban village” north of Bucharest includes 3,200 housing units in various options (single, multifamily, ownership, rental, social).
- <sup>9</sup> From USD131 in 2000 to USD240 in 2002—(National Institute for Statistics).
- <sup>10</sup> Of which: state-capital 1, mixed-capital 2, private-capital 6, and foreign-capital 21.
- <sup>11</sup> Banks included in the survey: BCR, BRD, Banc Post, Banca Transilvania, Banca Romaneasca, Citybank Romania.

- <sup>12</sup> Estimates of various analysts, as no actual survey is available.
- <sup>13</sup> Presently real-estate divisions of large financial groups—Europolis, CA Immo, Heitman, etc.—are active on the real-estate market in a number of major cities of Romania (including Timișoara, Cluj, Constanta) in land acquisition, office-space building, and to a lesser extent up-scale residential units.
- <sup>14</sup> In the sense of the Civil Code a family includes all relatives having a common household.
- <sup>15</sup> In 2003 it was 0.6% of all non-government loans; the NHA reports less than 1%
- <sup>16</sup> See Buckley and Van Order in this volume.





## Residential Mortgage Lending, Risk Management, and Affordable Housing Market Development in Russia

Elena Klepikova and Natalia Rogozhina

### **ABSTRACT**

Housing finance has a key role to play in addressing Russia's still-significant housing problems. The role of mortgage finance in home purchase was still limited in 2004 in part because of high interest rates (rates were in the 11–15 percent range on dollar denominated loans). A major reason for the high rates is that banks are just learning how to manage the various risks associated with making these long-term loans.

This paper outlines a series of recent actions taken by both legislators and banks to manage these risks and thereby improve housing affordability. In 2004, the Duma enacted a series of amendments to the Mortgage Law that strengthen banks' standing in case mortgage foreclosure is necessary. Additional legislation is in process that will enable the creation of credit bureaus and the sale of mortgage default insurance.

Banks take significant interest rate risk with the fixed rate mortgages they originate. This risk as well as liquidity risk are currently managed to a significant degree by loan-originating banks selling mortgages to financial actors better able to manage these risks. Primary among these is the Agency for Housing Mortgage Lending (AHML), a state-owned entity that purchases conforming loans from banks outside of Moscow and St. Petersburg. AHML sells government-backed bonds to finance its purchases. Lenders in the two major cities are selling loans to major international banks that fund them with internal funds. Still, it is probable that the majority of mortgages will remain bank-owned assets. All investors in home mortgages are presently exposed to prepayment risk.

As mortgage lending in Russia expanded sharply only about 2000, and as the economy has been strong over the whole period, the evolving risk management systems have yet to be properly tested.



# Residential Mortgage Lending, Risk Management, and Affordable Housing Market Development in Russia

*Elena Klepikova and Natalia Rogozhina*

## 1. THE MOVE TO AFFORDABLE HOUSING MARKET THROUGH MORTGAGE LENDING RISK REDUCTION

### Developing an Affordable Housing Market

Risk management in residential mortgage lending has become crucial to the development of an affordable housing market in Russia. The successful growth of a mortgage lending industry is the only way to provide citizens with greater opportunities to live in better housing. Lower mortgage risks will lead to lower lending interest rates and increased housing finance affordability, thereby improving Russians' ability to satisfy their housing needs.

Housing in Russia remains a social problem of critical importance. According to a recent household survey,<sup>1</sup> at the end of 2003, only 39 percent of households were satisfied with their living conditions.

It is important to stimulate households' active participation in own home purchase. Household savings form an additional resource for housing investments, simultaneously increasing effective housing demand and leading to a greater volume of housing construction. Growing effective demand for housing supported with proper bank credit facilities can become a strong driver for overall economic growth.

The Housing Affordability Index (HAI) calculates a ratio of the average market price of a standard dwelling (54 m<sup>2</sup> total space in Russia) to average household income (a household of three). In 2004, the figure was 4.35, normal for a mature economy. However, while evaluating housing affordability, financing deserves special attention. Prior to closing a deal, home purchase typically requires a significant saving period and an available mortgage loan. With this in mind, Russia differs significantly from the developed world.

Currently, only a very limited group of high-income citizens can afford a suitable dwelling. According to the survey mentioned above, only 12.4 percent of households can finance a home purchase out of their savings or with borrowed funds. So, the objective to stimulate an increase in the number of solvent purchasers is directly connected with the task to develop and expand the long-term residential mortgage lending industry.

The household survey has demonstrated that 19.2 percent of households see no ways to improve their living conditions. Another 7.1 percent would like to obtain a better dwelling in the social housing sector free of charge, by registering on a waiting list or through resettlement to shared multifamily dwellings. This means that 26.3 percent of households can solve their housing problems only with government assistance. Even with partial governmental assistance (in the form of down payment or interest rate subsidies) 9 percent will wait for social housing.

This may be attributed to a variety of factors:

- High housing prices that are inconsistent with household income level result in low effective demand (disparity between household incomes and desired housing prices).
- Not only are household incomes low, but motivation to save is low due to limited access to residential loans and low confidence in banks.
- High interest rates on residential loans (10–15 percent per annum in USD) caused by banks' high exposure to certain risks.

This problem was inherited from the socialist era, when the government was expected to provide free housing as part of national policy. This policy resulted in endless waiting lists and shared multifamily apartments.

The period of economic reforms in Russia brought changes to the system of housing finance. The time of dominant government support for the housing sector and the practice of government subsidized 25–50 year loans for individual or cooperative housing construction at token interest rates (0.5–2 percent per annum) has passed.

For the most part, off-budget finance sources have taken the place of the centralized system of housing distribution, with households' savings at the core. However, the low level of these savings deprives households of the chance to have better housing, requiring special efforts to mobilize other resources for housing finance. Bank resources such as long-term residential mortgage loans are best able to affect this situation positively.

## The Banking Sector: Residential Mortgage Product Profiles

Before the August, 1998 financial crisis, retail residential lending was offered by no more than 20 Russian banks. After the crisis several banks suspended this type of operation. But with economic recovery other banks stepped in, gradually extending their mort-

gage programs. This process was driven by banks' interest in energizing the market and regional authorities' mortgage programs. The RF Central Bank analysis on the Russian mortgage market in 2001–2002 has revealed that in 2001 residential mortgage services were provided by 8.5 percent of operating lending institutions (112 banks and lending agencies) and in 2002—by 11.2 percent (149), while the share of residential mortgage loans in the total consumer lending portfolio during this period did not exceed even 0.5 percent of the total amount of loans to households.

So far, long-term residential mortgage lending is yet to become an important field of business for Russian commercial banks. There are still only a few active mortgage lenders; these include Sberbank of Russia, DeltaCredit, Raiffeisenbank, Vneshtorgbank, the National Mortgage Company, Investsberbank, Fora-Bank, International Industrial Bank, United Industrial, and Commercial Bank. Although it is possible to note other positive trends in recent years, the major favorable change has been in mortgage lending terms offered by banks (Table 11.1).

*Table 11.1*

Residential mortgage loan products offered by major primary lenders in Russia  
(as of December 2004)

Bank	Loan term [years]	Loan amount		Interest rate Per annum	Loan currency
		[LTV]	[thou USD]		
Sberbank of Russia	15	up to 90%	from 3	18%	RUR
Sberbank of Russia	15	up to 90%	from 3	11%	USD
Raiffeisenbank	10	70%	25–400	12%	USD
DeltaCredit	10	70–85%	10–500	from 10% (fixed)	USD
DeltaCredit	15	70–85%	20–500	from 10% (variable)	USD
Vneshtorgbank	20	80–85%	10–500	10.5–11.5%	USD
National Mortgage Company	10–15	60–95%	15–450	9.9–18%	USD
AKB Fora-Bank	10	85–70%	10–200	15%	USD
Investsberbank	5	80%	10	14%	USD
International Industrial Bank	10	70–80%	17–200	15%	USD
OPT Bank	10	70–80%	15–200	15%	USD
First Mutual Loan Association	15	80–70%	10–450	15%	USD
Moscow Bank	10	70%	3–150	11%	USD

The loan period has increased from 1–3 years to 5–15 or even 20–27 years under certain regional programs. The weighted average life of loans is 10 years.

Second, interest rates on mortgage loans have shrunk from 30 to 10–15 percent per annum for hard currency loans, and from 42 to 15–18 percent for ruble loans. The Agency for Housing Mortgage Lending and several regional programs offer ruble loans at 8–15 percent per annum. The weighted average interest rate for ruble loans in 2002 was 14.3 percent.

## Role of Risk Reduction

Despite the current downward trend in interest rates, mortgage loans remain affordable only for households with above-average incomes. High lending rates reflect high credit risks, the rate of inflation, cost of finance, and operational risks present in Russia. High interest rates remain the main reasons households are unwilling to buy housing using mortgage loan. As a consequence, the level of mortgaging in general remains insignificant.

In setting final interest rates the banks first try to evaluate major risks associated with the mortgage product they are going to offer to clients. Thus the risk management system is one of the important components of the bank's policy aimed at risk reduction.

Mortgage risk management consists of at least two major blocks:

- creation of the legal environment favorable for mortgage risk reduction and risk management opportunities enhancement for mortgage market players
- efficient mortgage risk management by mortgage market players.

## 2. DEVELOPING HOUSING LEGISLATION DEVELOPMENT AND REDUCING RISK IN RESIDENTIAL MORTGAGE LENDING

### The Role of Legislation in Mortgage-lending Risk Management

2003–2004 was a period of active improvement in legislation intended to build an affordable housing market. Legislative initiatives included: RF Housing Code, changes to the Federal Mortgage Law, amendments to laws regulating housing and mortgage market taxation, the Federal Law on Credit Histories, and several others.

Affordable housing is not necessarily cheap housing. Housing affordability is a qualitative factor. It reflects the existence of certain conditions that enable the population groups with average income to purchase decent housing without subsidies. This can be achieved through implementation of actions aimed at stimulating housing construction and housing lending development. The aim of housing policy is to allow citizens to improve their housing conditions using market tools rather than waiting for free social housing.

According to the household survey, 34.7 percent of households are ready to improve their housing conditions through buying or building a house using personal savings and/or taking a residential mortgage. Housing becomes affordable when and if mortgage loans are easily affordable. The proposed program for an affordable housing market calls for reducing the level of income a household should have to qualify for a mortgage. Social housing will remain central only for low income groups.

Approval of the proposed package of laws will help make housing and home loans more affordable as a result of:

- reduced lending risks followed by reduced interest rates on mortgages
- reduced housing construction costs.

### *Five legislative initiatives to reduce mortgage risks:*

#### 1. Improving foreclosure procedures in case of default

Legislative initiatives introducing effective foreclosure procedures are expected to reduce the risk in mortgage lending and protect lender's rights in case of default. In this respect serious changes to the Mortgage Law and the Civil Procedure Code of the Russian Federation were suggested approval. The proposed amendment to the Mortgage Law foresees that foreclosure on the mortgaged property and its subsequent sale gives legal rights for eviction of the debtor and other persons occupying the property in case it (the house or an apartment) was pledged under a mortgage agreement or by act of law as security for a loan from a bank, other lending institution, or legal person for the purchase, construction, capital repair, or other improvement of this property, or to refinance such a loan.

Proposed amendments to the Civil Procedure Code (CPC) are aimed to ensure rights to foreclose on any residential property if it is used as a security for a housing loan.

Under the currently effective law, foreclosure can take place only if residential property is bought with the loan proceeds and the borrower has more than one dwelling to live in. According to CPC (Art. 446, It. 1) it is impossible to enforce a writ of execution against the property (or parts of it) if it is the only dwelling the debtor and his/her family has for permanent residence. The same is applicable to land plots occupied by such property or land plots purchased for non-commercial purposes.

The proposed legislative initiatives will reduce banks' exposure to residential mortgage lending risks by introducing effective foreclosure procedures. Housing loan affordability is determined by borrowers' paying capacities, modest housing prices, and the availability of low interest rates. Lack of protection for lenders' in case of default and difficulties with foreclosure (or sometimes even failure) force banks to include expected costs of

these risks in the interest rate charged to borrowers. As a consequence, interest rates go up and loan affordability goes down.

2. Changes to the Civil Code of the Russian Federation terminating an owner's and his/her family's right to use property (a house, apartment, or other residential unit) if ownership is transferred to another

Currently the soviet-era law is still effective—typical for communities with a lack of real ownership rights. There is no market for housing, and housing rights prevail over ownership rights. This situation adversely affects development of the mortgage lending industry because it makes mortgaged property sale very difficult. As a result, banks refuse to provide loans against residential units encumbered by rights of third parties unless this encumbrance ceases with the sale of the mortgaged property. No one will agree to buy a unit encumbered with third party rights (unless at a price insufficient to cover the lender's claim). The proposed amendment will help protect housing ownership rights, create a more favorable housing market, and reduce the risks of mortgage lending.

This will also facilitate the sale of mortgaged property by saving time and costs and enhancing property liquidity. This will also have a downward effect on interest rates on mortgage loans.

The proposed amendment will regulate relations between homeowners, persons recognized as homeowner's family members (this status provides the right to use the homeowner's property) and buyers.

This amendment will provide additional legal grounds for termination of the use of property by homeowner's family members. Specifically, the property title transfer from the former owner to a new one will be considered such legal grounds. Pursuant to this provision a new owner will have the right to claim the eviction of the former owner's family from the property and will have an opportunity to buy the property free from any encumbrances.

It is also proposed to extend and include this provision in the Housing Code of the Russian Federation as one of the rules regulating the use of the property by a homeowner and his/her family members. This amendment will then bring to an end the ludicrous practice that permits family members of former homeowners to stay in sold property.

3. Changing child welfare authorities' role in real estate transactions

The proposed amendments to the RF Civil Code and Mortgage Law repudiate the current obligation of the seller to obtain the approval for property sale and mortgage transactions from the child welfare authorities if this property is used as a place of residence by a minor or by a disabled or legally incapable person. It is proposed to limit this obligation only to cases where residential units are inhabited by persons that are under



guardianship or lacking parental custody. All other persons will have no need to apply to the child welfare authority for approval of their real estate transactions.

The purpose of the proposed amendments is to prevent unreasonable interference of the authorities in sales and mortgage lending transactions. Functions exercised now by these authorities significantly limit homeowner's rights.

Child welfare authorities should step in when interests of minors without parental custody are in danger as a result of a real estate transaction. In all other cases children's interests and future are protected by their parents. Child welfare authorities' interference only causes difficulties for parents in their attempts to improve housing conditions for their children. Currently, these authorities use the vagueness of the legislation to dictate their own, rather biased, terms to families.

#### 4. Developing mortgage insurance

Such a momentum should expand the mortgage market, increase the share of borrowed funds in the cost of purchased housing, enable households that meet mortgage lending standards but do not have personal savings to pay a large down payment to enter the mortgage market, and contribute to overall housing affordability.

Provisions for the introduction of a mortgage (credit risk) insurance system are stipulated in Item 4, Article 31 of the Draft Law Amending the Federal Mortgage Law, according to which the borrower under a residential mortgage contract may insure his risk for non-fulfillment (or improper fulfillment) of his obligations to repay the loan. Under such insurance policy the insured amount should not exceed 20 percent of the pledged property value.

The insurance policy covers the case when a lender brings a claim to a borrower to repay the balance of a defaulted loan that remains uncovered after the sale of the mortgaged property and proper disposal of respective proceeds in accordance with Russian mortgage law.

Insurance indemnity will be paid to a lender if the lender is unable to recover the outstanding amount of the principal and other associated costs after the foreclosure has been finalized on a defaulted loan.

#### 5. Credit bureau development

The introduction of credit bureaus will contribute significantly to development of the housing mortgage market. As the retail mortgage market in Russia is growing, there is a growing need for information on applicants' payment discipline and history of their interaction with other lenders. Analysis of prospective borrowers' credit histories should become a standard underwriting procedure for banks. This may be accomplished only if the necessary legislative, administrative, and economic incentives are provided for

the formation of a credit bureau. Information on borrowers' credit histories will help banks make more reasonable credit decisions and reduce underwriting costs, which in turn will have a favorable downward effect on loan interest rates.

### 3. BANKING PRACTICES IN RISK MANAGEMENT

Banks play a key role in development of an advanced mortgage lending system in Russia. Today banks are the only professional players on the mortgage market. By following comprehensive regulatory and procedural instructions set by their regulator, the Central Bank, banks can ensure a rather high level of mortgage transparency. Only now can they afford to use new information technologies crucial to implementing mortgage programs of a substantial scale. Moreover, only banks appear to be able to carry out efficient finance management in the emerging competitive environment. Being well aware of mortgage lending risks, they attempt to manage them professionally, first of all, by collecting primary statistical information on every mortgage lending phase and loan portfolio dynamic. In the long run this should help redistribute risks within the market system, shifting them to those who can manage them most professionally. New banks' entrance into this market sector may help diversify risks in order to prevent a situation where all risks are assumed by one player, for example, by governmental structures, which ultimately means taxpayers in the case of systemic problems.

For now, only banks appear capable of mobilizing significant resources to finance residential mortgage loans, and according to legislation, only they are eligible to work with currency resources that provide additional opportunities both to attract new sources of long-term funds and offer a wider range of loan products to mortgage market (by offering hard currency loans).

The current unique role of banks in mortgage lending development can be explained by the specific structure of the Russian banking sector, which consists entirely of universal banks. This may have a different impact on the specific configuration of an emerging mortgage lending system. On one hand, during the startup period universal banks may help expand mortgage lending. Due to inflow of additional revenues from other operations their universal nature allows these banks to operate as primary lenders, bearing the considerable initial costs of launching mortgage programs and originating initial mortgage loan portfolios, with little or no loss in profits. Universal banks become portfolio lenders performing all three basic functions of the mortgage lending system. They are responsible for loan origination and servicing originated loans; meanwhile they hold the loans as investments. This means they bear all risks associated with residential mortgage lending. On the other hand, at the startup period of the emerging mortgage market banks have no other alternative but to become portfolio lenders.

Recently, the Russian mortgage market has witnessed certain changes in its institutional structure: new players entering the market started to position themselves as specialized mortgage banks. However, in Russia there are no laws allowing existence and regulating operations of specialized structures in the in the field of mortgage lending. Called mortgage banks, these new players are in fact universal banks which deliberately keep their banking license but limit their operations to residential mortgage lending. Moreover, these first specialization steps on the Russian primary mortgage market failed to change the way the three basic functions of the mortgage system are organized. Due to a preclusion of economies of scale, this may slow the efficiency and the rate of progress in the sector.

Another important aspect of primary market specialization problem is availability of efficient mechanisms to transfer ownership rights to mortgages and rights to service loan portfolios. Unfortunately, the existing mortgage market infrastructure in Russia (registries, notaries, mortgage insurance, and bank regulations) is characterized by high risks and costs that make the retail mortgage business, considering its negligible size, highly inefficient.

Factors preventing mortgage lending development in the banks (according to a bank's survey<sup>2</sup>) are described in Table 11.2.

*Table 11.2*  
Factors preventing the development of mortgage lending in banks

Problems	Percentage
Absence of effective foreclosure and eviction procedures	89
Lack of long term financial resources	85
“Shadow” income of borrowers	85
Complicated and time consuming procedures for property rights and deal registration	55
High notary fee and cost of registration	64
High cost of mortgage deals	55
Absence of a bureau	49
Lack of interest from realty agents	35
Lack of experienced and trained staff	33
Banking system not customer oriented	33

It is evident from an analysis of these limiting factors that bankers consider mortgage lending risks to be very high. Of particular concern are risks caused by external factors and current mortgage legislation. Russian banks should focus on effective risk management in developing residential mortgage lending.

## Credit Risk—Risk of Loan Default

This risk is caused by legal and judicial difficulties the lender may face in implementing foreclosure, eviction, and sale procedures in case of default; it results in overrating mortgage loans.

To make this type of lending more secure a number of banks have successfully applied the model of three-party sale and mortgage contracts concluded between sellers, buyers-borrowers, and lenders. With this model it is possible to register the title to the property purchased with borrowed funds with the lender's lien securing the loan repayment. This substantially reduces the banking risks and shortens the transactions' registration time. Banks in Moscow and St. Petersburg pioneered this model, and their example is now followed in several other regions.

Successful dissemination of loan origination and servicing standard procedures based on advanced experience from other parts of the world is another positive movement in the residential mortgage lending development in Russia.

Being concerned with underwriting quality, banks try to maintain in-house borrowers' credit histories by collecting information on their consumer loan payments and repayment discipline. The banking sector initiated establishment of credit bureaus outpacing lawmakers in this field. The anticipated approval of the Law on Credit Histories will create a necessary legal environment for the collection of databases on borrowers' payment discipline allowing banks to reduce underwriting costs.

## Interest rate risk

Mortgage loans are usually provided at ruble or dollar denominated fixed interest rates. Regions throughout Russia mostly provide ruble loans, and Moscow and St. Petersburg markets operate mostly with dollar loans.

Operating in the secondary mortgage market, the Agency for Housing Mortgage Lending (AHML) focuses its activity on regional markets through setting ruble fixed-interest loan standards and buying ruble fixed-interest loans meeting AHMLs' standards that originate outside Moscow and St. Petersburg. AHML's main concern now is to adjust its interest rate policy to the market situation in anticipation of future pre-payment risk, causing the need to reinvest prepaid capital on the financial market.

Currently, most outstanding residential mortgages in Russia are in hard currency at fixed rates. This results in high debt service payments for borrowers. Hard currency fixed interest loans may have a greater credit risk because most borrowers earning ruble income fear "payment shock" when their ruble incomes may become insufficient to repay currency loans.

Fixed-rate loans also carry higher market risks both for lenders and investors. In a high and volatile inflationary environment, interest-rate risk management becomes of

particular importance for banks as well as AHML. Realizing this, they have shifted their attention to variable interest rates testing new lending programs with variable interest rate loan products. As a consequence, the market range of credit products has recently become wider including new products such as variable interest rate loans with capped payments permitting more reasonable interest rate risk distribution between lenders and borrowers. Strong interest exists to develop credit products with interest-only payments and the principal due at the end of the loan term.

