

Linking Housing and Capital Markets in the Former Soviet Bloc:
The Status of Residential Mortgage Bond and Secondary Markets
in the Czech Republic, Hungary, Poland and Russia

By

Douglas S. Lloyd

M.C.R.P./M.Arch.

Iowa State University of Science and Technology

B.A., Economics

College of the Holy Cross

Submitted to the Department of Urban Studies and Planning in Partial Fulfillment of the
Requirements for the Degree of Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

September, 2001

©2001 Douglas S. Lloyd
All rights reserved

The author hereby grants to MIT permission to reproduce and to distribute publicly paper and
electronic copies of this thesis document in whole or in part.

Signature of Author _____

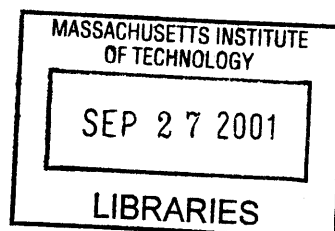
Department of Urban Studies and Planning
July 18, 2001

Certified by _____

Henry O. Pollakowski, Ph.D.
Visiting Scholar, MIT Center for Real Estate
Thesis Supervisor

Accepted by _____

William C. Wheaton, Ph.D.
Chairman, Interdepartmental Degree Program in
Real Estate Development



LINKING HOUSING AND CAPITAL MARKETS IN THE FORMER SOVIET BLOC:
THE STATUS OF RESIDENTIAL MORTGAGE BOND AND SECONDARY MARKETS IN
THE CZECH REPUBLIC, HUNGARY, POLAND AND RUSSIA

By

DOUGLAS S. LLOYD

Submitted to the Department of Urban Studies and Planning
on July 18, 2001 in partial fulfillment of the
requirements for the Degree of Master of Science in
Real Estate Development

ABSTRACT

Since the collapse of the Soviet Union in 1991, the Russian Federation (“Russia”) and former soviet satellite countries and republics of Central and Eastern Europe (“Soviet Bloc”) have struggled with privatizing housing and establishing market-based residential mortgage systems. This thesis addresses the recent efforts of three former Soviet Bloc countries (the Czech Republic, Hungary and Poland) to fund residential mortgage lending through the use of mortgage bonds and capital markets (wholesale lending). This European lending market is different and, in many ways, a competitor to residential mortgage securitization, an American method of accessing capital markets. For comparison, this thesis addresses efforts to connect Russia’s residential mortgage markets to domestic and international capital markets. The thesis concludes that the residential mortgage markets in these four countries remain in the early stages of development and that the current benefits of mortgage bond and mortgage-backed securities in such stages remain unclear.

Thesis Supervisor: Henry O. Pollakowski, Ph.D.

Title: Visiting Scholar, MIT Center for Real Estate

TABLE OF CONTENTS

	<u>Page</u>
CHAPTER ONE: INTRODUCTION	5
Problem Statement.....	5
Literature Review	7
Hypothesis Statement	15
Methodology	15
 CHAPTER TWO: FINDINGS	 18
Methods of Capital Market Access	18
Traditional Bausparkassen and Mortgage Banks	18
Pfandbriefe in Central Europe	22
♦ Czech Republic.....	24
♦ Hungary	29
♦ Poland.....	32
♦ Summary of Mortgage Bank and Bond Activity in CEEC Study Countries	35
Liquidity Facilities in Russia	36
♦ Liquidity Facilities in the United States	36
♦ Liquidity Facilities in Russia.....	39
♦ Summary of Secondary Mortgage Market Programs in Russia.....	43
 CHAPTER THREE: ANALYSIS AND CONCLUSIONS	 45
Primary Mortgage Market Development.....	45
♦ Cultural and Economic Issues	46
♦ Legal and Transparency Framework.....	51
Long-Term Mortgage Lending Development	53
♦ Competing Housing Systems in the CEEC Study Countries	53
♦ Mortgage Bond Financing in the CEEC Study Countries.....	58

	<u>Page</u>
◆ Liquidity Facility Viability in Russia.....	63
◆ Emerging Institutional Investment	67
◆ Domestic Rating Agency Development	76
◆ Sovereign Ratings Dilemma.....	78
◆ Credit Enhancements.....	81
The Future of Secondary Markets and Securitization	84
◆ Obstacles to European Securitization	86
◆ Possibilities for European Securitization	88
Conclusions.....	92