## Liquidity Risk

The lack of long-term and comparatively cheap credit resources is another serious limitation of the mortgage lending development. This factor was mentioned by 85 percent of respondent banks (Table 2). Currently banks are mostly financing mortgages with short-term resources, and significant number of long-term loans may result in a serious mismatch of assets and liabilities, reducing compliance with the Central Bank liquidity requirements.

This problem can be overcome by the development of a secondary mortgage market and improvement of refinancing mechanisms for mortgages. One way to achieve this involves improved performance by AHML, where the government guarantees AHML securities, thus making them more attractive to investors. Currently, AHML has concluded an agreement on refinancing mortgage loans in 81 regions. As of June 30, 2005 the amount of refinanced mortgage loans was 280 million dollars.

The bank sale of a pool of mortgage loans is another way to ensure the liquidity of mortgage loans. Specifically, this strategy is used by City Mortgage Bank, which issues mortgage loans and forms pools of those mortgage loans in order to foster their further sale. Indeed, in spring of 2005, City Mortgage Bank sold a pool of mortgage loans for the amount of 5 million dollars to International Moscow Bank.

Another efficient mechanism in resolving banks' liquidity problems is providing banks with right to issue mortgage-backed securities, simultaneously strengthening the investment quality of such securities. Now banks are looking forward to legal regulations governing the rules for issuing mortgage-backed securities, which will help them attract long-term investors' resources as do insurance companies and pension funds.

## 4. Prepayment Risk

The importance of this risk management grows simultaneously with the growth of the mortgage securities market. Mortgage loan prepayments may cause serious difficulties

in protecting the interests of investors that put their money into mortgage-backed securities. Banks that do not issue mortgage-backed securities may also meet serious prepayment problems. The question is how to reinvest and guarantee a comparable rate of returns on prepaid proceeds. Currently, banks often use the following instruments in managing prepayment risk:

- Establish a 3–6 months period during which advanced repayment of a loan is prohibited.
- Stipulate a requirement in the loan contract to pay a prepayment penalty that may be valid for the whole loan term, or a period specified by the bank.
- Apply the above two remedies together: first a ban, then a penalty.
- Fix the minimum sum of a loan that may be repaid ahead of schedule.

Despite recent positive changes in the development of a mortgage market banks continue to face serious problems providing long-term residential mortgages.

In the context of current legislation, residential mortgage lending is considered a very risky and low profit business.

#### 4. RISK MANAGEMENT UNDER REGIONAL HOUSING FINANCE PROGRAMS

Several cities and regions (Moscow, Moscow Region, Orenburg Region, Samara Region, Saratov Region, Nizhniy Novgorod Region, Irkutsk Region, Ryazan Region, and other regions along with Udmurtia and Bashkortostan Republics) are now making strong efforts to implement their own housing programs.

##### Main Characteristics of the Regional Housing Programs

Funds allocated by regional and local governments under these programs are used to provide home purchase and construction loans and financial aid for housing improvements.

Budget subsidies for home purchase may be made in the following forms:

- interest rate subsidies on mortgage loans originated by authorized banks—budgetary funds are used to cover the difference between the current market interest rate on similar loans and the concessionary interest rate
- subsidies partially covering the purchased dwelling cost (down payment subsidy);
- providing funds to banks to be used in making loans.

Regions tend to support households' housing purchases by providing budgetary funds for subsidizing home loans. Typically they use non-transparent schemes and do

not calculate the efficiency of budget expenditures and the full cost of housing programs into the budget.

Interest-rate subsidies appear to be particularly ineffective. Interest rates are determined by the market (the cost of loan finance for banks, the risks of particular banking operations, e.g., mortgages). In case of interest rate subsidies, the budget compensates the difference between the market (fixed according to bank's evaluation criteria) and concessionary interest rates. However, considering the rather long life of mortgages and the very volatile money market situation in an unstable economy like Russia's, interest rates may increase and generate a subsequent growth in the government's burden as well. Governments may lack the funds to fulfill their obligations, thus exposing banks to additional risk. It is difficult to estimate in advance the amount of funding the government ultimately needs to finance an interest rate subsidy program, as interest rates are to a large extent governed by financial market trends.

Targeted down payment subsidies to households appear to be more efficient. This type of subsidy increases the paying capacity of households without changing their income level by reducing the size of a loan and, accordingly, the size of monthly payments. This is a purpose-specific and means-tested subsidy, the design of which allows clear monitoring of the use of budget funds. It also gives households a chance to select a dwelling by type and quality. This type of subsidy helps establish a demarcation line and links between public and market sectors of the economy.

The analysis of regional approaches to the housing problem suggests that despite formal differences, Russian regions share a universal will to support regional housing programs with local budgetary resources. Typically such programs are small-scale due to limited budgetary capacities.

In conclusion, regional housing programs undeniably help households purchase better housing by providing them "low-cost" budgetary loans, but at the same time there is a lack of efficiency controls on such programs to calculate the cost versus results. Such programs are unpopular among investors and banks because they make risk analysis and evaluation more difficult.

## Main Disadvantages of Regional Housing Programs

Apart from the improvement of housing conditions for many households, regional programs have certain disadvantages, most serious of which are:

- Misappropriation of budgetary resources (resources are allocated via extra-budgetary funds and are not always used in accordance with the purpose and target group they were assigned for).
- Concessionary loans and interest rate subsidies place a burden on regional and local budgets and often fail to reach the target groups that really need them.

- Commercial banks, insurance, real estate, and appraisal companies participate in regional housing programs as authorized agents and responsible for loan origination and servicing rather than as real market players.
- Understated interest rates serve as a strong disincentive for institutional and private investors and thus limit the scope of regional housing programs.
- Commercial banks tend to “wait and see,” unwilling to invest financial resources in residential mortgage lending and inclining to shift the possible risks of such lending onto budget-supported regional mortgage agencies.

Still, it is worth noting that the growing market and demand for mortgage loans stimulates regions’ transition to market-driven forms of finance. For example, Samara, Orenburg, and several other regions have plans to develop the mortgage market by introducing market mechanisms and creating secondary mortgage market facilities.

### Risk Distribution between Participants in Regional Housing Programs

Generally regional housing programs use one of the three models of budget resource spending: interest rate subsidies, down payment subsidies, and providing capital to banks. The distribution of program risks among participants depends on the type of spending model chosen.

In the case of interest rate subsidies, risk is fully carried by regional governments, which might fail to finance the growing difference between the market and program interest rates as a result of sizable upward movements on financial markets, inflation, etc. Ultimately this risk will become a banking problem, as banks will have to carry and manage liquidity and credit risks.

Down payment subsidies set regional governments free from all risks. All mortgage lending risks (interest rate, liquidity, credit, and prepayment risks) will be carried by banks.

If financial resources from the budget are provided to a bank for residential mortgage loan originations, the government will have to manage its liquidity risk, and the bank itself will carry the credit, interest rate, and prepayment risks. However, these risks are much less hazardous to banks as compared to risks they meet when implementing their own mortgage programs, because budgetary resources are long-term and at no or little cost to banks.

Still, there may be situations when the liquidity risk becomes a serious problem for banks. For example, a regional administration gives a 4-year interest-free loan to a bank, and the bank extends concessionary loans to households with a payment period of 10–15 and 20 years. After four years pass, a new administration may come in and after



revising its housing policy, demand that banks pay back the loan, which immediately exposes the bank to risks of liquidity. This scenario demonstrates the strong political dependence of regional housing programs.

The program launched by AHML deserves comment. It is based on the idea of developing relations with regional administrations and regional operators on the secondary mortgage market (regional mortgage agencies, housing funds, etc.). AHML suggests a model when primary lenders, i.e., banks, are assigned to government agencies acting as regional operators; the regional operators buy loans from the assigned lenders who originated the mortgages; the operator pools them, then sells them to AHML. The operator retains the servicing function on the mortgages sold in the pool. In this scenario every intermediate agency (regional operator) has an income interest, which works against interest rate reduction. Most risks are carried by regional operators in this program:

- Credit risk—is mostly carried by regional operators, because they are obliged to buy back the mortgage in case of default. This obligation is supported with additional regional government guarantees; moreover, possible losses incurred after the sale of pledged property should be equally shared between AHML and regional operators.
- Liquidity risk—is minimized due to AHML-refinanced loans originating in banks via regional operators; in this situation the main task is to increase AHML's resource raising opportunities—its ability to attract long-term investors' capital.
- Interest rate risk—is mostly carried by AHML and partially by investors as a result of government guaranteed securities.
- Prepayment risk is carried completely by AHML, which manages it by establishing a 6 month moratorium on loan prepayments.

This approach to developing a mortgage lending system is rather discouraging for banks, because their participation in the AHML program is limited to originating loans. However, considering banks' attitude toward this program, AHML is now devising and testing models for establishing direct relations with banks.

## 5. RISK MANAGEMENT PROSPECTS

Finally, there are a few further prerogatives to reduce mortgage risk in Russia that should be stressed:

- Diversify lending instruments which employ variable repayment schedules and interest rates, meanwhile developing a market for mortgage securities issued by banks on redemption terms similar to a loan schedule.

- Manage risk of liquidity by developing a secondary market for long-term mortgage refinancing, attracting long-term resources from institutions (insurance companies, pension funds).
- Manage credit risk by developing a credit risk insurance system and system of credit bureaus supplying banks with information on prospective borrowers.

## ENDNOTES

- <sup>1</sup> The survey was carried out by the IC RAM (Investigation Center of the Russian Association of Marketing) in December 2003–January 2004 as part of the project “Evaluation of the Scale of Dynamics of Changes in Effective Housing Demand and Housing Construction in Russia” implemented at the request of the Foreign Trade Bank (OAO Vneshtorgbank). Apart from the mass survey based on the representative sample of Russian households a series of additional surveys was conducted in 9 cities: Moscow, Saint-Petersburg, Novosibirsk, Krasnodar, Samara, Vladivostok, Yekaterinburg, Kaliningrad, and the Moscow Region. Personal interviews with household heads responsible for making housing decisions were used as a survey instrument. 3,000 respondents were interviewed across Russia and 400 more were interviewed in each of the nine selected cities and the Moscow region.
- <sup>2</sup> The research was carried out by the IC RAM (see footnote 1). The market research used a sample of 100 banks including 3 banks from each of the 9 project regions and the Moscow region. Sampling was performed by experts who gave preference to banks actively operating or starting operations in residential mortgage, consumer lending, and residential construction lending markets.

## Mortgage Lending and Risk Management in Kazakhstan

Dr. Friedemann Roy, Aset Mananbaev, and Murat Yuldasev

### **ABSTRACT**

Kazakhstan, like other former Soviet republics, entered the transition period with no tradition of mortgage lending. The objective of this article is to describe and analyze developments in mortgage lending and risk management in Kazakhstan. First, it discusses the main indicators of the economy. Second, the mortgage lending market and the government strategy in housing is presented. The final part tackles the structure and the role of the Kazakhstan Mortgage Company (KMC) within the development of capital markets. This analysis also includes a risk assessment of KMC's operations.

In order to stimulate long-term funding for mortgage lending, the National Bank of Kazakhstan (NBK) established KMC. KMC operates as a sales-of-asset liquidity facility. KMC has made a considerable contribution to mortgage market development. The total volume of outstanding mortgage loans has reached KZT 24 billion. Interest rates on mortgage loans have decreased to 13.6 percent in 2004. Loan terms have risen to 20 years.

KMC's operations are subject to an array of risks (credit risk, interest rate risk, liquidity risk, exchange rate risk, prepayment risk). The once sound approach has been recently put into question due to a revamp of the government's strategy in developing the mortgage market. As a result, KMC has been converted from a low risk entity into a high risk entity which may require a state guarantee to remain viable.



# Mortgage Lending and Risk Management in Kazakhstan

*Dr. Friedemann Roy, Aset Mananbaev, and Murat Yuldasev*

## 1. INTRODUCTION

The broad availability of mortgage finance accelerates the pace at which households improve their housing conditions by permitting them to leverage their current income and savings. While there were a few long-term housing loans in the former Soviet Union, such loans were really little more than an element of centrally allocated credit.<sup>1</sup> Thus, Kazakhstan, like the other former Soviet republics, entered the transition period with no tradition of mortgage lending. The development of such lending has been hampered by the immaturity of the banking sector and macroeconomic setbacks.

Kazakhstan has enjoyed stability and impressive growth rates in recent years. Under these circumstances, the demand for housing has expanded and can be expected to continue to grow. The government has been responded to this development by introducing a broad strategy to support mortgage lending. One component of this strategy is the establishment of the Kazakhstan Mortgage Company (KMC) in order to improve long-term funding of mortgage loans obtained from capital markets.

The objective of this article is, then, to describe and analyze the activities of KMC in the context of Kazakhstan's economy. The article is organized so that the main indicators of the economy are discussed first, including the banking and housing sector. Second, the mortgage lending market and government strategy in housing are presented. The final part of tackles KMC's structure and role within the development of capital markets in Kazakhstan. This analysis also includes a risk assessment of KMC's operations.

Kazakhstan is located along the Caspian Sea and neighbored by Russia to the north, China to the east, and Turkmenistan, Uzbekistan, and Kyrgyzstan to the south. Around 15 million people enjoy a great deal of space. With 2.7 million square kilometers in size, the country is five times the size of France (with a population of about 56 million). Recently, the country has gained considerable attraction by foreign investors because of its large oil and gas reserves.

The high demand for oil from the Caspian Sea is also the main driver of economic growth. According to the table below, GDP rose from 2.7 percent in 1999 to 9.4 percent in 2004. For 2005, growth will be slightly lower (8 percent). GDP per capita has also risen but still lacks behind neighboring countries like Russia where it amounted to USD 3,041 (in 2003).

*Table 12.1*  
Basic economic indicators (1999–2005)

	1999	2000	2001	2002	2003	2004 (P)	2005 (E)
GDP growth [% to previous year]	2.7	9.6	13.5	9.8	9.2	9.4	8.0
GDP per capita [USD]	1,133	1,234	1,492	4,657	1,990	3,699	3,072
Inflation rate [%]	17.8	9.8	8.4	5.9	6.4	6.7	7.6
Unemployment rate [%]	13.5	12.2	10.2	9.3	8.7	8.4	8.2
Average salary [USD]	91	117	142	157	194	274	n.a.

*Note:* P = projected E = estimates

*Source:* IMF, F.A.Z.-Institute, National Bank of Kazakhstan, Kazakhstani State Agency of Statistics. The unemployment rate is calculated as a percent of the economically active population.

Rising macroeconomic stability is reflected by steadily declining inflation rates. From 1999 to 2003, they have decreased from 17.8 to 6.4 percent. In 2004, a slight upward trend shows as a result of considerable foreign currency inflows and rising prices in the agricultural and industrial sector. This trend is likely to continue in 2005 albeit to a limited extent.

The National Bank of Kazakhstan's (NBK) monetary policy is aimed at a band of 4.9–6.5 percent for average inflation for the year. This objective could be diluted through recent increases in government spending on social benefits and pensions as well as changes in the exchange rate. In view of the large differentials between government and private sector salaries, the government is expected to raise salaries for public sector employees. Such pay increases could intensify inflationary pressures, especially if they lead to an acceleration in private sector wages.<sup>2</sup>

The recent appreciation of the tenge—Kazakhstan's currency—is of concern for national authorities, as it could hamper the competitiveness of the economy. Since envisaged government spending increases imply a further rise in the real exchange rate, it is possible that authorities prefer higher inflation to a (nominal) appreciation of the tenge.<sup>3</sup>

The labor market has benefited from the economic upswing. The unemployment rate has also fallen, amounting to 8.4 percent in 2004. The positive economic development has led to rising wages, too. With an average salary of USD 194 (as of 2003), Kazakhstan

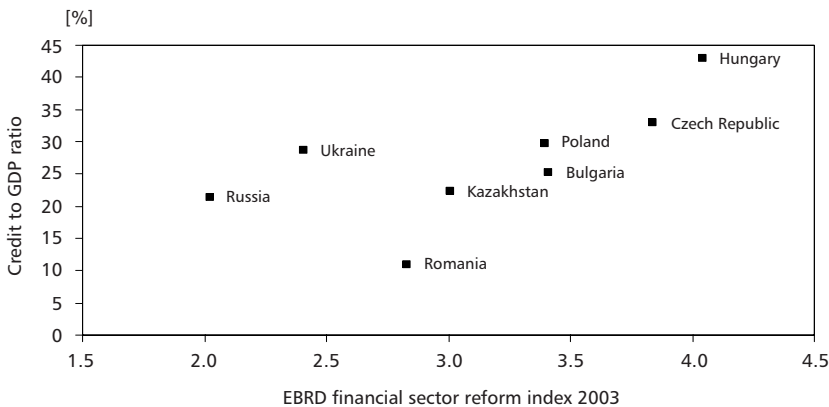
records the highest average wage in central Asia. However, it lags behind Central and Eastern European (CEE) countries where average wages amount to USD 472.<sup>4</sup> The highest salaries are paid in the financial sector and in mining, where employees earn an average of USD 377.28 and USD 304.71 respectively. Due to favorable oil prices and implemented tax reductions, a further increase in average wages and employment is expected.

## 2. THE BANKING SECTOR IN KAZAKHSTAN

Since 2002, the banking sector has grown rapidly, led by strong economic growth. Coupled with that, financial depth and intermediation have steadily increased. Factors responsible for financial deepening are faster and more transparent judicial procedures, more sophisticated legislation on banks, as well as stronger supervision. The National Bank of Kazakhstan (NBK) envisages achieving EU-standards in the banking sector by 2007.<sup>5</sup> Growing confidence in the banking system has been facilitated by a deposit insurance system introduced in 1999 (compulsory in 2004) and the Bank Secrecy Law of 2000.

*Figure 12.1*

Transition economies: credit/GDP ratio and financial sector reform



*Source:* International Financial Statistics, EBRD Transition Report 2003, IMF, author's calculations

Credit to the private sector in relation to GDP and broad money to GDP are used as indicators of financial depth and intermediation. Since 1998, bank lending to the private sector has increased, due to better credit assessments, underpinned by strong real growth.<sup>6</sup> The bulk of loans has gone to the industry and trade sectors. The share of lending to households is small but rising rapidly, with mortgage lending rising by a factor of four in 2003.

The graph above shows that Kazakhstan's credit-to-GDP ratio is below the average range of more advanced countries like the Czech Republic (38 percent) or Poland (30 percent) and above average for transition countries with similar institutional quality in the financial sector (like Romania with 11.3 percent). With 23.4 percent private sector credit to GDP, Kazakhstan is slightly above Russia (22.5 percent). Loans are mainly financed by deposits, which constitute almost 70 percent of banks' total liabilities. Around 55.5 percent of credit and 47 percent of deposits are denominated in foreign currency (mainly USD). Albeit decreasing, the prevalence of foreign currency in the banking sector still reflects the weak confidence in the national currency, which has been also in part driven by the constant depreciation of the tenge against the dollar in the recent years. However, the increasing share of KZT deposits reflects enhanced stability of the banking sector.

The level of financial intermediation in Kazakhstan is lower in comparison to other transition CEE countries. Broad money in relation to GDP amounts to 11.6 percent in Kazakhstan whereas in Russia it is 26.2 percent and in Hungary 47.2 percent.<sup>7</sup> In this context, administrative measures to control interest rates (for instance, the ceiling on deposit rates introduced by the Deposit Insurance Fund and tax incentives) only distort financial intermediation.

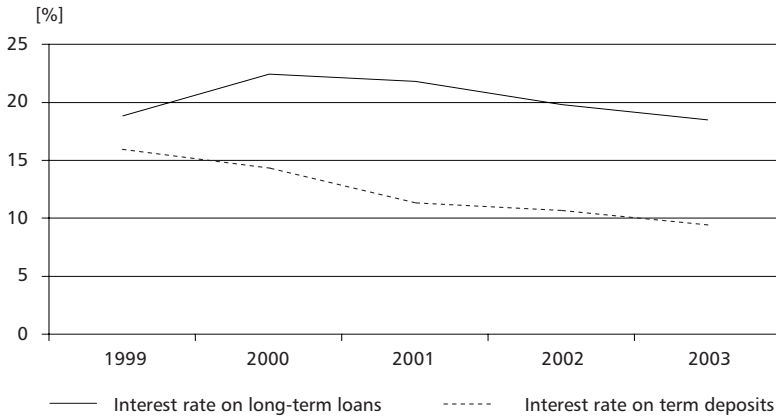
On the other hand, shrinking spreads will support intermediation. Lending interest rates, for both local currency as well as foreign currency credits, have declined markedly over the past half decade, reflecting increased competition, and, for KZT loans, lower inflation. Averaging 10 percent, they still remain high. Interest rates on loans (in KZT) vary from 15–11 percent. For term deposits, banks currently pay about 9 percent (in USD 6 percent). Especially improved availability of creditor information has been beneficial to lower spreads. Despite shrinking spreads, banks have managed to remain profitable. This achievement has been due to a reduction in personnel expenses and in the number of branches, a better enforcement of debts, and a slow entering into non-banking activities, like insurance, securities, and the real estate business<sup>8</sup> (See Figure 12.2).

Competition appears to be fierce among similar-sized banks, but not necessarily across size categories. Moreover, banks are competitive in and around big cities, but only a few banks cater to smaller towns. In 2002, banks recorded a combined profit of USD 132.2 million.

At present, banks are profitable, well capitalized, and have ample liquidity. As of 2004, the average risk-weighted capital adequacy ratio was 16 percent, significantly above the required minimum of 12 percent. Banks' return on equity (ROE) ranged from 8 to 14 percent. However, banks' loan portfolios are relatively young and, for the most part, have not yet been tested by sharp changes in macroeconomic conditions or a severe asset price downturn. Slightly worrying signs are a deteriorating quality of banks' loan portfolios in 2004. Loan losses increased in relation to total loans outstanding from 2 percent in 2003 to 3 percent in 2004 despite the rapid increase of outstanding loans.



Figure 12.2  
Changes in interest rates, 2000–2004



Source: Kazakhstani authorities, IFS  
Interest rates are shown in local currency and for individuals.<sup>9</sup>

On the whole, the banking sector is fairly concentrated. The three largest banks (Kazkommertsbank, Bank TuranAlem, and Halyk Bank) have a combined market share of about 60 percent. In 2003, they hold together 61 percent of the assets and 66 percent of the loans. Moreover, they hold 69 percent of personal deposits. At the end of 2004, 35 banks operated in the country, of which 16 were foreign owned.

### 3. THE HOUSING SECTOR IN KAZAKHSTAN

The positive macroeconomic environment has stimulated demand in the housing sector. This growth is underpinned by rising incomes, lower interest rates, and a better supply of mortgage loans. From 2002 to 2003, new construction rose by 16.9 percent. However, the building industry cannot meet current demand, which exceeds supply by two to three times. Almaty and Astana face an especially severe lack of dwellings as a result of the ongoing migration of citizens in search of employment in these cities.

Currently, house prices are driven by the construction of the new capital of Astana and the rising demand for better housing conditions coming from foreign companies operating in Kazakhstan. The recent price increases have induced a higher turnover in the secondary market as people buy now fearing future price increases or in order to rent. Experts fear that this rise in construction (and mortgage lending) may also provoke a real estate bubble. The real estate markets in the large population centers are already beginning to show signs of over-heating (IMF 2004a).

In general, the state has withdrawn from providing funds for housing, creating a clear need to develop private housing finance. The previously state-owned dwellings have been privatized. As a result, 97 percent of the housing stock is in private ownership.

The current situation in the housing sector has induced the government to inaugurate the national housing development program of Kazakhstan for 2005–2007. This program is aimed at providing affordable housing to citizens. It focuses on the creation of a fully balanced housing market and an increase in mortgage loans and housing construction savings in order to finance new construction and renovation or modernization of the existing housing stock.<sup>10</sup> Through this program, housing supply should be particularly increased in the major cities in order to damp price rises.

#### 4. THE MORTGAGE LENDING MARKET

The increasing economic stability as well as better regulations on property enforcement and an increase in the overall effectiveness of the judicial system has supported banks entering in mortgage lending. For example, a regulation on credit register was adopted by NBK in 1998 in order to disseminate creditor information to banks. Under this scheme, commercial banks are required to report to the regulatory authority if a single entity or an individual borrows in excess of KZT 3 million (or KZT 1 million). In addition, a new automated subsystem is being developed whereby banks can access current and periodic creditor data. A law on credit bureaus has been submitted for the government's approval, which will also help reduce credit risk for banks.

Mortgage lending has steadily grown and is now accelerating rapidly. From July 2003 to January 2004, the total volume of mortgage loans soared by 208 percent (from KZT 14.1 billion to KZT 29.5 billion i.e., about USD 197 million).<sup>11</sup> As per September 2004, the volume of mortgage loans totaled KZT 68.8 billion.

In addition, a growing number of banks have recently appeared on the market. For instance, Kazkommertsbank only entered into retail banking in 2000. In 2002, the bank has started to develop its own lending program for housing purposes. Halyk Bank started its mortgage-lending program in April 2004. Activities are mainly concentrated in Almaty and Astana which record a share of 63 percent of all mortgage loans granted. This concentration corresponds to the economical structure of the country. Equivalent to other lending practices, the majority of loans are granted in USD (63 percent as of January 2004). Loans in KZT are usually indexed to the inflation rate. Interest rates on loans (in KZT) range from 13.5 to 15.7 percent. A further reduction is expected in the next years. The table below gives an overview about the mortgage lending programs of selected banks lenders:

Table 12.2  
Selected mortgage lending programs

	Kazkommertsbank	Halyk Bank	ATF Bank	Centercredit Bank
Down-payment in % of loan amount	>15 (with deposit program 10)	20	>15	15
Term of loan (years)	KZT – 3 USD – 20	KZT – 3 USD – 7	Up to 10	3–20
Rates on loans (%)	7–10 (with deposit program 5.8–12)	KZT – 12 USD – 10	KZT – 19.5 USD – 13	13.6
Conditions	Review of application: USD 20 – 50 Disbursement fee depends on size of down-payment: 15% – 1% of loan amount; 15 – 50% – 0.5% and more than 50% – 0.25% Notary: 11,500	Review of application: 0.2% of loan amount Disbursement fee: 0.2% Notary: 7,000	Disbursement fee: 0.6% Notary: 6,500	Review of application: KZT 17,000 Notary: 21,400
Collateral	Lien on property Life insurance required if customers has not participated in deposit program	Lien on property	Lien on property	Lien on property Property insurance required

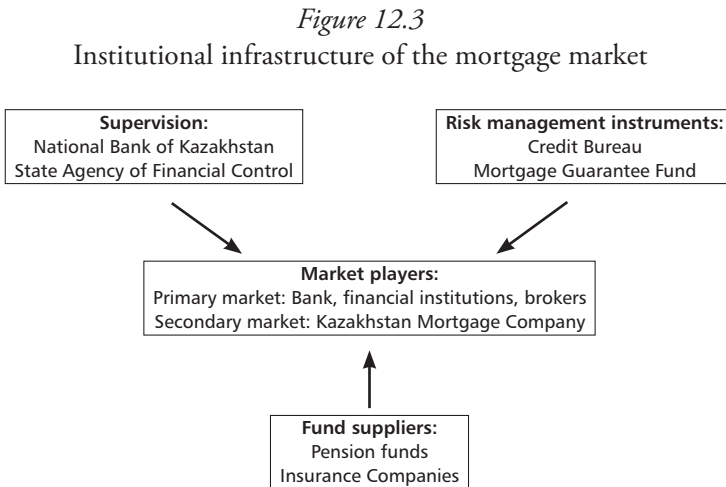
Source: KMC

Kazkommertsbank is the only bank offering a savings program connected to its lending program. Customers who participate in the savings program benefit from more favorable loan conditions (lower interest rates). With a maximum of 20 percent, the down payment requirement seems to be very low. Loan terms in KZT are short and may therefore restrict affordability.

The mortgage lending market is segmented: it can be broadly divided into the group of medium-sized banks participating in the new lending program of the Kazakhstan Mortgage Company (KMC) that securitizes mortgage loans of these banks, and the largest banks having their own mortgage lending program. The most important lenders are Kazkommertsbank, BTA-Ipoteka, and Centercredit.<sup>12</sup> KMC mainly operates around the big cities. With a wider network and higher operational costs, the largest banks engage in mortgage lending in less urban regions, but are free to choose their interest margins. The newly licensed state-owned Zhilstroj Bank is a third player in the mortgage market, but solely caters to low-income groups.

## 5. THE GOVERNMENT'S STRATEGY TO DEVELOP MORTGAGE LENDING

The government has pursued a systematic approach to develop the mortgage lending market in Kazakhstan. The main components of the concepts are laid down in the graph below:



Source: Roy (2004)

Supervision of the market is executed by NBK and the State Agency of Financial Control (SAFC): whereas NBK monitors the liquidity position of the banks, SAFC is responsible for regulating and supervising banks and financial institutions. In addition, SAFC awards licenses to the banks. Originally, SAFC was a department of NBK but was set up as a separate entity in January 2004. With the separation of SAFC, the government aimed to ensure its independence. The licensing process should be disconnected from monetary policy.

In order to reduce risk in mortgage lending, the government established a credit bureau (August 2004).<sup>13</sup> It is owned by the banks. The government has no stake in it. The data collected is available to all lenders. All banks are obliged to report to the credit bureau, even if they are not shareholders of the credit bureau.

In January 2004, NBK founded the Kazakhstan Mortgage Guarantee Fund (KMGF), which provides mortgage default insurance to lenders. Its activities are aimed at reducing the down-payment to 10 percent and the interest rate to 9–10 percent and increasing loans terms.

Long-terms funds to refinance mortgage loans are provided by pension funds and insurance companies. Their funds are channeled through KMC to the banks in the secondary market or they buy bonds that the banks directly issue. The first issuer of mortgage bonds was KMC. BTA Mortgage Company first issued mortgage bonds in 2003. The total volume of bond issues from 2001 to 2003 amounted to KZT 656 million. In 2004, Bank Center Credit issued bonds worth KZT 500 million (OECD 2004: 9).<sup>14</sup>

In the primary markets, loans are sold through banks' branch networks, brokers, or realtors. Typically, brokers are self-employed but receive special training from banks with which they cooperate. Some insurers offer life insurance and property insurance. Often, these risks are re-insured on the international market.<sup>15</sup>

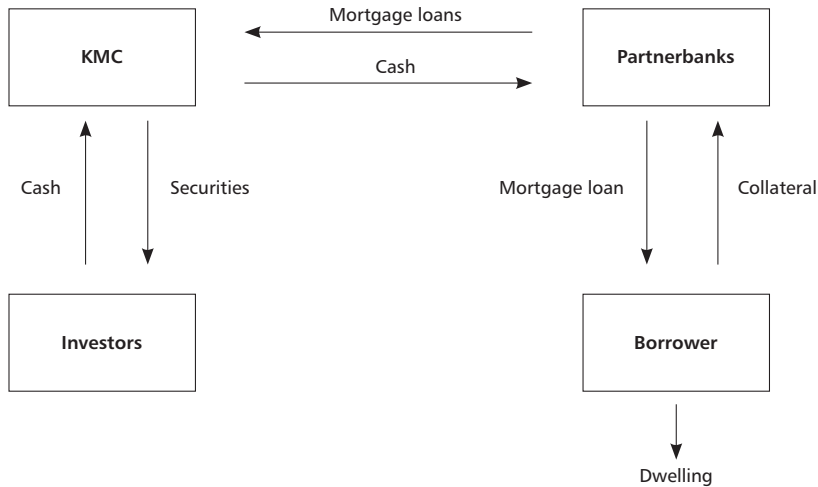
## 6. DEVELOPMENT OF CAPITAL MARKETS

In order to stimulate long-term funding for mortgage lending, obtained from capital markets, NBK established the Kazakhstan Mortgage Company (KMC) on December 29, 2000. The objective of KMC is to refinance banks' mortgage loan portfolios: KMC purchases mortgage loans from participating banks and then issues securities to investors backed by the acquired mortgage debt. KMC benefits from an implied government backing through its complete NBK ownership.

The government considers KMC a part of its wider strategy to develop the housing finance market in Kazakhstan. Its activities are aimed at providing long-term mortgage loans at reasonable costs thereby organizing the market and fostering competition among banks.

KMC started operations in 2001. The company has developed into an important market player in housing finance. It has a market share of 28 percent. As of May 2004, it records an authorized capital of KZT 2.5 billion (about USD 17.9 million—now USD 70 million). Assets amount to KZT 14.8 billion (about USD 105.7 million).

*Figure 12.4*  
Model of KMC facility



*Source:* Roy (2004)

KMC operates as a sales-of-asset liquidity facility. KMC signs an agreement with commercial banks or non-banking organizations (later called partner banks), which intend to securitize their mortgage loans. The banks grant mortgage loans to their customers who in turn provide the lending bank with a pledge on the dwelling. Then, partner banks sell their mortgage loans to KMC which in turn acquires a right on the mortgage housing loans. In case the housing loans do not comply with KMC requirements and standards, banks are obliged either to retract the loans and provide the corresponding value of the loan or provide KMC with further enhancements. Thus, credit risk remains with the partner banks. In this way, KMC organizes the market, further enhancing stability in mortgage lending.

KMC bundles the loans and issues securities in the capital markets, which are bought by investors (typically pension funds or insurance companies). For every bond issue, there is one separate cover pool. The cover pools are entered in the state register. Entries in the register can be modified if necessary. By law, the cover pools are removed by bankruptcy. KMC uses the funds received from the investors to pay banks the corresponding value of their mortgage loans.

The administration of loans remains the responsibility of partner banks. However, they are obliged to transfer redemption payments to KMC so KMC can meet its obligations against bondholders.

## 7. STANDARDS AND LOAN REQUIREMENTS OF KMC

*Table 12.3.*  
KMC lending program

Currency of loan	KZT
Loan amount	Up to KZT 23m
Terms of loans	3 to 20 years
Required LTV ratio	70–85%
Debt ratios	
– payments/income	35–45%
– total payments/income	40–50%
Required insurance	Property and life insurance
Prepayment	Penalty of 2% of redemption payment, minimum amount KZT 184,000

*Source:* KMC (2004)

In principle, KMC only purchases loans made to citizens of Kazakhstan. In a loan agreement with a partner bank, the borrower commits himself to use the borrowed amount for housing purposes and to provide the partner bank with collateral.<sup>16</sup> Before a loan agreement is signed, the partner bank requires an independent appraisal of the market value of the pledged property. As a further precondition, the partner bank requires property and life insurance.

The typical mortgage loan is granted in KZT and indexed to inflation.<sup>17</sup> Loans are annuity loans with monthly payments. With the inauguration of the Kazakhstan Mortgage Guarantee Fund (KMGEF), LTV ratios are likely to rise from 70 to 85 percent. The down payment may be even lowered to 10 percent in case the borrower has concluded a mortgage default insurance with KMGEF. Prepayments are subject to a penalty, which amounts to 2 percent of the payment. The minimum amount for prepayments is KZT 184,000. In addition, the customer has to wait six months before prepayment is executed.

As soon as the partner banks sell their mortgage loans to KMC, they transfer the rights on the mortgage to KMC. The transfer of collateral will be noted in the land

registry. A trustee nominated by NBK scrutinizes and controls the value of the pledged mortgages. In a report, he will inform KMC about the value of the collateralized debt. KMC bundles the loans with the same maturity and terms and sells them as securities to investors like insurance companies or pension funds. Typically, KMC issues floating rate notes. The interest rate is adjusted twice a year. The maximum adjustment is limited to 4.5 percentage points (OECD 2004: 10). The maturity of the bond is up to 15 years. Bonds are sold by auction.<sup>18</sup>

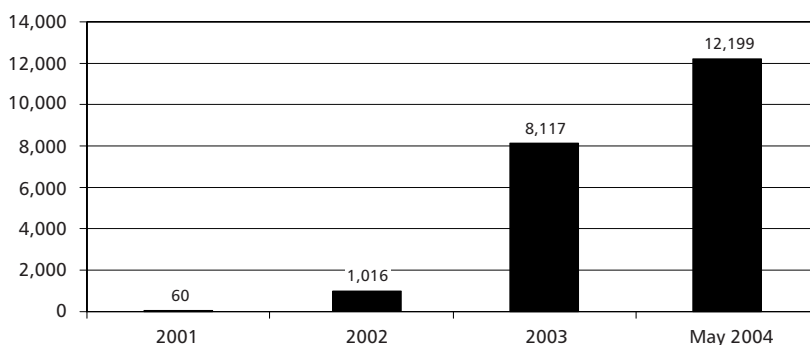
## 8. ACHIEVEMENTS OF KMC'S ACTIVITIES

Since its inauguration in 2001, KMC has made a considerable contribution to the mortgage market development in Kazakhstan. As shown in the graph below, KMC's mortgage portfolio has experienced constant growth. As of October 2004, the total volume of outstanding mortgage loans has reached KZT 24 billion. In 2001, KMC cooperated with 4 partner banks. This number has risen to 14 banks, thus increasing mortgage loan supply to the population.

Interest rates on mortgage loans have decreased from 28 percent in 2001 to 13.6 percent in 2004. Some partner banks offer mortgage loans at a rate of 12.6 percent. In 2001, loan terms amounted to a maximum of 3 years. Today, borrowers can be granted loans with terms up to 20 years. As of August 2004, the total volume of mortgage loans outstanding was KZT 95,156 billion. The market share of KMC is about 28 percent.

*Figure 12.5*

Growth of KMC mortgage portfolio [million KZT], 2001–May 2004



Source: KMC (2004).



KMC mortgage bonds have also gained a nation-wide acceptance among institutional investors. As of October 2004, the total volume of issued mortgage bonds amounts to KZT 21 billion. With a share of 56 percent, pension funds are the most important bondholders, followed by banks with 38 percent.<sup>19</sup> KMC bondholders enjoy certain privileges: income on bonds is exempt from taxation. Banks have to hold only 20 percent of their risk-weighted capital against KMC bonds. However, there are special limits for insurance and pension funds. The share of KMC bonds may not be higher than 10 and 15 percent of their assets, respectively.

## 9. RISK ANALYSIS OF KMC'S SECONDARY MARKET MODEL

KMC's main role is to stimulate long-term funding, obtained from capital markets. As such its operations are subject to an array of risks. This section examines these risks and other factors to assess the effectiveness of KMC's activities.

The following criteria will be applied:

- Likely effectiveness of system in addressing financial risks: The risk analysis outlines to which risks KMC is subject to are:
  - credit risk
  - interest rate risk
  - liquidity risk
  - exchange rate risk
  - prepayment risk.
- Cost to consumers: What costs are imposed on the consumer when he takes up a mortgage loan securitized by KMC? Costs usually consist of the interest rate and further fees, including notary and cadastre fees, credit report, and an application fee if the lender requires one.
- Cost to partner banks: What costs do the lenders bear when selling assets to KMC?
- Cost to the government: What cost has the government incurred for the introduction of KMC into the market, especially in light of the fiscal support granted to KMC or its bondholders (whatever type that might be)?
- Long-term sustainability of KMC's activities and the whole mortgage lending system: To what degree will the financial system remain robust against macroeconomic shocks now and in the next 3–5 years? What could happen if the number of mortgages originated per year is modest, i.e., sustained issuances of KMC are not feasible?

## Likely Effectiveness of the System in Addressing Financial Risks

- Credit risk: Credit risk to KMC is low because it purchases loans with full recourse to banks. In addition, KMC improves credit risk management of partner banks since loans eligible for purchase by KMC have to comply with the following credit ratios:
  - Payment-to-income: this ratio comprises redemption payments (interest and principal) as well as payments for life and property insurance. The acceptable range is 35 percent to 60 percent of monthly income.
  - Total redemption payments to income: this ratio takes into consideration all redemption payments for all loans the borrower has taken up. The maximum acceptable ratio is 45 percent of monthly income.
  - The LTV-ratio should not be higher than 70 percent. If loans exceed this ratio, additional collateral is required.
  - Since partner banks typically grant variably rated mortgages (VRMs) credit risk rises in the case that inflation surges ahead of salary increases. As a consequence, the stipulated credit ratios by KMC may be diluted and require borrowers to provide for additional securities.<sup>20</sup>
  - Since KMGF partially insures losses that arise from defaulted mortgage loans,<sup>21</sup> they could be induced to assume higher risks, as they would do without this insurance scheme provided by KMGF. Currently, banks' exposure to mortgage loans is increasing rapidly, making them more vulnerable to falling house prices (or other macroeconomic shocks which deteriorate households' creditworthiness).

However, credit risk to partner banks remains of concern to KMC. Before concluding an agreement with a bank, therefore, it thoroughly analyses the creditworthiness of the bank. In addition, KMC does regular reviews on the financial stability of partner banks.

- Interest-rate risk: This risk was substantially reduced through the issuance of floating rate notes, which were indexed to inflation. In this case, the borrower bears the interest-rate risk since partner banks granted VRMs.

Recently, this policy changed. The president decided to strengthen his popularity by setting up a large-scale mortgage scheme. In order to deliver on this scheme, he utilized KMC, which now offers fixed-rated mortgage loans at an interest rate of 10 percent.<sup>22</sup> In order to finance possible interest rate subsidies, the government made a capital injection of USD 40 million and envisages increasing the capital of KMC up to USD 200 million in the next two years. Instead of paying out dividends to the government, they should be used to cover eventual interest for KMC in case interest rates rise again.

As a result, KMC offers fixed-rate loans that are refinanced through fixed-rate bonds, exposing it to considerable interest rate risk, especially when interest rates surge. If KMC fails, the government has to step in.

- Liquidity risk: Since partner banks sell their mortgages, they are no longer concerned about liquidity risk. However, it is of concern to investors. KMC addresses this risk to a significant degree through offering bond issues with differing maturities. Furthermore, this approach has also produced a lower average interest rate on KMC bonds. In this context, a major advantage of KMC compared to the individual partner bank is that its bond issuances will be greater in volume, thereby giving it greater flexibility in structuring them.
- Exchange rate risk: since KMC only purchases loans denominated in KZT and issues bonds in KZT, exchange rate risk does not exist.
- Prepayment risk: KMC mitigates prepayment risk through the issuance of bonds with floating rates with varying maturity.<sup>23</sup> In addition, customers of the partner banks can execute prepayment only with a time lag (six months). However, an increase in prepayment activities is likely due to the falling interest rates, which provide a strong incentive for borrowers to reduce the payment burden.<sup>24</sup>

## Cost to Consumer

As mentioned above, the establishment of KMC has led to lower funding costs for banks and the supply of longer maturities for mortgage loans. A major advantage to borrowers has been the increase in loan terms made possible by the sale of assets and the consequent reduction in monthly payments. With ongoing macroeconomic stabilization, a further reduction in interest rates and an increase in loan terms (up to 25–30 years) are likely.

## Cost to Partner Banks

Medium-sized banks have benefited especially from KMC, as they have been able to introduce their own mortgage lending programs. Since KMC sets the standards for mortgage lending, partner banks have experienced higher origination and servicing cost in order to meet the standards required for the sale of loans to KMC. In addition, partner banks have to pay a fee to KMC for the securitization and management of their mortgage portfolios. However, partner banks have lowered their funding costs and have been able to offer longer loan terms to their customers, which allowed them to gain in market share.

## Cost to the Government

Currently, the sole owner of KMC is NBK, which has also been the main driver for developing the mortgage market in Kazakhstan. As a state-owned entity, KMC may be more subject to political manipulation and may have a tendency to grow with or without being efficient or effective. The dual role of NBK as an owner and supervisor, thus likely resulting in conflicting interests, is slightly diluted due to the establishment of SAFC. However, the government plans to divest KMC's ownership into the private market, which may solve this inherent conflict.