LIST OF TABLES AND FIGURES

TABLES

Table 2.1 – Czech Mortgage Loan Activity.....	27
Table 2.2 – Czech Mortgage Bond and Contract Savings Activity: 1996 – 1999.....	28
Table 2.3 – Mortgage Bank and Bond Activity in the CEEC Study Countries.....	35
Table 2.4 – Summary of Russian Bank Secondary Mortgage Market Programs	44
Table 3.1 – Housing Mortgage Characteristics in the CEEC Study Countries.....	45
Table 3.2 – Financial Intermediation-to-GDP Ratios	68
Table 3.3 – Pension Reform and Mortgage Investment.....	71
Table 3.4 – Agency Ratings for CEEC Study Countries and Russian Debt.....	78

FIGURES

Figure 3.1 – CEEC Study Country: Percent Change in GDP, 1993 to 2001.....	47
Figure 3.2 – CEEC Study Country: Percent Change in Consumer Prices, 1993 to 2001.....	48
Figure 3.3 – Russia: Percent Change in GDP, 1993 to 1998.....	48
Figure 3.4 – Russia: Percent Change in Consumer Prices: 1993 to 2001	49
Figure 3.5 – Exchange Rate: Domestic Currency vs. U.S. Dollar: 1993 to 2001	89
Figure 3.6 – Exchange Rate: Domestic Currency vs. Eurodollar: Jan., 2000 to Jan., 2001 ...	89

APPENDICES

Appendix I – Description of Rating Agency Credit Ratings.....	100
--	------------

CHAPTER ONE: INTRODUCTION

Problem Statement

Since the collapse of the Soviet Union in 1991, the Russian Federation (“Russia”) and former soviet satellite countries and republics of Central and Eastern Europe (“Soviet Bloc”) have struggled with privatizing property and establishing free market systems. Under the former communist system, property, including housing, was for the most part held by the government. Over the past decade, these countries have continually searched for housing policies that balance the benefits of the private property markets with the need to guarantee some level of housing to their citizens, most of whom still remember the guaranteed housing of the communist past. In many of these countries, the result has been a reliance on government housing subsidies and programs, which many experts argue slow down the development of private residential real estate markets.

As in the United States and other countries, there will always be a need for some level of subsidized and public housing in Russia and the former Soviet Bloc countries for certain segments of their populations. However, the encouragement of a stable, private residential mortgage market is crucial to fostering market mechanisms, supporting private housing and strengthening overall democratic ideals among the middle and upper classes evolving in these countries. Homeowner mortgages originate from private banking and capital market systems, and serve to further stimulate market systems. Private banking and capital markets are still evolving in Russia and the former Soviet Bloc and, as a result, the limited domestic capital supply in these emerging markets is used inefficiently. In these countries, banks primarily rely on individual deposits for capitalization and existing wide spreads between the deposit interest rates and those charged by banks reveal inefficient loan processes, large capital reserves (including reserves for losses) and

high premiums to cover bank liquidity risk. Overall, there is a lack of residential mortgage origination when compared with Western Europe, the United States or even other emerging nations. While Russian banks remain reluctant to offer long-term mortgages due to liquidity and political reasons, the causes of low levels of long-term mortgage lending in Central and Eastern Europe appears to involve additional factors. Long-term lending is essential for the development of mortgages and housing markets. In addition, mortgages are essential to the overall health of banking systems. There is a need to further develop the residential mortgage markets of Russia and the former Soviet Bloc by finding new capital sources to improve deteriorating housing stocks and stimulate private housing markets. In addition, improvements in these areas will encourage foreign investment and continue to spur overall economic, social, legal and democratic development.

This thesis focuses on three of the former Soviet Bloc countries in Central Europe that are rapidly becoming westernized in many economic and housing policy areas: The Czech Republic, Hungary and Poland. These three countries are considered first-tier candidates for future European Union (“EU”) membership and will be referred to collectively in this thesis as the Central/Eastern European (“CEEC”) Study Countries.¹ The thesis addresses these countries because they are attempting to foster a European-based method of residential mortgage lending that connects housing and capital markets. This European lending market is different and, in many ways, may be seen as a competitor to residential mortgage securitization, an American method of accessing capital markets for mortgage lending. For comparison, this thesis will address efforts to connect Russia’s residential mortgage markets to domestic and international capital markets. Because of various historical, economic and political differences from the

¹ Other former Soviet Bloc countries making rapid progress toward westernization and European Union membership include the Baltic Countries. However, this thesis will not attempt to address these countries.