Since KMC is considered an instrument of the state to foster mortgage lending,<sup>25</sup> investors in KMC bonds may perceive this concept as a form of an implicit government guarantee to KMC. They would expect the government to step in if KMC faced serious troubles. This perception may therefore mean a potentially significant liability to the state budget. It is now reinforced through the capital injections by the government and the imposed interest rate policy on KMC.

An initial capital injection by the government aimed at develop long-term funding is understood to be an appropriate approach (Chiquier et al 2004). In essentially all countries in which a liquidity facility has been initiated, governments have provided at least limited assistance. The government's recent policy has contradicted such a reasonable strategy, putting an unforeseen burden on the budget.

Long-term sustainability of KMC's activities and the entire mortgage lending system:

The introduction of KMC has been embedded in a wider state strategy to develop the mortgage market. Activities of KMC have been reinforced through the establishment of credit bureaus and MGF. By having assisted in organizing the market, KMC has set standards for mortgage lending which have led to better affordability of housing loans. Moreover, KMC's bonds have also been an attractive and secure investment for pension funds and insurance companies.

However, it is unclear, to what extent investment decisions are driven by implied government backing (because of the still existing full NBK ownership of KMC). The perception that KMC's bonds are backed by the full faith of NBK may lead to overconfidence in the market. The planned divestiture could alter this assessment. Hence the legal foundations for the enforceability of the mortgage pledge and the quality of the protection provided by the mortgage pledge pool to back the securities would be important to clarify for KMC's sustainability before NBK divests its holdings in KMC.

Moreover, the resilience of the market has not been tested against macroeconomic shocks. Kazakhstan's economy is largely dependent on the energy sector. Spillover effects into the housing sector in case of a fall in oil prices or an unexpected sharp drop of the dollar cannot be ruled out completely. A further test on stability would be set in a possible real estate bubble since the market already shows signs of over-heating. In case of

its bursting, a high number of defaulted loans would be taken on which may also result in a considerable burden on the budget in case of a government bail-out.

## 10. PROSPECTS FOR THE FUTURE

Inside the Commonwealth of Independent States,<sup>26</sup> Kazakhstan was the first country to supported long-term funding of mortgage loans through the issuance of mortgage-backed securities (covered bonds). KMC as the institution responsible for the organization of these transactions clearly contributed to the establishment of a stable and viable mortgage lending market in Kazakhstan. By lowering interest rates and increasing loan terms through reducing banks' lending risks, access to affordable housing loans has risen. As a result of KMC's activities, competition among banks has advanced.

In order to further stimulate the market, KMC envisages the introduction of fixed-rate instruments and the improvement of bonds' issuing procedures. KMC also intends to extend loan terms up to 30 years and increase its market share up to 20–25 percent in the next years.

The positive market perception of KMC indicates that there is sufficient business for it. Sustainability depends mostly on how attractive the funding it offers is relative to other sorts of funding i.e., how low the rate is on its bond issuances. In this context, KMC's role could be strengthened by extending its activities outside the major cities since there is only a limited network for mortgage origination, as large banks with wide branch networks are not members of KMC program. Such an involvement may be helpful, as the quality of housing stock and the supporting communal service infrastructure in these areas is still largely in need of upgrading. Public funding of infrastructure upgrades and new utilities are important elements in supporting housing market development.

In Kazakhstan, KMC operating as a sale-of-assets liquidity facility proved a simple and robust model to mobilize funds to insure liquidity access to more mortgage lenders. It has been structured to realize economies of scale. It has been compatible with the multiple lenders in the Kazakhstani market. For lenders, it was a rating enhancement due to its ability to disconnect the exposure to some risks associated with their mortgage loan portfolios. However, the externalization of credit risk implies an agency risk and cost for monitoring the underwriting and servicing of loans.<sup>27</sup> In the long run, a viable secondary mortgage market in Kazakhstan depends on a working primary market with adequate supply of originated mortgages, appropriately documented, and classified.

Coupled with that, the government previously laid the foundations for fully functioning and competitive primary mortgage market. This has included actuarially sound and increasingly automated mortgage underwriting, credit enhancements, mortgage default insurance, and a well-developed investment-banking sector. However, the government recently abandoned this sound strategy, converting KMC from a low-risk, entity that

could be privatized into a high risk entity which cannot be privatized and requires a state guarantee.

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## ENDNOTES

- <sup>1</sup> See Kosareva and Struyk (1996).
- <sup>2</sup> Increased government spending is likely to raise inflation by about 0.25–0.5% in 2005. See IMF (2005a: 13).
- <sup>3</sup> See IMF (2005a: 15).
- <sup>4</sup> However, there are large differences among the countries: in Bulgaria, the average wage is USD 187.05. In Russia, it amounts to USD 255. In Poland and the Czech Republic, salaries have risen to about USD 683.7. With USD 1,394.5 on average, Slovenes earn the highest average salaries (data as per 2003).
- <sup>5</sup> See Zhusupova (2003) and Herrmann and Wildenhain (2003). For example, legislation on banks stipulates that banks have to apply IAS accounting standards. In their credit business, loans to one borrower may not exceed 25% of the bank's capital. Participation exceeding 10% of the share capital are subject to approval of NBK.
- <sup>6</sup> Since the late 1990s, bank lending has grown by about 50% per annum in real terms.
- <sup>7</sup> Broad money comprises currency in circulation and deposits. Data are provided by World Bank (2004), International Financial Statistics, and IMF.
- <sup>8</sup> From 1999 to 2004, the number of branches has been reduced from 426 to 385.
- <sup>9</sup> See IMF (2005b: 21).
- <sup>10</sup> Fostering housing construction is one of the priorities of the 2030 Strategy of the Kazakhstan government. This strategy aims to maintain a stable rise in new construction and to improve housing affordability through a better supply of housing loans and cheaper interest rates on loans. See Kazinform at [www.kazinform.kz](http://www.kazinform.kz).
- <sup>11</sup> The KZT/USD exchange rate is 149.58 (as of 2003).
- <sup>12</sup> This information is provided by KMC. The market share of Halyk Bank is unknown.
- <sup>13</sup> The credit bureau replaced the existing credit registry.
- <sup>14</sup> Unfortunately, no further information on bond issuance is available.
- <sup>15</sup> Insurance companies active in the market are Kazkommerts Policy, AIG Kazakhstan, Kazinstrah, BTA-Insurance, Eurasia, Dynastia, and KBS Garant. The two latter companies re-insure their risk on the international market.
- <sup>16</sup> Besides collateral, the borrower may also present third party guarantees for prompt payment of the loan and accrued interest.
- <sup>17</sup> The interest rate is adjusted twice a year, on April 1 and October 1.
- <sup>18</sup> In the auction, the participants decide on the spread over inflation of the KMC bonds. Currently, it is 0.39. The total coupon is 8.09% (conditions as of December 2004). The spread is adjusted every third year.
- <sup>19</sup> Structure of KMC bondholders as per October 2004. The remaining 6% represent other groups (figures are provided by KMC).
- <sup>20</sup> In order to mitigate uncontrollable interest rate rises, KMC has introduced an interest rate cap. The maximum rise is limited to 4.5 percentage points within one calendar year. NBK authorized this policy. See OECD (2004: 7).
- <sup>21</sup> Banks still have to bear up to 50% of the losses on defaulted loans.

<sup>22</sup> See Diamond (2005).

<sup>23</sup> Since KMC has been active for only three years, prepayment patterns are still developing, thus requiring further scrutiny.

<sup>24</sup> This structure contains a partial VRM. Loans are indexed to inflation but changes in the structure of real interest rates are not indexed. As developments in Kazakhstan have shown, structural changes have led the real interest rate to decrease, which has encouraged borrowers to refinance.

<sup>25</sup> See OECD (2004: 4).

<sup>26</sup> The Commonwealth of Independent States (CIS) comprises the following countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

<sup>27</sup> Currently, defaults are not widespread. Thus, KMC appears to be protected by the recourse (buy-back) feature in the structure. However, there is reportedly some uncertainty among market participants on the true quality of the protection provided by the individual pools of collateral. See IMF (2004b).



# Contrast—Germany



## Mortgage Lending and Risk Management in Germany

Dr. Friedemann Roy

### ABSTRACT

Mortgage lending in the Central and Eastern European (CEE) transition economies has developed over just the last 15 years. In contrast, Germany has an experience of more than 200 years, dating back to the late 18th century when the first covered bond was issued in order to refinance mortgage loans. The article is aimed at analyzing and assessing the mortgage lending market in Germany. First, it outlines the main conditions of the housing market. The second part concentrates on the description and analysis of the individual lending instruments (*bauspar* system, *pfandbriefe*, two-tier models). The third part takes on the existing risks and the risk management techniques in view of the overall economic context in the country.

Savings banks and cooperative banks are the most important loan providers of residential mortgage loans in Germany. The most important funding instruments are the *pfandbrief*, *bauspar* funds, and other retail deposits. Banks, mortgage banks, and *bausparkassen* “securitize” their mortgage loan portfolios in order to achieve equity relief (through synthetic RMBS issues). Despite well-established credit, interest rate, and liquidity management instruments, the long-term future for mortgage lending looks bleak. This is mainly due to a shrinking population and resilient households’ housing investments for fear of unemployment as a result of the stagnating economy. In addition, the government has cut back spending on housing. Lenders have reacted to these developments through mergers, outsourcing and the selling of parts of their mortgage portfolios.



# Mortgage Lending and Risk Management in Germany

*Dr. Friedemann Roy*

Mortgage lending in the Central and Eastern European (CEE) transition economies has developed over just the last 15 years. In contrast, Germany has an experience of more than 200 years, dating back to the late 18<sup>th</sup> century when the first covered bond was issued in order to refinance mortgage loans. Thus, knowledge and familiarity with the different financial circuits have been determined for a long period, encompassing several waves of activity. In this way, the German housing finance models differentiate largely from those in the CEE countries, adopted only recently. Systems or models in these countries have not seen an organic development as in Germany. Often, they are the result of a combination of Anglo-Saxon and European approaches. In 1900, the German Mortgage Bank Act was established, providing a legal framework for the so-called *pfandbrief* market (covered mortgage bonds). The housing shortage after the Second World War also favored the development of other financing mechanisms like the *bauspar* system (contractual savings schemes for housing). In the following years, the *bausparkassen* specialized in subordinated mortgage loans while bank and mortgage banks granted mortgage loans up to an LTV ratio of 60 percent (secured through a first lien in the land register).

The German legislator confirmed this emerging “division of labor” between banks and *bausparkassen* in its legislation on mortgage banks (i.e., *pfandbriefe*) and *bausparkassen* in the mid-1930s, which also laid the legislative foundations in West Germany after the Second World War.

German housing policy after the Second World War can be roughly divided into two periods:<sup>1</sup>

## 1. Reconstruction and stabilization (1945–1989):

As a result of war damage, the country suffered from a shortage of more than 6 million dwellings. The distress was aggravated through a rising influx of refugees (about 12.5 million) from the eastern territories invaded by Russia. In 1950, just 10.1 million dwellings were available for 16.65 million households. Since 1936, the number of persons living in one household had on average doubled (from 3.6 to 6 persons per household). In order to overcome the housing shortage, the German government concentrated on measures dedicated to social housing (mainly rental housing). From 1950 to 1956 alone, the government spent €5.55

billion on social housing (4 percent of the total state budget). The promotion of owner-occupied flats started later. Existing financing techniques (*pfandbrief* and *bausparen*) were confirmed or revived through revised legislation. Because of government involvement, the housing market was balanced by the 1970s, producing stable volumes of new construction from then on. By 1990, the value of all subsidized dwellings amounted to €141 billion.

2. **Shortage and oversupply (1990 to the present):**

The housing situation in the former German Democratic Republic was characterized by lack of owner-occupied flats and modern dwellings as well as considerable volumes of dilapidated dwellings. After reunification, the government responded to these difficulties with various measures, encompassing urban redevelopment, social rental housing, and programs dedicated to foster owner-occupied housing. The strong involvement of the government fuelled a housing boom in East Germany: while the population grew by 300,000, supply of dwellings increased by 690,000. Housing companies invested more than €105 billion. These high investments sparked over-capacity in the building industry and a price bubble that burst in the late 1990s. The resultant over-supply has driven down house prices by more than 14 percent (Commerzbank Securities 2004: 10). Tumbling house prices were also fuelled by rising migration to West Germany in search of employment.<sup>2</sup> As a consequence, East Germany has faced a dramatic rise in unoccupied dwellings. In 2003, 15.7 percent of the East German housing stock was unoccupied (1.2m dwellings).<sup>3</sup> Half this number is offered in the market. The other half is uninhabitable. It is estimated that the number of unoccupied dwellings will rise to approximately 1.75m dwellings by 2020.<sup>4</sup>

This short historical overview of the development in housing finance is aimed at assisting the following analysis and assessment of mortgage lending in Germany—the objective of this article. It is organized in the following way: the first part outlines the main conditions of the housing market (housing production, house prices, legal framework, etc.). The second part concentrates on the description and analysis of the individual lending instruments (*bauspar* system, *pfandbriefe*, two-tier models). The third part takes on the existing risks and risk management techniques in view of Germany's overall economic context.

For a correct assessment of today's situation, it should be taken into consideration that Germany was once divided in two parts with two different political and economic systems. The western part opted for a market economy whereas the eastern part introduced a centrally planned economy. The merger of these two systems (in 1990) provoked many difficulties the impacts of which are still perceivable in the German economy and will remain so. Housing policy has also been influenced by these developments.

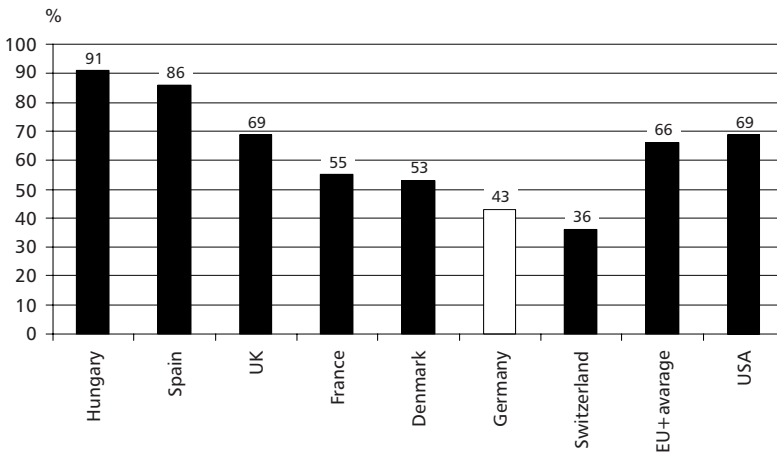
## 1. THE GERMAN HOUSING MARKET

This section provides an overview of the main conditions which influence demand and supply of housing in Germany. In addition, the legislative infrastructure and promotional measures in housing will be described.

### Homeownership in Germany

The German housing market is a place of contradictions: on one hand, it has one of the biggest mortgage markets (€1,000 billion outstanding). On the other hand, it has one of the lowest homeownership rates in Europe (43 percent).

*Figure 13.1*  
Homeownership rates in selected countries in Europe, 2003



*Source:* Institut für Städtebau

According to Figure 13.1 above, only Switzerland has a lower homeownership rate (36 percent) than Germany. Hungary records the highest homeownership rate in Europe (91 percent), followed by Spain with 86 percent. Despite a slight increase in homeownership levels over the past years, German private households have a strong preference for renting flats or houses.

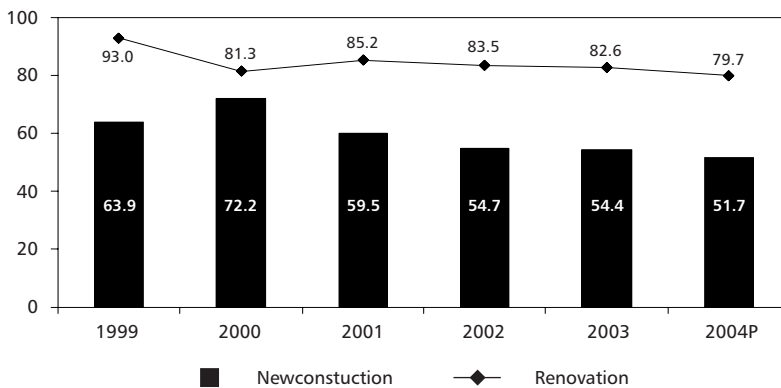
This preference can be attributed to the following factors: high construction costs have been caused by high salaries in the construction industry and high land prices due to strong land-use controls. House prices in relation to income are higher than in other developed countries. In Germany, this ratio is between 6 and 7 (4–5 in the UK

and 2–3 in the US). Local authorities' restrictive land zoning has left insufficient building land. City councils are reluctant to release land, because they must incur the costs associated with developing necessary infrastructure. Tenant-friendly legislation deters potential investors. Although rents are negotiated freely, they can only be increased by 20 percent within three years.

In contrast to other European countries like Spain or the United Kingdom, Germany does not dispose of lower price entry segments, which allow young families to purchase a home. Surveys have found out that Germans are on average over 40 years old when they purchase their own home. The French become homeowners at 39; Americans at 31, and Britons at 24 (Braun and Pfeiffer 2004).

## Housing Production in Germany

*Figure 13.2*  
Construction output in Germany, 1999–2004 [billion euros]



*Source:* German Institute for Economic Research, Association of Private Bausparkassen, and author's calculations.

Since 2000, housing production has shown a declining trend. In 2003, it shrunk by 7.4 percent to 268,000 dwellings. In 2004, new construction is likely to further decrease. Household incomes are not expected to rise and people resist investing because of fear of joblessness.

However, expenditure on renovation/modernization of the existing housing stock has remained more or less constant. In 2003, its financing volume (amounting to €82.4 billion) exceeded the volume in new construction (amounting to €63.7 billion) by about 29 percent.

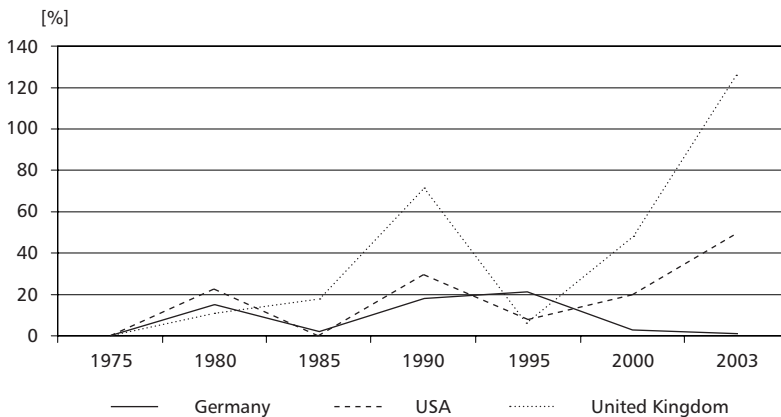


## Housing Prices in Germany

In the past three years, the total value of residential property in developed economies has increased by an estimated USD 20 trillion, to over USD 60 trillion. Countries, which have benefited most from this trend, include the US and the UK (see Figure 13.3). The average price of a US home jumped 13 percent by the third quarter of 2004. In Britain, figures published by the Office of the Deputy Prime Minister show a 14 percent rise in the same period—that after an 11 percent rise in 2003. However, at the same time house prices in Germany declined by 1.7 percent. From 1997 to 2004, prices fell by 3 percent (Economist 2004). Germany has experienced years of weak economic growth, coupled with high unemployment and an oversupply of houses (mainly in the east of the country).

*Figure 13.3*

Development of house prices in Germany, the USA, and the UK  
(inflation-adjusted in relation to 1975)



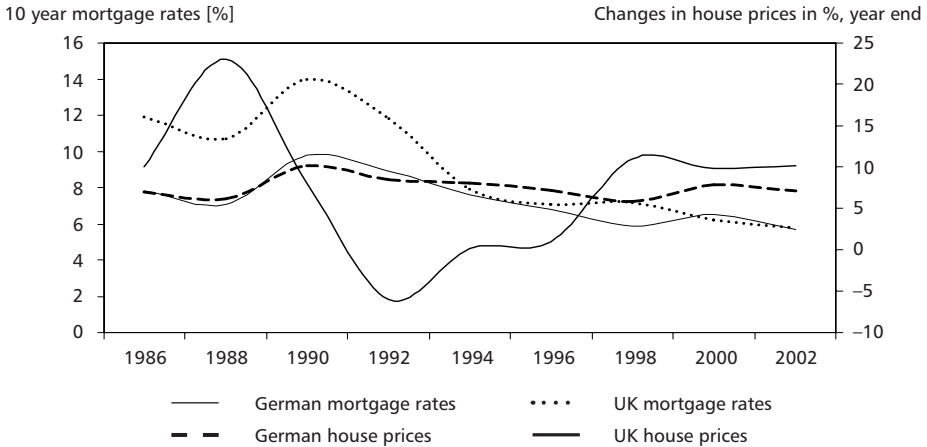
Source: *The Economist*, Bulwien AG.

A further explanation for this difference is shown by Figure 13.4. In Germany, house prices are very income sensitive, but not greatly sensitive to changes in interest rates. In this regard, the country has an inverse interest rate curve. The regular shape of the curve is as follows (like the slope in Britain): when interest rates rise, house prices will decline. Otherwise, when house prices rise, interest rates will fall. Thus increasing interest rates in Germany mean increasing house prices. Another reason for this deviation

is that there are usually no variable mortgage loans available. In addition, prepayments are the exceptions (since they are very costly for the customer).

*Figure 13.4*

House prices and interest rates in Germany and the UK, 1986–2002



*Source:* Nationwide, Bulwien AG, Deutsche Bank Research (2003).

A closer look into individual price structures show that price developments across the country have been quite unequal. In principle, house prices in the former West Germany are higher than in the East (see Figure 13.5): higher unemployment and on-going emigration to the West has led to a deterioration in house prices in the East.

However, the West has also been confronted with declining house prices in rural regions whereas in economic centers like the Rhine-Maine region, Greater Stuttgart, or greater Munich, prices are expected to remain stable or to rise.

In the future, location will largely influence house prices, with economic centers enjoying price stability and rural regions facing declining prices caused by higher unemployment and higher emigration to bigger cities.

*Figure 13.5*  
Average prices of single-family owner-occupied dwellings in Germany, 2003  
[thousand euros]



Sources: LBS-Research.

## Government Support for Private Housing Finance

The German government supports housing in several ways. Most popular are the following:

- Support to tenant-occupied housing through tax write-offs: On buy-to-let properties, homeowners are entitled to deduct their mortgage interest payments from their tax bill. This subsidy is of special interest to higher income groups, because they can reduce their tax burden by buying property to rent (and as consequence reduce their payment burden of the mortgage loan).
- Homeownership grant: Homeowners are entitled to claim a homeownership grant when they purchase or construct a house. In order to be eligible for this grant, disposable income in two consecutive years may not exceed €70,000 for a

single and €140,000 for a married couple. For every child, the income threshold is increased by a further €30,000. The state will provide the beneficiary with an amount of €1,250 annually for a maximum period of 8 years. For every child, the amount will be increased by €800. However, homeowners may not deduct their interest-rate payments from the tax bill.<sup>5</sup> In 2003, the government spent €8.5 billion on this subsidy. At present, this subsidy is a contested issue. The government intends to abandon it completely.<sup>6</sup> The opposition, however, rejects this plan. The pending cancellation has been submitted to an arbitration committee by Parliament.

- Savings premium dedicated to housing: This subsidy is aimed at supporting savings activities. People who want to apply for this subsidy must conclude a *bauspar* contract and save regularly. The beneficiary can claim the subsidy with his tax declaration. Similar to the homeownership grant, the payment of this bonus is subject to income thresholds (taxable yearly income up to €25,600 for a single person and €51,200 for a married couple) and is linked to a minimum savings period of seven years.<sup>7</sup> If the saver fulfils these criteria he will receive a bonus of 8.8 percent of his annual savings up to a maximum of €45.06 (for a single person) or €90.11 (for a married couple). The government does not grant any tax exemptions. In 2003, the government spent about €0.5 billion on this subsidy.

## The Legal Framework for Housing Finance

Most of the legislation related to housing finance is embedded in the Civil Code (BGB), for example, regulations on loans or liens/mortgages. In principle, all banking activities are regulated in the Banking Act. The Central Bank Act is mainly directed to regulating the structure of the German banking system (a two-tier system) and the management of banks' liquidity.<sup>8</sup>

In addition, there are regulations on specialized funding instruments: on one hand, the mortgage banking act regulates the activities of mortgage banks and the issuance of *pfandbriefe*. The act also governs the establishment of specialized mortgage banks. However, new legislation will abandon the principle of specialization and replace it by the general right of banks to issue covered mortgage bonds (*pfandbriefe*) provided they meet certain qualifications.<sup>9</sup> The new law was expected to go into effect July 19, 2005.<sup>10</sup>

The *Bausparkassen* Act regulates the activities of the *bausparkassen* and the management of the *bauspar* business. Parliament justified the introduction of specialized institutions as follows (1972):<sup>11</sup> securing access to subordinated loans at reasonable costs, thus confirming the division of labor among banks and *bausparkassen*. Furthermore, it states that the specific characteristics of the *bauspar* business require specialized knowl-

edge, which is not necessarily known to a universal bank. Specialized institutions appear as a more adequate way to avoid a misuse of funds than in a universal bank model.

The following rule governs the relationship between general and specialized legislation: as long as there is no specific regulation, the general rules apply. Hence, specialized banks also have to respect the general legislation on banks.

During the last decades, EU legislation has strongly influenced German banking legislation and business practices. Recent examples of this process are consumer protection rules aimed at creating a European-wide market for mortgage loans. This objective is to be a priority of the work of the EU Commission in the next years. The first step was the establishment of a code of conduct: financial institutions that grant mortgage loans have committed themselves to give detailed information about their loan products as well as their terms and conditions so that borrowers are more capable of comparing different loan offers.

In order to stimulate cross-border lending, the EU Commission wants standardized rules for the calculation of the effective interest rate on mortgage loans. In addition, borrowers should be entitled to prepay a mortgage loan in the first years without penalties.<sup>12</sup>

## 2. LENDING MODELS IN HOUSING FINANCE

This section will describe the financing techniques that lenders in Germany apply to fund mortgage loans. The first part will give a brief overview of mortgage loan characteristics and current trends in housing finance. Regarding different lending models, the second part will concentrate on the *bauspar* system and the refinancing of mortgage loans through the issuance of *pfandbriefe* and residential mortgage-backed securities (RMBS).

### Mortgage Loan Characteristics

German lending conditions are the result of the already mentioned division of labor among mortgage lenders, banks, and *bausparkassen*. On average, loans extended by banks have terms ranging from 25 to 30 years. However, interest rates are fixed for a period of 5 to 15 years because legislation forbids longer terms.<sup>13</sup> If their LTV ratio does not exceed 60 percent, mortgages can be refinanced by *pfandbriefe*.<sup>14</sup> Customers rarely ask for adjusted rate mortgages (ARM).

Mortgages extended by *bausparkassen* have a term of 7 to 16 years. Their LTV ratio may not exceed 80 percent (according to the *Bausparkassen* Act). They are financed by the *bauspar* deposits, which the *bausparkasse* has previously collected before granting the loans.

The division of labor between these two financial institutions is constituted through the lien structure of the land registry: whereas the mortgage loan is secured through a first ranked lien, the *bauspar* loan is usually secured through a second ranked lien. This approach implies for the *bausparkassen* a higher risk, which is understood to be compensated by the pre-savings requirement.

Pre-payment is not a hot topic in Germany because banks impose heavy prepayment penalties:<sup>15</sup> about 5 percent of mortgage loans are refinanced each year. Banks justify these penalties with the probable loss of interest revenues since they still have to honor the obligations to refinance the mortgage loan. The prepayment penalty therefore is aimed at compensating for the lost income.

Further characteristics of German housing practices are low foreclosure rates, which oscillate around 1 percent of mortgage-financed properties, although they are slowly rising. These favorable ratios are the result of the property valuation process. Usually, banks discount 10 to 15 percent of the market value of a house. This appraisal value is then the basis for the LTV ratio.<sup>16</sup>

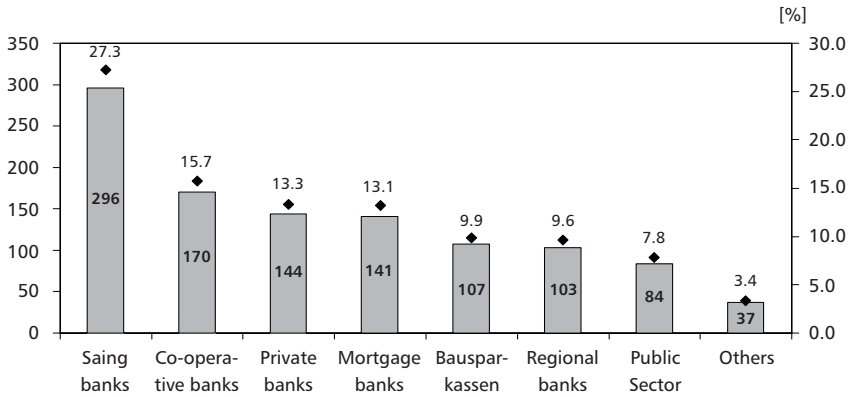
Lending procedures of German banks or *bausparkassen* are quite similar. Banks make the following steps:

- Banks ask for an income statement and for a copy of the land register. In addition, they require a statement about the creditworthiness of a borrower through Schufa Holding (credit bureau).<sup>17</sup>
- If the first assessment is satisfactory, banks determine the loan amount which is based on the property value and the creditworthiness of the borrowers (and any additional securities he may offer). In general, banks' underwriting criteria are understood to be rather stringent.<sup>18</sup>

## Current Trends in Housing Finance

In contrast to financing practices in the US or UK, mortgage lending for individuals in Germany comprises both financing of owner-occupied flats and the purchase or construction of dwellings for rental purposes in multifamily buildings. The proportion of this loan business amounted to 20 percent in 2003.<sup>19</sup>

Figure 13.6  
Outstanding residential loans (in billion euros)  
and market share of German banks, 2003 (percent)



Source: German Central Bank, Association of German Mortgage Banks, author's calculations.

According to Figure 13.6, savings banks and cooperative banks are the most important providers of residential mortgage loans in Germany.<sup>20</sup> This is due to their strong local presence and the focus on retail banking. The market share of specialized mortgage banks (excluding HVB) has consistently declined in recent years. From the early 1990s to 2003, it fell from 18 to 13 percent. It seems that specialization in mortgage lending provides an obstacles to achieve sufficient revenues. In addition, the bursting price bubble in the East in the late 1990s has lead to considerable losses.<sup>21</sup> Consequently, mortgage banks have undergone several restructuring programs in order to regain profitability. Further consolidation is likely in the next years.<sup>22</sup>

Over the last decade, the German mortgage market has experienced rising standardization of the mortgage business. It is estimated that 98 percent of the market volume derives from annuity loans with a fixed interest rate of 10 years on average and fixed terms of repayment. The high number of lenders has resulted in fierce competition, which has lead to consumer-friendly prices of 30 to 60BP (basis points) over the swap curve.

In general, banks and *bausparkassen* dominate the market. Independent financial advisors are slowly advancing; thereof the biggest are MLP and AWD.<sup>23</sup> They focus on higher income groups and try to attract them with a wide array of sophisticated products and a high standard of services.

Another feature of the German market is the fact that more and more banks act as intermediaries (e.g., Citigroup, cooperative banks). The selling of externally originated loan products through bank branches is the result of the ongoing focusing on core competencies. This trend, for example, is supported by the strategic initiatives of the

cooperative association, which arranges efficient centralized servicing, risk spreading, and refinancing in specialized head offices for the 1,500 cooperative banks.

The small margins in the mortgage business have favored the emergence of third party specialists such as Kreditwerk or Hypotheken Management in order to reduce costs. However, many lenders are still hesitant to outsource to processing units entirely and try to gain efficiency with in-house departments instead.

Eurohypo and Citigroup recently established an operational platform in order to take on the purchase and service of delinquent loans. This platform comprises two specialized institutions: the first (domiciled in the U.S.) purchases the loans and the second (domiciled in Germany) is responsible for their servicing. Currently, this platform manages a portfolio of €2.4 billion which has been sold by Eurohypo.<sup>24</sup>

Banks and *bausparkassen* secure their mortgage loan portfolios in order to achieve equity relief. Due to the lack of a well-defined framework for securitization and to tax barriers, banks have stuck to synthetic RMBS issues.<sup>25</sup> Rising RMBS issues have been the result of KfW's securitization programs (PROMISE and PROVIDE). These programs allow banks to transfer the risk of mortgage pools into the capital markets through an established vehicle.<sup>26</sup> Currently, these programs are the de facto standard for synthetic securitization transactions.

In 2003, KfW and 13 commercial banks launched the True Sales Initiative (TSI) in order to develop a true sales market in Germany. TSI is aimed at mutually improving the legal framework and establishing standards for true sale transactions<sup>27</sup> and creating a liquid market. Since the *pfandbrief* is expected to remain the most important funding source for first lien mortgage loans, TSI wants to offer a cheap funding source for subordinated mortgages or consumer loans. Irrespective of their own rating, banks may refer to TSI in order to address more risky loans through TSI or to achieve a cheaper funding of regular loans due to the better rating of the TSI bond issue.<sup>28</sup>

The development of true sales-transactions has taken place in the face of some difficulties. One problem is the tax discrimination by value added tax, lacking separation of the underlying receivables from the selling bank's assets in case of its bankruptcy. However, this issue was solved this year when the Ministry of Finance exempted true sales transactions from value added tax.<sup>29</sup> A remaining issue is that the necessary equity to be held against securitization transactions has not been clarified yet in view of the Basle II requirements.

## Lending Models in Germany

In Germany, the following models are used to provide mortgage loans:

1. Vertically integrated models: their business comprises the whole value chain of the mortgage lending business (originating, servicing, booking, etc.). Most

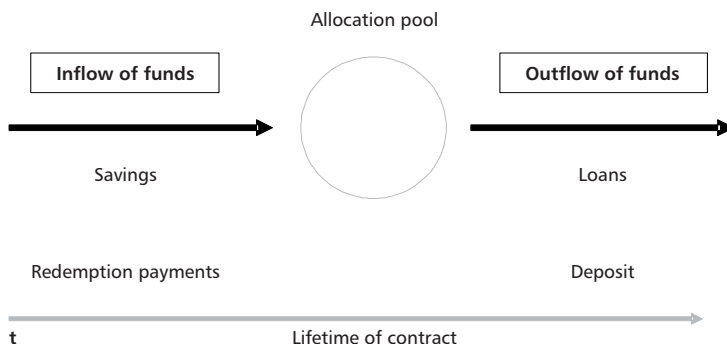


- private banks (like Deutsche Bank AG or Commerzbank AG), *bausparkassen*, and mortgage banks can be put in this category.
2. Two-tier models comprise the issuance of RMBS (mainly through KfW as the main provider). As an example, the securitization program of the cooperative banks will be shown.<sup>30</sup>
  3. The retirement provision model as a response to expected demographic changes in and the rising need for citizens to care for their own retirement provisions. These institutions offer a plethora of insurance and financing products through different subsidiaries which all belong to the same group. A part of their portfolio is secured through the KfW programs (e.g., BHW).<sup>31</sup>

## Vertical Models

The German *bauspar* system offers a dedicated loan-linked form of saving. It links a phase of contractual savings, usually remunerated at below market interest rates, to the promise of a housing loan at a rate fixed below the market level at the time of the conclusion of the *bauspar* contract. Despite its existence in Germany for more than 80 years, the underlying construction of the *bauspar* product has been more or less identical: it starts with a savings period in which the saver is required to regularly save, eventually accumulating about 50 percent of the previously agreed contract sum. Subsequently, he is entitled to a loan offer. The *bauspar* loan, which is made up of the remaining balance between the contract amount and the amount saved, will be paid out to the customer together with his savings. During the loan period, the customer repays his *bauspar* loan in regular installments.

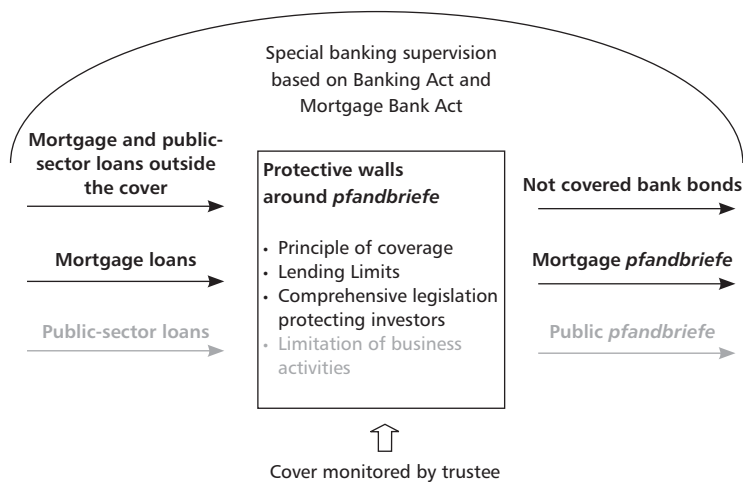
Figure 13.7  
The *bauspar* system



Source: Roy (2004).

The German *bauspar* system operates as a closed system. Thus, it can be also described as a “time-money” system: on conclusion of the *bauspar* contract, all conditions will be fixed (including the interest rate on the savings and the loan), i.e., the *bausparkasse* cannot use the interest rate to balance supply and demand of funds. The allocation pool is therefore the decisive management tool in a closed system because the *bausparkasse* can only allocate those funds in the form of *bauspar* loans that it has previously collected. Hence, customers are subject to a waiting period the length of which depends on the availability of funds. The challenge for the *bausparkasse* in managing such an “allocation pool” is to balance fluctuating inflow and outflow of funds in order to meet future loan demands within a reasonable time span. In order to reach short and consistent waiting periods, *bausparkassen* stick to specific queuing rules that determine the sequence of the loan disbursements. In conclusion, the concept of the *bauspar* system makes external funding less relevant. However, overall market conditions influence fund supply and loan demand.

Figure 13.8  
Issuance of *pfandbriefe* through a mortgage bank



Source: Lassen (2004) and Roy (2004).

The *pfandbrief* (covered mortgage bond) is a debt instrument secured against a dynamic pool of specifically identified eligible mortgages. The fundamental concept of this security is the reliance on collateral (mortgage) as the primary source of credit quality, which significantly reduces the risk to the bondholder. Typically, *pfandbriefe* have a fixed coupon and a bullet payment at maturity.

*Pfandbriefe* in Germany are currently obligations of a specialized mortgage bank that provide credit enhancement. There is no implicit or explicit government guarantee for the *pfandbriefe*; their market acceptability depends completely on the quality of the underlying loan pool and the legal structure, ensuring the security of the bonds (even in the case of loan defaults or bankruptcy of the issuer).

The German Mortgage Banking Act (GBMA) ensures the safety of the *pfandbriefe* by establishing the following benchmarks for *pfandbriefe* issuances:

1. Principle of coverage: *pfandbriefe* (principal and interest) are covered at all times by loans (principal and interest) at least equal to the nominal value of all outstanding issues and yielding at least an equal interest return.
2. Conservative lending limits: only the portion of the loan at or below 60 percent LTV is eligible to be included in the *pfandbriefe* cover pool. Valuation rules for mortgaged real estate are strictly regulated.
3. Comprehensive regulation and protection for investors: a trustee oversees the characteristics of the mortgage collateral. The Central Bank regularly monitors the correct coverage of mortgage bonds. In the event of bankruptcy of the lender, the bondholders have priority in access to the cover pool.
4. Principle of specialized banking: at the present time, only specialized, highly regulated mortgage banks are entitled to issue *pfandbriefe*. Their business is restricted to public sector and mortgage lending (as noted above, this limitation was to be removed in 2005, to be replaced by the imposition of additional regulatory safeguards on commercial banks that issue covered mortgage bonds). Banks issuing *pfandbriefe* are portfolio lenders with the mortgage assets remaining on their balance sheet.

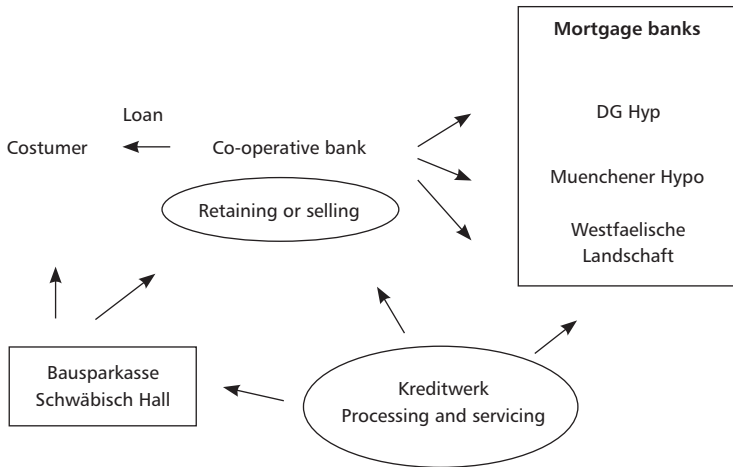
## Two-tier Model

Upon originating a mortgage loan, a local cooperative bank has a choice whether to retain the mortgage loan in its portfolio or sell it internally to one of the three mortgage banks of the cooperative banking group (DG Hyp, Muencher Hypo, or Westfälische Landschaft). This structure allows for internal competition among these three lenders to buy the mortgages from the local cooperative bank. The credit manager of the cooperative can directly decide during the underwriting process to which mortgage bank he will pass through the loan. Typically, the mortgage bank will be chosen that offers the best rate.

Servicing of the loan can either be executed by the local cooperative bank or outsourced to Kreditwerk. This institution was founded in July 2000 in order to service (mainly standardized) mortgage loans (as well as *bauspar* contracts issued by *Bausparkasse Schwäbisch Hall*, the *bausparkasse* of the cooperative banking group). Kreditwerk is not

a bank, but only a service provider to local cooperative banks and the three mortgage banks. The local cooperative bank still remains the point-of-sale for the client for the whole lifetime of the loan (even in case of a pass-through).<sup>32</sup>

*Figure 13.9*  
Two-tier model—the approach of co-operative banks



Source: Roy (2004)<sup>33</sup>

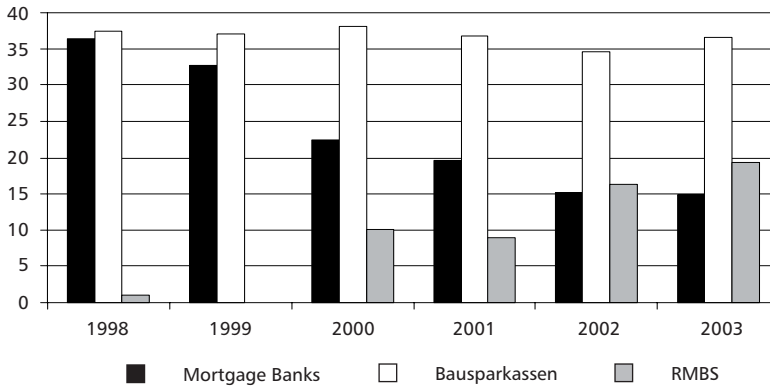
The establishment of Kreditwerk was a strategic move in order to tackle the decreasing margins in mortgage lending. In 1995, margins oscillated between 98 and 112 BP. In the future they are expected to vary between 45 and 55 BP. Under this projection, profit margins are likely to fall from 31–33 BP to only 4 BP. Through Kreditwerk, unit cost of the loan processing should be reduced by 30 to 48 percent. Participating banks may improve their productivity by 20 to 30 percent.<sup>34</sup>

## German RMBS Volumes

Despite the recent initiative of KfW, the RMBS market in Germany is still in its infancy when it comes to the volume of mortgage loans being securitized (not the techniques). As Figure 13.10 indicates, there have been 37 publicized RMBS issues aggregating €62.12 billion between May 1998 and May 2004. Of these 37 transactions, only two were true sales, the rest were synthetic transfers.