CEEC Study Countries, Russia presents an alternative approach to accessing capital markets for residential mortgage lending that more closely resembles past American experiences.

Literature Review

Privatized housing markets evolving in the CEEC Study Countries and Russia have been monitored closely and influenced heavily over the last decade by various Western governments, non-governmental organizations, academics and business interests. As a result, a growing body of literature continues to emerge from these sources as the housing markets of the CEEC Study Countries and Russia develop and adapt to on-going social, economic and political challenges, both domestically and internationally. However, much of the literature suggests that the future of capital markets in the development of residential mortgage markets in these countries remains a very open question.

The reduction of public housing programs and the encouragement of private housing markets require access to mortgages. Competitive mortgage markets create personal and economic incentives for both lenders and borrowers, and thus help to foster free market mechanisms. Furthermore, privatization of housing funds helps reduce the strain on public finances (Black, et. al., 2000). However, residential mortgage lending remains limited in the CEEC Study Countries and Russia, with Russia confronting the most acute problem. Pastukhova and Rogizhina (2000), Diamond (1999) and Kaganova (1998) have all documented that Russia faces low-levels of mortgage lending. In addition, the limited number residential mortgage loans are short-term, low loan-to-value (“LTV”) loans that are offered only at high interest rates. The cause of these low mortgage loan levels, and the corresponding unaffordable lending terms, lies partly within the Russian banking system.

Bernstam and Rabushka (2000) argue that a true market economy requires (1) a monetary system that is separate from the financing of production, which would include housing construction and purchases, and (2) a real commercial banking system connected to capital markets. However, Bernstam and Rabushka propose that the privatized Russian banking system currently is comprised of what they term as “ersatz” or “inferior imitation” banks. These banks are primarily owned by industry and continue to serve government and industry by redistributing public depository funds to favored firms, rather than efficiently allocating capital by focusing on prudent investment opportunities for themselves and their depositors. In short, the result has been a self-perpetuating system of bank insolvency and low public confidence, leading to fewer bank deposits and further bank illiquidity. As banks focus their limited resources on financing industry and purchasing high yield government debt, one result has been a lack of capital available for residential mortgage lending. Bank liabilities in Russia have primarily been short-term deposits (EBRD, 2000) and thus have made long-term mortgage lending unattractive (Struyk, 2000). The limited capital provided for mortgages is only available for short-term loans and at very high interest rate spreads to address severe bank liquidity risk and inefficient operations.

An explanation of the low mortgage lending levels in the CEEC Study Countries is a more complicated story. Kawalec and Kluza (2000) observe that the banking systems in these countries are much healthier in terms of their operations and liquidity than those in Russia, with the Czech banking system being the weakest of the three CEEC Study Countries. The relative health of these banks can be partly attributed to extensive involvement, ownership (primarily through subsidiaries and joint-ventures) and capitalization from foreign (namely German and Austrian) investors over the last decade (Kutan and Brada, 2000; Polański in Hölscher, 2000).

Despite overall bank liquidity, Merrill (2000) and Diamond (1999) reveal that residential mortgage lending levels in the CEEC Study Countries, as a percentage of housing market share, remain small in comparison with the U.S. and much of Western Europe.²

Black (et. al, 2000) suggests that Hungary and Poland, and to a lesser extent – the Czech Republic, do not appear to currently share with Russia a lack of availability of long-term financing for mortgage lending. Instead, Struyk (2000) identifies a reluctance on the part of citizens to enter into mortgage loans in light of historically high levels of macroeconomic instability and high real interest rates. Nevertheless, Diamond (1999) suggests that the existence of historically high interest rates and past reluctance of banks to lend (due to liquidity risk) do not fully explain the low mortgage levels observed in the CEEC Study Countries. Diamond discusses that neither low interest rate periods in the Czech Republic nor deferred loan payment programs³ in Hungary have greatly improved domestic mortgage lending activity. More importantly, Diamond (1999) suggests citizens of CEEC Study Countries are reluctant to borrow unless their governments subsidize lending rates below the return on bank deposits rates through national banking or tax policy. Struyk offers that these citizens are not accustomed to spending high shares of income (between 25-30%) on housing, although they show a willingness to take out large loans for car and other large durable good purchases. In addition, Struyk suggests that substantial housing wealth and small family size provide families in these countries with alternative home purchase funding sources. In summary, Struyk (2000) and Black et. al. (2000) predict that mortgage demand in the CEEC Study Countries will grow slowly over the next few