Figure 13.10

German RMBS volumes in comparison to lending volumes of mortgage banks and *bausparkassen*, 1998–2003 [million euros]



Source: Commerzbank Securities, Association of Private Bausparkassen, Association of Mortgage Banks.

When banks are asked which kind of securitization they prefer, they reply that they will stick to synthetic transactions to free up economic capital. For them, the *pfandbrief* still remains the preferred funding instrument since spreads are considerably lower. For example, HVB Group mentioned that their last benchmark was a 10-year *pfandbrief* issue that priced at 10BP over Euribor. It also states that with Basle II, the *pfandbrief* will become even more attractive because the risk weighting for the mortgage will be reduced while the *pfandbrief* itself continues to have a low weighting, which will be beneficial to bank investors.<sup>35</sup>

The graph also shows that the most important funding instruments in Germany are the *pfandbrief* and *bauspar* funds. Thus, these large funding bases will limit the need for true-sale securitization as a funding technique. It is likely that synthetic structures, which help achieve capital relief by a risk transfer, to remain the force behind German mortgage securitization for the foreseeable future.

### 3. RELATED RISKS IN MORTGAGE LENDING IN GERMANY

In contrast to the transition economies in Central and Eastern Europe, Germany disposes of a broad array of different lenders and well-developed funding mechanisms. Furthermore, the legal framework smoothly supports the lending process both in lending

and in registering as well as foreclosing a mortgage (if inevitable). Therefore, the risk analysis concentrates on the whole housing finance sector and will refer to individual funding techniques where necessary. The analysis will take into consideration the following criteria:

- Outlook for mortgage lenders: which future trends will influence the demand on mortgage loans in Germany? How will they influence profits in mortgage lending?
- Likely effectiveness of the system in addressing financial risks (i.e., credit risk, liquidity, and interest rate risk as well as prepayment risk).<sup>36</sup>
- Cost to consumers: which costs are imposed on the consumer when taking up a mortgage loan? Costs usually consist of the interest rate and further fees, including notary and cadastre fees, credit report, and an application fee if the lender requires one.
- Role of government: this part of the analysis focuses on the involvement in regulating the market and the cost the government incurs for the support of individual instruments.

## Outlook for Mortgage Lenders

The long-term future for mortgage lending in Germany looks a bit bleak: over the next 50 years, we expect the population to shrink (due to low birth rates) and live longer. The percentage of people over 65 years will rise from 17 percent (2004) to 30 percent by 2050 (Deutsche Bank Research 2004: 3). Simultaneously, the number of people fit for employment will shrink from 55 m as per today to 44 million—a 20 percent reduction (Deutsche Bank Research 2004a).

The emergence of regional economic centers (e.g., the Rhine-Main area, greater Stuttgart, greater Munich, etc.) will reinforce demographic effects. The East will especially suffer from this trend: the ongoing emigration and high unemployment makes a rebound in property prices unlikely. Experts estimate that a loan volume of about €40 billion may default in this region.<sup>37</sup> One reason for this high figure is that many commercial properties leased for long periods and high rents shortly after reunification are now becoming vacant and cannot be rented out again.<sup>38</sup>

The following trends will have a considerable impact on mortgage lending (i.e., profitability of institutions involved in mortgage lending):<sup>39</sup>

- Declining house prices are expected across all major cities, both East and West. In general, they will be sharper in the East. Individual price drops will strongly depend on location, the condition of the building, its size, and the layout of the dwelling. In any case, price decreases will be lower in areas that already have a solid industrial base or can attract industries over the next years. Areas or cities

with the potential to attract companies should be those with renowned universities that release a highly qualified young workforce on an ongoing basis.<sup>40</sup>

- The number of unoccupied dwellings will rise further, generally being higher in the East. In the West, this number amounts to 7 percent of the total housing stock (about 2.5m dwellings as per 2002).<sup>41</sup>
- Foreclosure sales have also surged. The German courts recorded 92,000 cases in 2003, worth about €18 billion.<sup>42</sup> Courts in the East record the highest increases, which corresponds with the higher unemployment in this region.<sup>43</sup>

Households are expected to remain cautious. Fear of unemployment and stagnating real incomes will back this trend. As a consequence, loan-growth is likely slow down, which—combined with competition—makes it even harder for lenders to retain their market share. In additions, margins are expected to decrease. In view of the aging housing stock, one segment of growth will be small loans for renovation or modernization.<sup>44</sup>

Lenders have reacted to these developments through mergers (e.g., the establishment of Eurohypo AG), outsourcing (e.g., the establishment of Kreditwerk AG) and the selling of parts of their mortgage portfolios (mainly delinquent loans) as the example of Citibank and Eurohypo AG shows.

Moreover, banks and *bausparkassen* will more and more stick to RMBS issues in order to achieve capital relief, thus freeing capital for new loan business and improving their profitably. In this context, KfW will remain the main platform for these transactions. Its work may help to lead to more homogenous RMBS issues. However, it remains unclear how far true sales will play a stronger role in funding, which will depend on the pricing of the securitized debt in relation to *pfandbriefe*.

### Likely Effectiveness of the System in Addressing Financial Risks

The mortgage loan is the most important loan type in Germany. About 60 percent of all loans (about €2,230 billion as of the 2<sup>nd</sup> quarter of 2004) granted to private persons and enterprises concern property investments. 84 percent of these loans are securitized through a mortgage.

- Credit risk: Although the number of defaulted loans has increased, the German Bundesbank does not see a systemic risk for lenders. It still considers households' creditworthiness sufficient.<sup>45</sup> Even for the savings banks and cooperatives banks, which have the highest share of mortgage loans in their portfolios (about €351.2 billion as of June 30, 2004), the Bundesbank does not make out a substantial increase in credit risk.

In addition, credit risk seems to be limited through conservative underwriting standards. Furthermore, it is not expected that banks will underwrite high-risk mortgage loans as the Basle II regulation will then increase their capital costs.

- Liquidity and interest-rate risk: the market is not expected to suffer from a liquidity shortage. To give an example, the *bausparkassen* alone have attracted about €17.3 billion of savings so far this year.<sup>46</sup> Since the *pfandbrief* enjoys a good international reputation, it provides banks with a cheap funding instrument, thus further guaranteeing sufficient liquidity in the market.

Therefore, interest rate risk may be of less concern for lenders. However, the high influx of funds to the *bausparkassen* may deteriorate their profitability: often, interest rates on *bauspar* savings are relatively higher than market rates. Since they have fixed all conditions on conclusion of the *bauspar* contract, interest rates on the *bauspar* loan appear relatively higher than market rates when the contract is due for allocation. As a result, customers do not take up the *bauspar* loan that is more expensive than a regular mortgage loan in the market. *Bausparkassen* face difficulties to achieve a sufficient yield on the free funds in order to meet the commitments in the savings period of their customers.<sup>47</sup>

The low margins in mortgage lending are also problematical for the specialized mortgage banks. The margins in public financing (their second business segment) are so low that they do not suffice to balance the losses in mortgage lending. The abandonment of the principle of specialization (as a result of the new Act on *Pfandbriefe*) is not expected to increase competition for the mortgage banks since nearly all banking groups are already active in this type of business. Since margins are low, new entrants in this segment are not likely. In addition, the law requires them to prove high credibility and to issue high volumes, which serves as another obstacle.<sup>48</sup>

- Prepayment risk: at present, there are no signs that prepayment patterns are going to change (although legislation is likely to change). The *pfandbrief* as the core-funding instrument for long-term mortgage loans is unlikely to change into a floating rate bond. In addition, German mentality prefers safe conditions fixed for a long time and will therefore abstain from ARMs. It is difficult to assess how far EU-legislation in this area will influence prepayment patterns among German borrowers in the future.

### Cost to Consumers

The fierce competition among lenders is beneficial to customers. Interest rates on loans are relatively low, varying from 4.25 to 4.7 percent p.a.<sup>49</sup> Some banks charge a closing fee which is usually a fixed amount. Notary and fees for registering a mortgage also vary from town to town. On average, the cost of taking out a mortgage amount to 1.2 percent of the purchase value of the dwelling.<sup>50</sup> Since house prices are relatively low, potential buyers can count on favorable conditions. However, the current economic climate has discouraged them from taking up a mortgage loan.



## The Role of Government

As in other developed European countries, the German government has constantly reduced spending on housing. It does not grant any interest rate subsidies. State support for the *bauspar* bonus and the homeownership grant was reduced last year: the *bauspar* bonus was cut by 10 percent and the homeownership grant by 30 percent. On the other hand, the support of tenant-occupied housing through tax write-offs has not been decreased.

To date, German housing policy has pursued the right approach in supporting incomes instead of subsidizing interest rates. It has not managed, however, to encourage more people to acquire a home. Homeownership stands at 43 percent. Despite the right concept and declining house prices, income growth has lagged behind swings in house prices. In the future, the indebtedness of the state and demographic trends are likely to curtail budgetary possibilities. Hence, support for homeownership is likely to become more difficult, even unaffordable.

## 4. CONCLUSION

Germany has managed to set up stable conditions for mortgage lending. The plethora of different lenders and funding mechanisms allow for healthy competition, which fosters innovation in new products and funding (e.g., the recent developments of RMBS issues). The popularity of the *pfandbrief* in Germany has induced the development of a covered bond market in Europe and in many transition countries in Eastern Europe.<sup>51</sup> Nearly every country has adopted a legislation on covered mortgage bonds that has been modeled after the German *pfandbrief*. The *bauspar* system has also appeared in some Eastern European countries.

These highly developed and sophisticated instruments and techniques have been the result of a long process encompassing several waves of activity: the first change occurred when the German legislator cemented the division of labor between *bausparkassen* and mortgage banks (in the 1930s). The second incision happened after the Second World War when there was an urgent need to rebuild the destroyed housing stock. From the 1990s, reunification called into question the strong involvement of the government in housing (especially in social housing). The next change is expected with the abandonment of the specialty principle for the mortgage banks which may pave the way for stronger demand for RMBS issuances. However, because of its high reputation the *pfandbrief* is likely to remain the most popular funding instrument in the near future.

In contrast to the broad German experience, CEE countries have a much shorter record. Germany disposes of three well established financing circuits (the *bauspar* system, *pfandbriefe*, and RMBS issuances). Thus, modifications and revamps of the already

implemented systems in these countries are likely to further adapt to changing market conditions. Moreover, new instruments may be introduced. In line with the development in Germany, the establishment of credit processing centers (such as Kreditwerk) is likely to appear in these countries when margins will shrink and the pressure for market consolidation further increases.

A further difference is the knowledge and availability of risk management instruments. For example, synthetic RMBS issues are not used in CEE countries since these markets have not yet developed the necessary derivatives to allow for this type of securitization. As a result, true sales are the preferred financing technique.

In Germany, mature legislation has also assisted in shaping these financing instruments although there are still obstacles to overcome (especially in view of true sale securitizations). However, the German case underlines the importance of a well-functioning and reliable legal framework for their establishment, refinement, and further development.

In the future, Germany will also experience a rise in RMBS issuances. The main objective for banks in turning to RMBS will be to achieve capital relief. Since the *pfandbrief* already provides cheap funding for first lien mortgages, true sales may become an adequate funding mechanism for subordinated loans.

However, it remains unclear whether more Germans are prepared to take up a loan. Although 80 percent of the population dreams of owning a dwelling,<sup>52</sup> most are likely to remain tenants. High construction costs and favorable rent conditions, coupled with a weak economic climate, prevent citizens from acquiring a home. As opposed to CEE countries, the sluggish demand for housing loans in Germany is not due to the interest rate environment.<sup>53</sup> Currently, the low interest rate in Germany should favor demand for housing.

Although the government successfully overcame the housing shortage after the Second World War, the preference for large subsidized housing programs (including social housing) have appeared to create the wrong incentives in the market. CEE countries which have abstained from similar programs are likely to create more robust and sustainable financing circuits than those countries which have opted for large governmental housing schemes (although there is a strong demand in many countries for strong state involvement).

The German housing policy after reunification has led to strong failures in the markets. Politicians distorted supply and demand by subsidizing the rental sector with tax write-offs on investment properties (until 1997). As a result, supply was mainly driven by wealthier parts of the primarily West German population who longed for opportunities to reduce their taxable income and not by the demand of potential tenants in the East (especially given what they were willing and able to afford). The government still faces a considerable burden as it now subsidizes demolition (mainly of panel block buildings).<sup>54</sup> Thus, the major challenges for the government will be to reduce oversupply in the East and adapt its housing policy to demographic developments.

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## ENDNOTES

- <sup>1</sup> See Roy (2004).
- <sup>2</sup> As in other transition countries in Central and Eastern Europe, the industry in East Germany faced a great deal of restructuring and reorganization in order to be adapted to standards which prevail in a market economy.
- <sup>3</sup> The total housing stock in East Germany amounts to 7.6 million dwellings (Berlin included).
- <sup>4</sup> The considerable number of unoccupied dwellings results from the following: first, the government of the former German Democratic Republic (GDR) was not capable of maintaining the old buildings, which are now often uninhabitable. Second, the GDR government expropriated many house-owners or took possession of dwellings the owners of which left the GDR when the regime was established. These dwellings were often transferred to citizens of the GDR. After reunification, many former owners (living in West Germany) sued for restitution according to legislation of the united Germany. Since their claims have been arbitrated by the courts, the dwellings could not have been used or have been left by the current owners. As a result, these dwellings became dilapidated and are often uninhabitable. Third, many panel-block buildings have emptied in rural areas where GDR attempts to promote industrialization were abandoned.
- <sup>5</sup> This measure only applies if the house will be rented. In this case, the borrower is not entitled to the homeownership grant.
- <sup>6</sup> Arguments in favor of its cancellation are the oversupply of dwellings (especially in the East) and a declining demand for new houses in view of the shrinking population. The new government planned to channel the freed funds into educational measures.
- <sup>7</sup> If *bauspar* funds are used for housing purposes within a period of seven years, the debtor is not obliged to pay back the bonus.
- <sup>8</sup> Supervision of banks is executed by the German Bundesbank (liquidity) and the German Federal Financial Services Supervision Agency (Bafin), which grants licenses to banks and for specific financial products (assurances, *bauspar* contracts, etc.).
- <sup>9</sup> Bafin grants *pfandbrief* issuer licenses and checks whether the applying banks meet the criteria for *pfandbrief* issuances stipulated in the new law.
- <sup>10</sup> See Bundesrat (2004).

- <sup>11</sup> See Bundestags-Drucksache (1992).
- <sup>12</sup> See Financial Times Deutschland (2004).
- <sup>13</sup> Mortgage maturity is typically longer than the *pfandbriefe* maturity: the mortgage loan term is about 25 to 30 years but the rate can be fixed for a maximum of 10 to 15 years. Consequently, the mortgage bank will issue matching maturity debt to fund the loan during its fixed rate period.
- <sup>14</sup> In case the LTV ratio exceeds 60%, banks split the mortgage into different parts in order to refinance a part of the mortgage through *pfandbriefe*. Often, loans above 60% LTV are financed by a third party lender (e.g., *bausparkasse*).
- <sup>15</sup> Prepayment penalties of German banks are the highest in Europe: for a €100,000 mortgage loan with an interest term of 10 years and a prepayment after 5 years, German banks charge on average €11,000 whereas banks in France charge on average €3,000, in Portugal €1,400 and in the Netherlands €2,000. See Kusitzky (2004).
- <sup>16</sup> This concept is also called “loan-to-appraised-value (LTAV) concept.” Calculation of LTV is based on the property’s value and not the market value. Usually, the appraised value is 5 to 10% lower than the market value depending on the property type, location, and size. For further information, see Commerzbank Securities (2002).
- <sup>17</sup> “Schufa” collects data of every borrower on his outstanding loans and payment behaviors. All banks except savings banks provide information to Schufa. Banks are automatically informed when one of their clients takes up another loan at a different bank. In addition, Schufa collects information about existing bank accounts and credit cards.
- <sup>18</sup> See Commerzbank Securities (2002: 7).
- <sup>19</sup> See Kretschmar and Damaske (2003: 3).
- <sup>20</sup> If loans disbursements are taken into consideration, *bausparkassen* appear as the most important loan providers, showing a market share of 29% (in 2003). For further details, see Association of Private *Bausparkassen* (2003).
- <sup>21</sup> See Deutsche Bundesbank (2004).
- <sup>22</sup> The first wave of consolidation was initiated through the merger of the mortgage banks of the three private banks Deutsche Bank AG, Dresdner Bank AG and Commerzbank AG. In August 2002, they merged their mortgage bank subsidiaries in one specialized mortgage bank (Eurohypo AG).
- <sup>23</sup> For further information about MLP (Marschollek, Lautenschläger, und Partner) and AWD (Allgemeiner Wirtschaftsdienst) see their websites [mlp.de](http://mlp.de) and [awd.de](http://awd.de).
- <sup>24</sup> See *Börsenzeitung* (2004). This transaction has two advantages: first, it reduces the risk in the balance sheet. Second, it releases equity which can now be used to fund new business.
- <sup>25</sup> In a synthetic RMBS issue, the originating bank does not sell any mortgage loans. It only transfers the risk of loss associated with these mortgage loans to a special purpose vehicle (SPV) or a different bank against payment of a premium or a fee. See Freshfields Bruckhaus Deringer (2004).
- <sup>26</sup> Despite being issued under one umbrella of the KfW program, so far each transaction has been unique in terms of collateral and the nature of risk being transferred through the swap. For further information, see Miehs (2004: 238).
- <sup>27</sup> In a true sales securitization, the originating bank sells a pool of mortgage loans to an SPV. The SPV issues bonds in order to finance the purchase of these mortgage loans. See Freshfields Bruckhaus Deringer (2004).

- <sup>28</sup> See Glüder and Bechtold (2004: 19).
- <sup>29</sup> See Tartler (2004).
- <sup>30</sup> The savings bank group is heading for a trust solution: local savings banks transfer mortgage loans to their responsible *landesbank* which issues *pfandbriefe* against these funds. See Waas (2004) and Ruhkamp (2004).
- <sup>31</sup> See Börsenzeitung (2004).
- <sup>32</sup> See VR Kreditwerk (2003).
- <sup>33</sup> See also Dübel (2004: 6).
- <sup>34</sup> See VR Kreditwerk (2004) and Speck and Golembiewski (2004: 24).
- <sup>35</sup> Structured Finance International (2004: 31).
- <sup>36</sup> Few loans are denominated in foreign currency (e.g., CHF, USD) in Germany. Therefore, this risk type will not be tackled.
- <sup>37</sup> See Balzli and Pauly (2004). These figures also comprise commercial property loans.
- <sup>38</sup> See IMF (2004: 15).
- <sup>39</sup> See Kornemann (2004).
- <sup>40</sup> In his article, Kornemann predicts that it is unlikely that those regions in which citizens have already left are capable of turning round this development.
- <sup>41</sup> In the East, 13% of the housing stock is unoccupied.
- <sup>42</sup> *Die Welt* (2004).
- <sup>43</sup> The borrowers, whose loans are defaulting, have incomes below average. The debt-to-income ratio is usually higher than 30%. In addition, the down-payment share was lower. Often, young families with children belong to this group. See Association of Private *Bausparkassen* (2003).
- <sup>44</sup> This feature may be beneficial to *bausparkassen* since they typically grant small loans. The average *bauspar* loan is €23,917 (see Association of Private *Bausparkassen* 2004).
- <sup>45</sup> See Deutsche Bundesbank (2004: 44). Moreover, the Bundesbank does not recognize any correlation between the development of house prices and the debt service capability of the households. This argumentation is reinforced through decreasing the debt ratio of the households. In 2003, it fell from 113 to 111% of the disposable income.
- <sup>46</sup> See Federal Statistical Office (2004). They expect the inflow of savings to rise up to €26 billion by the end of 2004.
- <sup>47</sup> See Kort (2004).
- <sup>48</sup> See Deutsche Bundesbank (2004: 56).
- <sup>49</sup> These conditions are valid for a loan amount of €50,000 with an LTV ratio of 60% for a 10-year term (Stuttgarter Zeitung 2004).
- <sup>50</sup> See Hardt (2002).
- <sup>51</sup> See Simensen (2004).
- <sup>52</sup> See LBS (2004: 31).
- <sup>53</sup> Although interest rates have already fallen in most of the more mature transition countries in Central and Eastern Europe, they are still higher than in Germany (or other Western European countries).

- <sup>54</sup> For example, in the eastern province of Saxony there are 414,000 unoccupied dwellings. The local government spends €190m every year on demolition and modernization of these dwellings. Provided that no further unoccupied dwellings appear in the market, the clearing up of the housing stock will take about 13 years. See Schmidt-Eichstaedt (2004: 190).



Comparative Tables,  
Selected Bibliography,  
and Index



*Table A.1*  
 Population, housing stocks, housing quality, housing markets, and housing production  
 in Russia, Romania, and Poland (ca. 1990 and 2000)

Population	Russia			Romania			Poland		
	1990	2000	1992	1992	2002	1998	2002	2002	
Total population [millions]	148.2	145.6	22.8	21.7	37.9	38.2			
Rural population [%]	73.8	72.9	54.6	45.4	38.8	38.2			
Urban population [%]	26.2	27.1	45.4	54.6	61.3	61.8			
Remark	Census data from 1992 and 2002						Data concerning housing stock and population from 1998 and 2002		
Buildings	Russia			Romania			Poland		
	1990	2000	1990	1990	2000	1990	2000	2000	
<i>Buildings</i>									
Housing units in multi-family buildings [%]	na	na	39.2	31.0	na	48.0			
Single family buildings	na	na	55.7	64.0	na	52.0			
Remarks	The balance to 100% are terrace or coupled housing.								

Table A.1 (continued)

Housing quality	Russia		Romania		Poland	
	1990	2000	1990	2000	1998	2002
<i>Density</i>						
Floor area per person [sqm]	16.4	19.3	18.4*	9.89	17.1	22.2
Person per room	na	na	1.1	1.04	1.43	1.21
Households per dwelling units	1.6	0.98	0.95	0.91	1.12	1.15
Proportion of vacant units [%]	na	na	4.44	10.4	na	5.3
	* Floor area per person in 1990 did not include kitchen					
	Russia		Romania		Poland	
<i>Infrastructure</i>	1993	2000	1990	2000	1998	2002
Dwellings with piped water [%]	63.0	73.0	53.1	53.8	84.2	94.9
Dwellings with piped sewage [%]	61.0	69.0	50.6	53.8	71.5	87.0
Dwellings with district heating [%]	64.0	73.0	39.1	28.6	na	na
Dwellings with other central (e.g. block) heating [%]	51.0	59.0	10.1	15.0	61.4	76.7
Dwellings with individual modern heating [%]	na	na	na	5.36	na	na
Dwellings with fixed bath or shower [%]	57.0	64.0	51.6	45.6	71.5	85.9
Substandard housing [%]	1.3	2.4	0.2	na	33.0	15.9

	Russia		Romania		Poland	
	1993	2000	1990	2000	1990	2000
<b>Housing market</b>						
Real estate transactions	na	na	226,000	na	50,000**	115,072*
Remarks	declining as compared to the 90s				* author's calculation ** estimation	
	Russia		Romania		Poland	
	1992	2000	1990	2000	1990	2000
<b>Block E</b>						
<b>Housing production</b>						
Building permits	na	na	na	na	na	145,100
New public housing construction	na	na	21,520	2,901	85,500	7,100
New private housing construction						
Average size of the new units [m <sup>2</sup> ]	60.8	81.1	50.0	80.0	77.2	89.7
Remarks	Total construction in 1992: 682,000. 2000: 373,000.					

*Table A.2*  
 Population, housing stock, housing quality, housing markets, and housing production  
 in Kazakhstan, the Czech Republic, and Croatia (ca.1990 and 2000)

	Kazakhstan		Czech Republic		Croatia	
	1991	2000	1991	2001	1991	2001
<b>Population</b>						
Total population [millions]	16.5	14.9	10.3	10.2	4.5	4.4
Rural population [%]	43.0	44.0	26.8	26.1	42.3	43.8
Urban population [%]	57.2	56.0	73.2	73.9	57.7	56.2
<b>Remarks</b>	Urban: municipalities with more than 2,000 inhabitants					
<b>Buildings</b>						
<i>Buildings</i>	Kazakhstan		Czech Republic		Croatia	
	1990	2005	1991	2001	1991	2001
Housing units in multi-family buildings [%]	na	50.5	55.1	52.9	na	34.3
Single family buildings [%]	na	39.6	44.0	45.9	na	65.7

Housing quality	Density	Kazakhstan			Czech Republic			Croatia	
		1990	2000	1991	2001	1991	2001	1991	2001
Floor area per person [m <sup>2</sup> ]	na	16.6	16.6	18.7	23.0	27.0			
Persons per room	na	na	1.04	0.98	3.0	2.7			
Households per dwelling units	na	na	2.76	2.64	0.95	0.89			
Proportion of vacant units [%]	na	na	9.1	12.3	1.0	2.0			
<i>Infrastructure</i>									
		Kazakhstan			Czech Republic			Croatia	
		1990	2005	1991	2001	1991	2001	1991	2001
Dwellings with piped water [%]	na	na	54.6	96.9	98.5	87.4	94.0		
Dwellings with piped sewage [%]	na	na	48.9	68.1	74.8	80.4	93.0		
Dwellings with district heating [%]	na	na	36.1	na	36.6	24.6	36.0		
Dwellings with other central (e.g. block) heating [%]	na	na	43.7	na	37.0%	na	na		
Dwellings with individual modern heating [%]	na	na	0.1	na	8.1%*	na	na		
Dwellings with fixed bath or shower [%]	na	na	44.8	*	*	75.7	88.4		
Substandard housing	na	na	na	8.6%	3.3%	19.6*	10.5*		
<b>Remarks</b>									
				* Collective central heating 73.6%; individual central heating 8.1%; independent heating devices 17.5% (incl. electric and gas); other modes of heating 0.8%.					* Housing missing indoor toilet or central heating for 1991, total 24.6; for 2001, total 36%.

*Table A.2 (continued)*  
 Population, housing stock, housing quality, housing markets, and housing production  
 in Kazakhstan, the Czech Republic, and Croatia (ca. 1990 and 2000)

	Kazakhstan			Czech Republic			Croatia	
	1990	2002	1991	1991	2001	1991	2001	
Housing Market	na	na	na	104,447	na	na	na	
Real estate transactions	na	na	na	104,447	na	na	na	
Remarks	for 2002							
	Kazakhstan			Czech Republic			Croatia	
	1990	2003	1991	1991	2001	1991	2001	
Housing Production	na	na	10,899	28,983	na	12,869	4,431	
Building permits	75,669*	2,416*	na	na	4,153	na	8,149	
New public housing construction	20,883*	15,956*	na	na	8,470	na	86.0	
New private housing construction	81.5**	113.0	45.9	na	78.0	na	86.0	
Average size of the new units [m <sup>2</sup> ]								
Remarks	* Estimation: number of units was calculated by dividing the total area of new public housing construction and new private housing construction (on the average size of the new units). ** As of 1995.							For 1991 ownership is different; for 2001 public construction companies means those with more than 5 employed persons.



*Table A.3*  
Population, housing stock, housing quality, housing markets, and housing production  
in Hungary, Slovenia, and Germany (ca. 1990 and 2000)

	Hungary			Slovenia			Germany		
	1990	2001	1991	2002	1990	2000	1990	2000	
<b>Population</b>									
Total population [millions]	10.4	10.2	1.9	1.9			79.8	82.5	
Rural population [%]	34.1	35.6	49.2	49.2			48.6	45.5	
Urban population [%]	65.9	64.4	50.8	50.8			51.1	54.5	
<b>Remarks</b>	Census data available only for 1991 and 2002.								
<b>Buildings</b>									
Buildings	1990	2001	1991	2002			1990	2000	
Housing units in multi-family buildings [%]	61.0	62.0	na	3.8			75.3	71.2	
Single family buildings [%]	39.0	38.0	na	95.7			25.0	27.6	
<b>Remarks</b>	Balance to 100 in excluded "other" category.								

*Table A.3 (continued)*  
 Population, housing stock, housing quality, housing markets, and housing production  
 in Hungary, Slovenia, and Germany (ca. 1990 and 2000)

Housing quality	Hungary			Slovenia			Germany		
	1990	2001	1991	2002	1990	2000	1990	2000	
<i>Density</i>	na	28.0	22.0	29.5	na	na	na	40.1	
Floor area per person [m <sup>2</sup> ]	0.87	0.97	na	na	1.05	1.04	1.01	1.03	
Persons per room	4.5	9.2	3.9	10.1	2.9*	8.2*	1.0	1.05	
Households per dwelling units									
Proportion of vacant units [%]									
<b>Contrast</b>									
	Hungary			Slovenia			Germany		
<i>Infrastructure</i>	1990	2001	1991	2002	1990	2000	1990	2000	
Dwellings with piped water [%]	79.0	90.0	96.6	98.5	na	na	na	na	
Dwellings with piped sewage [%]	44.2	56.2%	na	na	na	na	na	na	
Dwellings with district heating [%]	17.0	16.9%	11.9	18.6	na	na	na	na	
Dwellings with other central (e.g. block) heating [%]	25.1	37.8	36.0	9.8	na	na	na	na	
Dwellings with individual modern heating [%]	na	na	na	57.2	na	na	na	na	
Dwellings with fixed bath or shower [%]	79.1	88.7	87.0	92.0	na	na	na	na	
Substandard housing [%]	21.0	12.0	na	na	na	na	na	8.0	
<b>Remarks</b>	In 2002 78.6% of all dwellings with central heating; in 1991, 61.1%. Vacant units data is for 1993 and 2002.								

Housing market	Hungary		Slovenia		Germany	
	1990	2001	1991	2002	1990	2000
Real estate transactions	na	na	na	6,973	720,000	1,300,000
	Hungary		Slovenia		Germany	
	1990	2001	1991	2002	1990	2000
<b>Housing production</b>						
Building permits	29,896	47,867	na	3,106	189,832	304,708
New public housing construction	1,559	344.0	na	na	na	na
New private housing construction	31,585	27,088	na	na	189,832	304,708
Average size of the new units [m <sup>2</sup> ]	90.0	97.0	99.0	113.0	36.9	40.9

Note: na – no data available.

*Table A.4*  
Exchange rate [USD] in 2002 and 2003 in Russia, Romania, Poland,  
Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany

Local Currency		[USD rate]	
		2002	2003
Russia	RUR	31.8	29.5
Romania	ROL	31.3	37.6
Poland	PLN	3.6	3.7
Kazakhstan	KZT	153.5	143.3
Czech Republic	CZK	35.0	30.3
Croatia	HRK	7.2	6.1
Hungary	HUF	225.2	207.9
Slovenia	SIT	240.2	207.1
Germany	EUR	1.0	1.3

*Table A.5*  
Housing stock and tenure structure in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
Croatia, Hungary, Slovenia, and Germany (ca. 1990 and 2002)

Country	Year	Total stock [thou]	Homeowners [%]	Private rental [%]	Public rental [%]	Other [%]
Russia	1990	52,000.0	26.0	na	67.0	7.0
	2002	56,000.0	66.0	na	29.0	5.0
Romania	1990	8,006.0	67.3	na	32.7	0.0
	2002	8,107.0	97.3	na	2.7	0.0
Poland	1988	11,022.1	40.9	2.0	19.4	37.2
	2002	11,763.5	55.6	2.0	13.4	31.0
Kazakhstan	1993	4,417.8	32.3	na	66.1	1.6
	1998	4,479.0	93.0	na	6.3	1.7
Czech Republic	1990	4,077.2	37.0	3.3	38.0	21.7
	2002	4,366.3	47.0	12.0	17.0	24.0
Croatia	1991	1,457.4	66.5	3.5	24.0	5.0
	2001	1,851.6	82.9	10.8	2.9	3.4
Hungary	1990	3,855.2	73.9	3.4	22.7	0.4
	2001	4,069.8	92.6	3.7	3.7	0.7
Slovenia	1991	683.1	68.0	1.0	31.0	0.0
	2002	777.8	82.0	2.6	6.5	8.0

*Table A.5 (continued)*  
 Housing stock and tenure structure in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (ca. 1990 and 2002)

	Contrast					
<b>Germany</b>	1990	33,856.3	41.5	50.5	8.0	na
	2002	38,957.1	42.2	49.5	6.0	2.3
<b>Russia</b>	Total stock is a rough estimation based on household size, number of households per unit, and floorspace in m <sup>2</sup> . Public rental includes state and municipal housing. Other includes mixed and common housing.					
<b>Romania</b>	Data for total stock: National Institute for Statistics (INSEE). Fira (2005). Data for 1990: Dan and Dan (2003) Private rental in 2002 is a rough estimate of 97.3 ownerships.					
<b>Poland</b>	Total stock is for 1990 and 2002. Source for 1990 is UN-ECE. For 2002: OECD. Other: (1988) (2002); cooperatives (24) (29). Enterprise (13) (2).					
<b>Kazakhstan</b>	Source: for total stock in 1993: Kaufman and Lipkovich (1995). Other data: UN-ECE (1993) and UN-HABITAT Human Settlement Statistics Database (1998).					
<b>Czech Republic</b>	Source for total stock: census. Out of other: cooperatives (1990) (2002): (20) (17).					
<b>Croatia</b>	Source for total stock in 1991: UN-ECE. For 2001: OECD. Other: housing with relatives and others.					
<b>Hungary</b>	Source for total stock: census. 1990: public housing includes 3.6 enterprise housing. 2001: private rental includes "church" housing and privatized enterprise housing as well.					
<b>Slovenia</b>	Source for total stock: census. Other: live in dwelling with no rent charged (usually owned by parents, relatives).					
<b>Germany</b>	Source for total stock, 1990: OECD, 2002 National Statistical Office Germany. 2002: other includes subtenants.					

*Table A.6*  
 Primary and secondary institutions and the year of establishment  
 in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia,  
 Hungary, Slovenia, and Germany

	Banks		Mortgage banks	<i>Bau- sparkassen</i>	Secondary institutions	State agencies
	Commercial banks*	Mortgage bond issuers				
Russia	Y				1997	
Romania	Y			2004		1999
Poland	Y		1998			1999
Kazakhstan	Y	2002		2003	2000	2003**
Czech Republic	Y	1995	1995	1993		2000
Croatia	Y			1997		1997
Hungary	Y		1998	1997		
Slovenia	Y					1991
<b>Contrast</b>						
Germany	Y	Over 100 years ago	Over 100 years ago	Y	Since 2000 securitization programs by KfW.	1948

*Note:* \* Some commercial banks operated in the countries before the socialist era, but most restarted operation only after transition.

\*\* KMC became a state agency in 2003.

An empty cell means there is no such institution.

Table A.7

Number of loans and loan volume in commercial banks, mortgage bond issuers, and mortgage banks in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2002)

In million USD	Commercial banks			Mortgage bond issuers			Mortgage banks			Remarks
	Number of loans	Loan volume	Number of loans	Loan volume	Number of loans	Loan volume	Number of loans	Loan volume		
Russia	3,333	0.77							Data from the end of 2003, cumulative since AHML started active operations at the end of 2002.	
Romania	na	90–100 500*								
Poland	333,000**	5,555			3,300	82.44				
Kazakhstan	5* 736***				20* 68***	5* 736***				
Czech Republic	na		28,753	1,240	32,165	1,358.49				
Croatia	na	1,729.1 2,363.1*							na: due to overnight activities	
Hungary	166,483*	3,512.73*			12,684	228.79				
Slovenia	na	92.6 116*								
Germany	na	8,593.6	na	14,462.4	na	15,929.6			<b>Contrast</b>	



*Note:*

\* Data for 2003.

\*\* Estimation.

\*\*\* Data for 2005.

na: no data available.

An empty cell means there is no such institution.

*Table A.8*  
 Number of loans and loan volume in Bausparkassen, secondary institutions, and state agencies  
 in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2002)

In million USD	Bausparkassen			Secondary institutions*			State agencies			Remarks
	Number of loans	Loan volume	Loan volume	Number of loans	Loan volume	Loan volume	Number of loans	Loan volume		
Russia	2,500*	26.75*							Data from the end of 2003, cumulative since AHML started active operations at the end of 2002.	
Romania	na	26.2		na					<i>Bausparkassen</i> : over 5000 loans in 3 months after establishment in 2004. Outstanding loans in 2004—783.78 million.	
Poland	1,080*	906.3							State agencies: block construction—long term loans.	
Kazakhstan	na	1,053* 14,144**	7* 193**	na			na			
Czech Republic	155,525	493.44		431			33.85			
Croatia	na	12.77 22.28*								
Hungary	938,000**	4,501**								
Slovenia	na	12.6								

	<b>Contrast</b>			
<b>Germany</b>	na	36,260 38,358.8*	na 10,165.6 10,060.8*	31,440 37,204*

*Note:* \* Data for 2003.

\*\* Data for 2005 (Hungary: March).

na: no data available.

An empty cell means there is no such institution.

*Table A.9*  
Ratio of stock of outstanding (residential mortgage) loans over GDP  
in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia,  
Hungary, Slovenia, and Germany (2000–2003)

	Ratio of stock of outstanding loans over GDP [%]			
	2000	2001	2002	2003
Russia	na	0.0	0.0	0.1
Romania	na	na	0.2	1.0
Poland	2.2	2.8	3.5	4.7
Kazakhstan	na	na	0.2	0.6
Czech Republic	na	1.4	2.0	3.0
Croatia	5.5	5.7	7.6	9.6
Hungary	1.5	2.3	4.8	7.8
Slovenia	3.0	3.1	3.2	3.5
<b>Contrast</b>				
Germany	54.1	54.1	54.0	54.3

*Remarks:* for Poland, Czech Republic, Germany, and Hungary (2001–2003) data source is: *Housing Statistics in the European Union* (2004) and Boverket (2005).

na: no data available.

*Table A.10*  
 Typical mortgage products in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
 Croatia, Hungary, Slovenia, and Germany (2004)

	Typical mortgage products							Remarks
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range? [%]	What is the average loan amount? (USD)	What is the typical payment / income ratio? [%]	What is the maximum loan amount? [USD]	
New and used housing	5–27 years	fixed	local	0.15	11,885	50 / na	no limits	0.7
New and used housing	10	fixed	hard	10.5–13.5	na	40 / na	300,000	0.75
New and used housing	15	variable	hard	9.5–12.5 for first 6 months. later – + LIBOR	na	40 / na	300,000	0.75

Russia

*Table A.10 (continued)*  
 Typical mortgage products in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
 Croatia, Hungary, Slovenia, and Germany (2004)

	Typical mortgage products						Remarks	
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range? [%]	What is the average loan amount? [USD]	What is the typical payment / income ratio? [%]		What is the maximum loan amount? [USD]
Mortgage loan (BCR—largest Romanian bank) building, purchasing real property, refurbishing, retrofitting, land servicing (development)—no collateral	up to 20 years	variable	both	9–10 in euro		0.35	631,500	0.35
Housing loan (BCR) building, purchasing real property, refurbishing, retrofitting, land servicing (development)—collaterals	10–20 years	variable	both	9–10 in euro max. 126,300 USD 35			126,300	0.35
National Housing Agency	25 years for couples 20 years for others	adjustable	local	7 for young couples	63,150			0.35
Mortgage and construction loan in PLN	5–32.5 years	variable	local currency	4.99–6.48	16,000	0.3	LTV 100%	0.42
Mortgage and construction loan in euro	5–30 years	variable	hard currency	3.39–5.06	16,000	0.3		0.38
Mortgage and construction loan in Swiss francs	5–30 years	variable	hard currency	1.45–2.5	16,000	0.3		0.38

Romania

Poland

Kazakhstan									
Kazakhstan Mortgage Company	3–20 years	variable	local	12.5–13.5	13,000	35	370,000	45	
	1–20 years	fixed	hard	12–14	13,167	46–50	500,000	50	
Private mortgages									
	5–30 years	mostly fixed	local	2.99–7	37,967	0.4	LTV 100%	0.5	
Corporate mortgages									
	5–20 years	both	hard and local	3.5–8	554,567	0.5	LTV 90%	0.7	
Municipal mortgage									
	5–30 years	mostly fixed	local	3–7	434,797	0.2	LTV over 100% possible	0.3	
Home loan of commercial bank									
	up to 30 years	variable	local	6.45–8.50	50,520–63,150	0.33	315,750	0.33	
Home loan of Bausparkasse									
	to 20 years	fixed	local	4.44–6.0	na	0.33	no limit	0.33	
Croatia									

Table A.10 (continued)  
 Typical mortgage products in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
 Croatia, Hungary, Slovenia, and Germany (2004)

		Typical mortgage products					Remarks			
	What are the minimum and maximum terms?	Is the rate fixed or variable?	Is it issued in local or hard currency?	What is the interest rate range? [%]	What is the average loan amount? [USD]	What is the typical payment / income ratio? [%]	What is the maximum loan amount? [USD]	What is the maximum payment / income ratio? [%]		
	Subsidized loans for newly built homes	5–35 (varies across banks)	both: fixed for five-year periods, variable	local	variable: 7.5–9 fixed: 6.5–9.5	33,667	40–50	72,143	30–50%, but some banks only examine the “minimum income”*	*estimated as banks' scoring systems are confidential
	Subsidized loans for existing homes	5–35 (varies across banks)	both: fixed for five/ten-year periods, variable	local	variable: 9–11.5 fixed: 7–9	22,600	50–60	24,000	30–50%, but some banks only examine the “minimum income”*	*estimated as banks' scoring systems are confidential
	Foreign-currency-based loans (this type of loan exists only from 2004, but as the subsidies were cut back became quite famous quickly; its share in the outstanding loan is much less than 20% but quite considerable in the new issuances)	3–35 (varies across banks)	variable	Euro and CHF	Euro loans: 7.5–9 CHF loans: 6–7	na	na	151,560–252,600	30–50%, but some banks only examine the “minimum income”*	*estimated as banks' scoring systems are confidential

Hungary



Euro mortgage loan based on EURIBOR	1–15 years	EURIBOR + fixed margin	euro	Euribor +1.5–4	40,000	33–60	defined by payment/income ratio	defined by payment/income ratio
Mortgage loan based on local currency	1–20 years	variable reference +fixed margin	local	SITIBOR or SIOM + 1.5–5	19,400	33–60	defined by payment/income ratio	defined by payment/income ratio
Housing loan insured by insurance company	1–10 years	fixed or variable	local or euro	SITIBOR or SIOM + 1.5–5	19,400	25–40	defined by payment/income ratio	defined by payment/income ratio
<b>Contrast</b>								
<i>Bauspar</i> loan	3 to 16 years	fixed	local	2,61–6,96	15,104	0,3	no limit	0,45
Mortgage loan (granted by mortgage bank or other bank)	5–30 years	typically fixed	local	3,4–4,2	22,229	0,3	no limit	0,45

*Note:* na: no data available.