² Despite the fact that these countries have relatively strong levels of homeownership, with Hungary's 90% ownership rate and Poland's 67% ownership rate exceeding the U.S. rate of 65%. Russia also has a rate estimated at between 30% and 55% (Struyk, 2000; Diamond, 1999).

³ These programs defer higher loan payments until later in the loan term, when the borrower is more likely to have achieved a higher real wage and accumulated wealth. Such programs have improved mortgage activity in Poland (Diamond, 1999).

years, primarily due to such factors as stagnant population growth and real property value declines in some countries.

Given predictions of low mortgage demand, the question arises as to the need or role of linkages between housing markets, banking systems and capital markets. The need derives from the argument that advanced and efficient residential mortgage markets require high levels of reliable and sustainable long-term financing (OECD, 2000). Angel (2000) outlines three successive stages in the evolution of residential lending and mortgage markets: (1) Direct Lending, (2) Mortgage Banking, and (3) Securitization. Angel describes Direct Lending as a direct transaction between borrower and lender, with many developing countries still using this model in the form of credit societies and other more informal sources. However, this model typically provides only small loans with short durations that result from sole reliance on the pool of savings from members, with no access to outside funding.

Angel's second two stages, Mortgage Banking and Securitization, suggest the potential of future connections to domestic and international capital market funding. Mortgage Banking represents a vast improvement to borrowers over Direct Lenders in terms of access to credit quality and quantity. This system requires sophisticated legal systems in that a mortgage is a legal claim on real property and the borrower pledges his or her claim (or mortgage) on the house as collateral for the loan to purchase the house. In addition, the system requires a certain level of economic and institutional stability since such systems require sophisticated administrative and transactional skills that can be costly. Lastly, political stability is necessary to support the economic, institutional and legal components. The result is that, in exchange for a claim on the long-term durable property asset, Mortgage Banking offers access to long-term mortgage loans. Such loans are more affordable because they stretch out payments over a longer

period of time. Angel identifies building societies, savings-and-loans, savings and commercial banks, and credit unions as lending institutions included within the Mortgage Lending System. This system is still considered a Primary Mortgage Market since the mortgage loans remain owned by and on the balance sheets of the originating lender.

Angel's final stage of mortgage lending, Securitization, involves the establishment of a true Secondary Mortgage Market, wherein the mortgage loans are passed through the originating lender to a second party or even third party. As Angel explains, securitization requires further sophistication and standardization of mortgage underwriting, instruments and other practices to allow the pooling of mortgages to create securities that are ultimately purchased by pension funds, insurance companies and other investors seeking long-term investment horizons. The pooling of loans through securitization offsets various lender and investor risk factors that will be discussed in further detail later in this thesis.

Pollock (in Lea, 1998) explains that, although bonds are among the most basic financial instruments and the first to develop in any emerging financial system, securitization links residential mortgage and bond markets in a financially complicated way. The link assumes an economy with advanced information, computing technology and securities infrastructure. In other words, Pollock argues that the establishment of such a link presupposes the existence of sophisticated capital markets. Therefore, Pollock describes an evolution of residential mortgage finance with key distinctions from the stages outlined by Angel. The first requirement or stage involves private credit institutions that originate residential mortgage loans, followed by the establishment of an independent bond market that serves as the base market for traded securities. Last, the link of private credit institutions to this bond market is made through the creation of a Home Loan Bank or Liquidity Facility that issues general obligation bonds to fund the purchase

of loans. Pollock's assessment is that any assumption that the prerequisite capital market structure for any such credit institution-capital market link can be created rapidly is highly questionable.

Lea (1998) expands upon both the Angel and Pollock evolutionary stages by describing four residential mortgage finance system classifications.⁴ These classifications are: (1) Contractual Savings (or "Dedicated Savings") Institutions, (2) Depository Institutions Specializing in Mortgage Lending ("Mortgage Banks"), (3) Wholesale Lending Institutions ("Wholesale Lenders"), and (4) Secondary Mortgage Market. Lea's Contract Savings institution is a more formalized stage than Angel's Direct Lending stage because the institution gathers savings from households (referred to as "deposit" or "retail" lending) and then makes loans to homebuyers. The Contract Savings institution thus originates, services and funds its own loans. Lea includes commercial, savings, building societies, and savings and loans in this classification.

In terms of relevance to this thesis, a key distinction between the Lea stages and those of Angel and Pollock is Lea's second classification: Mortgage Banks. Generally speaking, a Mortgage Bank is a specialized (in terms of legal standing) institution that originates and services loans, yet funds these loans through capital market bond issuances ("mortgage-backed bonds") that are collateralized by specific loan portfolios. It then uses the resulting bond proceeds to purchase loans from originating lenders. Since the originator sells its loans to a second party, a secondary mortgage market can be said to exist. However, Lea appears to require further evolution for the emergence of true secondary markets, as shown in his fourth classification (Secondary Mortgage Markets). It is essential to note that the Mortgage Bank model is unique to Europe. These institutions should not be confused with similarly named U.S.

institutions and this thesis will use the term “mortgage bank” only when referring to this European model. Lea points out that Mortgage Banks are a blend of the retail and wholesale lending, where the wholesale lending component is the use of capital markets, rather than the public, for long-term funding. Wholesale Lenders, the third Lea classification, involves the use of Liquidity (or “Secondary Mortgage”) Facilities that are typically government-owned or supported. The Liquidity Facility issues general obligation bonds in the capital markets, with the bonds typically designated as general obligations of the entity, rather than collateralized by specific loans.

Lea’s final classification, a Secondary Mortgage Market, involves the purchase of loans by a Liquidity Facility or other entity to be pooled together and issued as a Residential Mortgage-Backed Securities (“RMBS”). Specific pools of mortgage loans back these securities and provide the payments to their investors.⁵ The essential distinction between Lea’s Mortgage Bank Lending (as well as Wholesale Lending) and his Liquidity Facility or RMBS Secondary Mortgage Market is that the loans originated by a Mortgage Bank remain on the balance sheet of that bank, irregardless of its bond issuances. In contrast, under Lea’s Liquidity Facility or RMBS Secondary Mortgage Market model, a second owner of the loan is created. However, in the RMBS model, the loans and their risks *pass through* directly to investors (all “MBS” terms in this thesis will henceforth only refer to pass-through MBS). In this way, the investors represent a third loan owner or “tertiary market.” Therefore, the term *secondary [mortgage] market* is not always clearly defined. Liquidity facilities or other financial institutions that purchase and maintain mortgage loans on their own balance sheets (“portfolio lenders”), rather

⁴ Because these types of institutions or securities can and do exist simultaneously, the term “classification” seems to be a more appropriate term here than “stage.” Nevertheless, both the Mortgage Bank and Mortgage-Backed Securities (MBS) can be viewed as financially more sophisticated than a CSI and, therefore, at a higher evolutionary “stage” than a CSI.

⁵ Lea explains that an MBS can also be called a “pass-through” security to stress that loan payments pass directly to the investor, minus servicing and guarantees paid to the Liquidity Facility or other servicing entity.

than passing ownership and payments through to investors by way of RMBS, do create a type of secondary market since they serve as the second owners of the loans. However, typically the loan originator and liquidity facility (or other entity) are seen as engaging in the first trade of mortgage loans within the primary [mortgage] market. Similarly, a secondary market is generally attributed to the second trade of those mortgage loans from the liquidity facility or similar entity to an investor. Therefore, mortgage banks that maintain the loans on their balance sheets and then issue mortgage-backed bonds are usually viewed as primary market operators.

The fundamental problem in assessing the need for a link between capital markets and mortgage primary markets in the CEEC Study Countries and Russia relates to the stages or classifications described by Angel, Pollock and Lea. Russia desperately needs long-term funding sources in order to grow its privatized housing market. Meanwhile, although mortgage demand is developing slowly in the CEEC Study Countries, the reluctance of their domestic banks to lend appears to be subsiding as banking competition continues to increase. The identification of the stage currently applicable to each of these countries is crucial in any assessment of the need for or role of links to capital markets. In Russia, as well as the CEEC Study Countries, uncertainty exists as to whether the condition of the primary market justifies the need for capital market access and, ultimately, secondary markets. This uncertainty relates to specific economic and related characteristics of these countries. Any decisions related to capital market access should be mindful of Pollock's assessment that seems to preclude the ability to skip evolutionary stages in the development of mortgage markets. In addition, one must be careful in attempt to draw too closely from the American mortgage market experience.