*Table A.11*  
Credit risk and prepayment risk in Russia, Romania, Poland, Kazakhstan,  
the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004)

		Credit risk				Prepayment risk	
		Registration		Foreclosure		Availability of mortgage default insurance (including state guarantee)	
Title	Lien	Dominant form of settlements*	Handled routinely by courts, includes eviction if needed	Timeliness of the agreement	Timeliness of possession of the property	Mortgage permitted without penalty by law	
Timeliness	Reliability	Reliability	Reliability	Timeliness	Reliability	Y / N	Y / N
quick / medium / slow	high / medium / low	high / medium / low	high / medium / low	quick / medium / slow	high / medium / low	Y / N	Y / N
high / medium / low	high / medium / low	high / medium / low	high / medium / low	fast (less than 6 months) / slow / unclear	fast (less than 6 months) / slow / unclear	Y / N	Y / N
medium	high	medium	high	medium	high	N	Y
Russia		x	N	fast	slow	N	Y
Romania		x	eviction by court	unclear	unclear	N	Y
Poland		x	Y	slow	slow	Y	No regulations
Kazakhstan		high	N	fast	fast	Y	Y
Czech Republic		high	Y	fast	fast	Y**	N

Croatia	medium	high	slow	high	x	Y	slow	slow	N	N
Hungary	slow	high	medium	high	x***	eviction only by court*****	fast****	fast****	N*****	Y/ N*****
Slovenia	slow	medium	slow	medium	x	Y	slow	slow	N	Y

Contrast

Germany	quick	high	quick	high	x	Y	fast	fast	N	Y***
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- Note:* \* Out of court realization of the property, or the lender finds the buyer of the apartment and the buyer pays down the debt. Problem loans are sold to realtor.
- \*\* Covers just death, short term unemployment + state guarantees in special cases.
- \*\*\* But banks charge penalty fees.
- \*\*\*\* In the case of loans originated after 2000, through public notary deed.
- \*\*\*\*\* Only few cases in the case of newer loans; the recovery is handled usually through the agreement between the bank and the borrower. Except for state guarantee for interest rate subsidized loans.
- \*\*\*\*\* Y—for "normal" loans, banks charges penalty rate; N—for mortgage bond backed loans.

Table A.12

Interest rate risk in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004)

	Interest rate risks				
	Primary funding source		Mortgage bonds		Term loans
	Deposits	average term	Y / N	% of volume of loans originated to the volume of bonds issued in 2003	Y / N
Russia	Y	na	N		Y
Romania	Y		N		
Poland	Y	3 months	Y	below 1	Yes, in case of loans denominated in hard currency
Kazakhstan	Y	1 year	Y	396	Y
Czech Republic	Y	2 years	N	37.6	N
Croatia	Y	Time deposits in foreign currency	N		Y
Hungary	Y	1 year or less	Y	na	N
Slovenia	Y	3–6 months	N		Y
			Contrast		
Germany	Y	well above 5 years	Y	23.5	Y

Note: \* Volume of loans originated—34,305 mln KZT; volume of bonds issued—8,656 mln. KZT within 2003; bonds to loans = 25%.

*Table A.13*  
Mortgage subsidies in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
Croatia, Hungary, Slovenia, and Germany (2004)

	Mortgage subsidies				Remarks
	Interest rate subsidies	Personal income tax deductions for mortgage interest payments	Downpayment subsidies		
	Y/N	Y/N	Y/N	Y/N	
		If yes	If yes	If yes	
		Volume of loan	Volume of tax expenditure	Volume of budget expenditure	
<b>Russia</b>	Y	na	Y	na	na: no data available.
<b>Romania</b>	N		N	Y	Downpayment subsidies: 20% up-front grant for young first-time buyers under 35 with NHA. 30% bonus on <i>bausparkasse</i> savings.
<b>Poland</b>	Y	few participants (200–300)	Y	N	Interest rate subsidies: loans with fixed interest (state subsidy to guarantee fixed interest). System poorly prepared, has no future. Personal income tax subsidy: limited size of deductions, only citizens not benefiting from previous subsidy systems. So far very limited (majority benefited in old system); in the future may grow fast.

Table A.13 (continued)  
Mortgage subsidies in Russia, Romania, Poland, Kazakhstan, the Czech Republic,  
Croatia, Hungary, Slovenia, and Germany (2004)

	Mortgage subsidies						Remarks
	Interest rate subsidies		Personal income tax deductions for mortgage interest payments		Downpayment subsidies		
	Y/N	If yes	Y/N	If yes	Y/N	If yes	
	Volume of loan		Volume of tax expenditure		Volume of budget expenditure		
<b>Kazakhstan</b>	Y	9 mln USD (September 2005)	Y	for <i>bauspar-kasse</i> loans	N		Interest rate subsidies were made through additional capitalization of KMC.
<b>Czech Republic</b>	Y	394.7 million USD	Y	43.67 million USD	N		
<b>Croatia</b>	N		Y	na	N		From the tax base USD1,960.8 (paid for interest) is deductible.
<b>Hungary</b>	Y	6,699.43 million USD (June 2004)	Y	151.31 million USD	Y	146.44 million USD	PIT: 40% of the loan repayment is deducted from the tax up to USD1,154.3/ year (in 2004: USD 577.15). Down payment subsidy: mainly for newly built homes depending on the number of children.

<b>Slovenia</b>	N	Y	na	Y	2.7 million USD	<p>PTT: very low since deductions are allowed—only up to 3% of taxable income, but within 3% of taxable income other deductions are allowed like for money spent for medicine, private health insurance, private pension insurance (from 2005 2%, but an additional deduction of 2% of taxable income was added only for mortgage interest payment).</p>
<b>Contrast</b>						
<b>Germany</b>	N	N		N		<p>PTT: tax write-offs in case of buy-to-let properties. Down payment subsidies: home ownership grant, after purchase of the house. The subsidy is not subject to a loan agreement or presavings requirement. In 2003 the government spent 10,482.9 million USD on this subsidy. May be abandoned in 2005.</p>

*Table A.14*  
House prices, rents, and income in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004)

	House prices, rents, and income				Remarks
	Median house price [USD/m <sup>2</sup> ]	Median private rent [USD/m <sup>2</sup> ]	Median household income per month [USD]		
	Country	Urban	Country	Urban	
Russia	na	na	na	na	na: no data available.
Romania		1–2	2–10	average gross salary 250	
Poland	320–400	668–802	0.8–1.33	1.3–1.9	567.11
Kazakhstan	200	550	1.4	4.5 far from center; 6.25 close to center; 9 in the center.	300–400
					147
					527.3
					According to the Agency on Statistics, the income distribution is irregular throughout the territory. There are no statistics for household income as it is too irregular.



<b>Czech Republic</b>	110	220	2.3	6.5	na	na	The values for house prices are for 2002 and are based on the average purchase price as published on <a href="http://www.mmr.cz">www.mmr.cz</a> . Private rent data are for 2004 for the Czech Republic and for Prague based on <a href="http://www.oecd.org/dataoecd/43/21/33963933.pdf">www.oecd.org/dataoecd/43/21/33963933.pdf</a> . Median household income per month in the year 2002 was between 430 and 500 USD (median household income per capita per month in the year 2004 was 316 USD).
<b>Croatia</b>	500	700–1,100	3.2	4.6	520	750	Median house price for urban housing is for 2004.
<b>Hungary</b>	440	611	3.5–4.0	4.5–5.5	577.1	608	
<b>Slovenia</b>	400–600	800–1,200	4.83	14.5	598.6	na	Median equivalent household income based on adjusted OECD scale.
<b>Contrast</b>							
<b>Germany</b>	234.2	411.5	7.1	8.33	1,243.4	1,776.28	Median household income: typically, salaries are higher in West Germany than in East Germany (about 10–20%). In addition, salaries in the countryside are 20 to 30% lower than in cities.

Table A.15

House prices for selected types of housing in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004)

	House prices [USD]					
	Capital city 30–45 minutes from the center, housing estates built in 70s and 80s, average condition, 2–room apartment	Capital city, good location, suburban housing built in the 90s, 100–120 m <sup>2</sup>	Capital city, traditional suburban/village environment, not high prestige, family house built before 1990, 100–120 m <sup>2</sup>	30–50 thousand inhabitants, housing estates built in 70s and 80s, average condition, 2–room apartment	Small city of less than 30 thousand inhabitants, family house built before 1990, 100–120 m <sup>2</sup>	Town/village of less than 30 thousand inhabitants, family house built before 1990, 100–120 m <sup>2</sup>
Russia	55,000	220,000	180,000	15,000	na	na
Romania	25,000–32,000	100,000–150,000	38,000–50,000	19,000–24,000	40,000–50,000	40,000–50,000
Poland	80,000–110,000	135,000–165,000	110,000–135,000	22,000–28,000	55,000–62,000	55,000–62,000
Kazakhstan	40,000	66,000	35,000	16,500	21,500	21,500
Czech Republic	49,500	100,000	100,000	66,000	26,500–66,000	26,500–66,000
Croatia	80,000–100,000	180,000–250,000	80,000–100,000	50,000	60,000–80,000	60,000–80,000
Hungary	50,000	150,000	80,000	35,000	30,000	30,000
Slovenia	97,000	400,000	291,000	218,000	121,000	121,000
			<b>Contrast</b>			
Germany	212,160	430,000	330,000	16,620	17,600	17,600

*Table A.16*  
Salaries for selected types of professions in Russia, Romania, Poland, Kazakhstan, the Czech Republic, Croatia, Hungary, Slovenia, and Germany (2004)

	Salaries			Remarks
	Daily rate for a cleaning woman in the private sector [USD]	Daily rate for a handyman (gardening, construction work) [USD]	Average net income of public servant (teacher at high school with 5 years experience) [USD]	
Russia	9.1	4.55–6.82	80	In public school (sponsored by government)
Romania	10	15	250	
Poland	10.7–16	13–21	320	
Kazakhstan	3	8	125–150	
Czech Republic	14.9	23.6	764.2	
Croatia	22	19.7	664	
Hungary	32	32	400–450	
Slovenia	17.5	32	900	
				<b>Contrast</b>
Germany	80–100	160–192	3618	



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# Index

- affordability 3, 4, 9, 11, 12, 14, 15, 17, 38, 43, 45, 46, 53, 58, 61, 63, 65–70, 72–74, 76, 147, 151, 171, 188, 199, 201, 215, 219, 221, 223, 226, 227, 233, 237, 239, 242–245, 264, 272, 275
- constraint 49, 51, 54–57, 233, 234
- Albania 3, 10, 11, 17, 39
- allocation pool 294
- asymmetries/asymmetric information 101, 102, 118, 119, 120, 122, 131, 134, 135, 137, 139, 141, 144
- auditing 147
- Baltic states 11, 39, 88, 91, 93
- banking
- commercial 18, 19, 21, 33, 91, 116, 153, 156–159, 169, 180, 187–189, 215, 216, 229, 241, 252, 262, 266, 292, 295
  - private 12, 17, 20, 31, 147, 293, 306
  - mortgage 19, 21, 33, 34, 52, 54, 89, 91, 94, 115, 116, 148, 151, 158–160, 162, 174, 180, 181, 187–189, 202, 216, 247, 249, 279, 281, 288, 291, 293, 295, 296, 300, 301, 306
- bausparkasse 20, 33, 34, 84, 87, 89, 91, 94, 97, 142, 148, 158, 159, 202, 216, 230, 231, 279, 281, 288–295, 299–301, 306, 307
- bonds
- government 188, 189, 192, 194, 195, 203, 207
  - corporate 120
- budget 6, 9, 16, 33, 35, 84, 87, 90–95, 159, 161, 177, 179, 181, 185, 198, 199, 203–205, 207, 213, 227, 228, 240, 250–252, 272, 273, 282
- competition 5, 20, 26, 34, 35, 38, 51, 138, 151, 156–158, 160, 161, 163, 165, 167, 170, 173, 187, 215, 219, 260, 265, 273, 291, 295, 299, 300, 301
- construction 3, 8, 11, 16, 31, 33, 39, 56, 67, 83, 89, 90, 97, 153, 165, 172, 173, 177–179, 181, 183, 184, 187–189, 192–194, 196, 197, 200, 205, 206, 207, 209, 210, 212–214, 217–220, 224, 226–229, 233, 234, 239, 240, 242, 243, 250, 254, 261, 262, 275, 282–284, 290, 302
- contract savings banks 181, 188
- Croatia 15, 17, 20, 22, 39, 143, 148
- Czech Republic 8–11, 16, 17, 19, 20, 23, 39, 47, 88, 92, 93, 95, 97, 260, 275
- debt 17, 49, 59, 72, 93, 102, 103, 115, 117, 125, 129, 131, 133, 142, 156, 158, 175, 203, 208, 228, 248, 260, 265, 268, 294, 299, 306, 307
- decentralization 16, 180
- default 22, 23, 50, 58, 66, 102–113, 119, 124, 125, 133, 134, 138, 139, 141, 142, 144, 148, 215, 237, 243, 248, 253, 265, 267, 273, 298
- deficit 181, 194
- Denmark 129, 135, 136, 138, 142, 147
- East European Housing Model 5, 8, 12, 47
- economic indicators 17, 255, 257
- emigration 286, 298
- equity 5, 56, 58, 59, 67, 84, 86, 93, 97, 103–109, 111–113, 115, 122, 124, 133, 134, 138, 197, 208, 260, 279, 292, 306
- European Mortgage Federation 147, 148
- European Union (EU) 5, 18, 26, 45, 46, 49, 52, 53, 59, 133, 142, 147, 151, 173, 229, 259, 289, 300
- financial sector 3, 8, 22, 66, 134, 139, 141, 173, 259, 260
- Finland 91, 130, 143, 147
- fixed-rate 125, 203, 227, 248, 270, 271, 273
- framework
- institutional 180
  - legal 11, 12, 22, 180, 281, 282, 288, 292, 297, 302

- geographic diversification 101, 102, 116, 141  
 Germany 5, 10, 17, 20, 22, 33, 56, 130, 136,  
 142, 143, 147, 148, 159, 230, 279,  
 281–286, 289–293, 295–299, 301, 302,  
305, 307  
 Greece 147  
 homeownership grant 287, 288, 301, 305  
 housing affordability index (HAI) 15, 69, 70,  
 199, 208, 239  
 housing governance 16  
 Housing Opportunity Index (HOI) 70, 199,  
208  
 housing stock 3, 11, 139–141, 177, 179, 183,  
 184, 211, 223, 224, 232, 262, 273, 282,  
 284, 299, 301, 305, 307, 308  
 Hungary 5, 8–12, 15–17, 19–23, 26, 31, 33,  
 34, 38, 39, 47, 56, 88–91, 94, 97, 143,  
148, 177, 179, 184, 185, 187, 202, 203,  
208, 260, 283  
 inflation 16–18, 26, 51, 55, 56, 73, 74, 86,  
 93, 113, 129, 147, 151, 157, 158, 160,  
 163, 165–167, 172, 173, 174, 181, 187,  
 189, 196, 212, 215, 220, 227, 229, 232,  
 233, 242, 252, 258, 260, 262, 267, 270,  
 275, 276  
 information 5, 12, 13, 21–23, 50, 63, 72, 76,  
 101, 105, 112, 118–121, 127, 131,  
 135, 139, 148, 169, 173, 198, 220, 245,  
 246, 248, 254, 260, 262, 275, 289, 306  
 (see also asymmetries,  
 asymmetric information)  
 insurance 17, 23, 34, 50, 61, 83, 84, 88, 92,  
 94, 97, 114, 115, 119–122, 141, 142,  
 144, 148, 165, 167, 169, 170, 174, 192,  
 214, 215, 231–233, 237, 245, 247, 249,  
 252, 254, 259, 260, 265–270, 272, 273,  
275, 293  
 irrelevance theorem 127, 133  
 Kazakhstan 5, 10, 17, 21, 22, 32, 39, 148, 255,  
 257–262, 264, 265, 267, 268, 272, 273,  
275, 276  
 liberalization 8, 18, 32, 134, 136, 139  
 liquidity 52, 53, 59, 159, 160, 169, 217, 218,  
 219, 244, 249, 255, 260, 265, 266, 272,  
 273, 279, 288, 300, 305 (see also risk)  
 Lithuania 39, 88, 91, 93, 94, 95, 97, 148  
 loan-to-value (LTV) 15, 26, 49, 50, 52, 54–56,  
 58, 61, 66, 92–94, 97, 104, 105,  
 107–113, 125, 138, 141, 158, 160, 167,  
 196, 201, 208, 215, 267, 270, 281, 289,  
 290, 295, 306, 307  
 lobby  
 construction 194, 202  
 financial 202  
 market share 138, 153, 162, 170, 215, 261, 266,  
 268, 271, 273, 275, 291, 299, 306  
 microfinance 56, 57, 60, 63, 65, 74, 76  
 mortgage  
 finance 35, 49, 52, 56, 57, 63, 65–67, 72,  
 85, 89, 94, 130, 132–135, 139,  
 141, 147, 196, 216, 219, 223, 228,  
 229, 233, 237, 257, 290  
 lending 12, 18, 19, 21, 22, 32, 58, 66,  
 72, 74, 91, 116, 117, 141, 147,  
 156, 157, 187, 188, 202, 215,  
 231, 232, 237, 239–250, 252, 253,  
 255, 257, 259, 261–266, 269,  
 271–273, 279, 281, 282, 290–292,  
 295–298, 300, 301  
 market 17, 18, 20–22, 31–33, 38, 49, 52,  
 59, 62, 82, 89, 91, 94, 103, 112,  
 113, 115, 117, 121, 124, 127, 130,  
 132, 135, 137, 151, 154, 158, 174,  
 177, 202, 209, 219, 221, 229–233,  
 241, 242, 245–250, 252, 253, 255,  
 264, 268, 272, 273, 283, 291  
 Netherlands 56, 142, 306  
 OECD 38, 49, 62, 95, 131, 265, 268, 275, 276  
 ownership 6, 38, 48, 50, 73, 83, 84, 89, 91,  
 140, 141, 143, 169, 184, 224, 225,  
234, 244, 247, 262, 265, 272  
 (see also homeownership grant)  
 personal income tax (PIT) 74, 192, 200, 207  
*pfandbriefe* 279, 281, 282, 288, 289, 294, 295,  
 299–301, 306, 307  
 Poland 3, 5, 8, 9, 11, 14–17, 19–23, 26, 34, 39,  
 47, 88, 91, 94, 97, 148, 151, 153, 157,  
 159, 163, 167, 169, 170, 173, 260, 275  
 policy  
 financial 132  
 housing 4, 9, 16, 17, 33, 35, 38, 43, 45–  
 47, 49, 54, 56, 60, 61, 95, 97, 151,  
 156–159, 173, 174, 177, 179–181, 184,  
 193, 196, 202, 209, 211, 215, 219, 223,  
 242, 253, 281, 282, 301, 302  
 social 6, 83  
 Portugal 147, 306  
 price bubble 15, 185, 196, 197, 198, 282



- privatization 3, 8, 9, 12, 16–19, 33, 38, 47, 78,  
 88, 91, 140, 151, 157–159, 180, 181,  
 184, 202, 208, 211, 214, 218, 221,  
 223–226, 229, 232, 233
- public health 82, 88
- public sector 38, 130, 131, 140, 143, 177, 179,  
 181, 184, 200, 220, 258, 295
- ratio 12, 14, 17, 18, 23, 104, 169, 170, 179,  
 180, 208, 215, 260, 270, 283, 307  
 (see also loan-to-value)
- refinancing 22, 56, 59, 159, 167, 188, 249, 254,  
 289, 292
- reform 3, 11, 16, 19, 34, 35, 79, 83, 86, 129,  
 130, 157, 180, 181, 187, 202, 211, 217,  
 232, 240
- regional housing programs 250–253
- rent control 47, 49, 140
- rental housing 9, 73, 78, 84, 94, 174, 214, 281,  
 282
- reunification (of Germany) 282, 298, 301, 302,  
305
- risk
  - allocation 53, 101, 137
  - credit 22, 66, 84, 94, 99, 101, 102, 112,  
 114–117, 119–122, 137, 159, 187,  
 232, 242, 245, 248, 252–254, 255,  
 262, 266, 269, 270, 273, 298, 299
  - exchange-rate 26, 255, 269, 271
  - interest-rate 21, 22, 26, 34, 51, 66, 84,  
 99, 101, 102, 115, 116, 118–122,  
 137, 174, 216, 232, 237, 248, 249,  
 253, 255, 269–271, 298, 300
  - liquidity 34, 66, 84, 115, 117, 174, 237,  
 249, 252–255, 269, 271, 298, 300
  - prepayment 22, 23, 66, 84, 123, 237,  
 249, 250, 252, 253, 255, 269, 271,  
 298, 300
- Romania 5, 9, 12, 15, 17, 19, 20, 22, 32, 39,  
 221, 223–225, 229, 231, 232, 234, 235,  
 260
- Russia 5, 9–11, 14, 15, 17, 19, 21, 22, 31, 39,  
 66, 132, 139, 140, 147, 237, 239–248,  
 251, 253, 254, 257, 258, 260, 275, 276,  
 281
- Savings and Loan 53, 116, 143, 144, 147
- Second World War 131, 281, 301, 302
- secondary market 21, 22, 83, 117–119, 122,  
 138, 139, 143, 144, 154, 209, 219, 233,  
 254, 261, 265, 269
- securities 22, 116–122, 134, 143, 189, 214,  
 249, 250, 253, 260, 265, 266, 268, 270,  
 272, 273, 289, 290
- securitization 53, 54, 99, 101, 102, 116, 117,  
 119, 120, 122, 131, 132, 143, 159, 174,  
 271, 292, 293, 297, 302, 306
- Slovenia 10–12, 14–16, 19, 20, 22, 39, 46, 139,  
148, 209, 211, 213–216, 218, 220
- socialism 94, 158, 177, 179
- Spain 138, 147, 283, 284
- Sweden 11, 97, 130, 142, 143, 147
- tax
  - exemption 32, 94, 184, 195, 288
- write-off 287, 301, 302
- transaction costs 50, 53, 120, 134, 136, 137,  
 141
- True Sales Initiative (TSI) 292
- unbundling 54, 117, 118, 137
- unemployment 4, 111–113, 124, 181, 187, 258,  
 279, 285, 286, 298, 299
- United Kingdom 56, 58, 59, 97, 129, 137, 138,  
 143, 169, 283–285, 290
- United Nations (UN) 45
- United States 12, 31, 38, 45, 53, 56, 68–70, 78,  
97, 109, 112, 115, 117–119, 123, 129,  
 135, 139, 142–144, 147, 148, 169, 234,  
 284, 285
- urbanization 6, 38, 46
- USAID 159, 174
- Visegrad countries 88–91, 93, 94, 97
- World Bank 81, 95, 96, 147, 151, 153,  
 157–159, 161, 177, 179, 275