Hypothesis Statement

The establishment of the Government National Mortgage Association (GNMA or “Ginnie Mae”), the Federal National Mortgage Association (FNMA or “Fannie Mae”) and the Federal Home Loan Mortgage Corporation (FHLMC or “Freddie Mac”) helped to create residential secondary mortgage markets in the United States. These markets allow banks to sell their mortgage portfolios in order to recapitalize and then fund new loans. This system has resulted in high levels of liquidity in the U.S. banking and mortgage market.

Capital market access is now being considered in the CEEC Study Countries and Russia as a method to address bank liquidity, stimulate mortgage growth and encourage home ownership. There are essentially two related types of mortgage lending systems being implemented in these countries that involve capital market access. The European mortgage bank model is currently the choice of the CEEC Study Countries. This choice appears to be related to historical ties and proximity to Western Europe and proposed links to the EU and the European Monetary Union (“EMU”), and the involvement of well-funded foreign banks within their financial sectors. In contrast, a liquidity facility model is being attempted in Russia. This choice appears partially related to the involvement of U.S. funds and experts in the development of Russia’s banking and housing systems. Nevertheless, due to economic, social and other issues unique to the region, none of these countries appear ready for the residential mortgage lending-capital market links occurring in other emerging markets.

Methodology

The overall intent of this thesis is to present an overview of efforts in the Czech Republic, Hungary, Poland and Russia to foster private residential mortgage growth by linking domestic mortgage markets to domestic and international capital markets. The thesis primarily abstracts

information from journal articles, working papers, news articles, business magazines and books relating to housing in transitional economies, particularly those focusing on Central and Eastern Europe. Many of these publications admit that the future role of secondary residential mortgage markets in these countries, as well as access to capital markets in general, remains unclear. In an effort to summarize the uncertainty relating to capital market access in the CEEC Study Countries and Russia, this thesis serves as a collection and analysis of the various written thoughts and conclusions of academic and consultant experts involved in the development of these capital market links. These analyses are enhanced and expanded upon, when possible, through interviews with the various authors. In addition, interviews have been conducted with other experts involved in capital market access, primarily rating agency analysts.

The next chapter, Chapter Two (Findings), uses the above-referenced secondary source research to provide an overview of the status of mortgage markets and capital market access in the CEEC Study Countries and Russia. The chapter introduces in more detail the two types of residential mortgage systems that serve as links between mortgage lending and capital markets. Next, the current status of the applicable model in each country is reviewed, with distinctions between each of the three Central European efforts and those of Russia discussed. The focus of the chapter is to discuss the various characteristics of the capital market vehicles used, as well as the intentions and role of the various financial, governmental and other intermediaries involved.

The final chapter, Chapter Three (Analysis and Conclusions), outlines the analyses and conclusions drawn from the facts and information identified in Chapter Two. In particular, the various assumptions and implications embedded in decision to implement or support either of the two mortgage lending models identified in Chapter Two are discussed. Detailed comparisons, when possible, are made between these two alternative systems. Such comparisons include

identified strengths and weaknesses related to each model, as well as implications to future of the secondary mortgage market systems. Analysis and conclusions are from the standpoint of various secondary sources and interviews, as well as the personal observations and analysis of the thesis author. The chapter identifies what aspects in the creation of capital market links have been successful, but will primarily focus on necessary areas of further study and improvement since these systems are so early in their development. As part of this discussion, the chapter identifies external forces in the domestic and international capital markets that will be vital to the development of long-term mortgage financing in the countries being studied. Lastly, the chapter concludes with a brief discussion of areas for further study that may offer promise in the development of capital market access and secondary mortgage markets in these countries.

CHAPTER TWO: FINDINGS

Methods of Capital Market Access

The CEEC Study Countries and Russia currently favor different, yet related, approaches to connecting their residential mortgage markets to capital markets. In general, as discussed in the Literature Review, there are essentially two financial vehicles in which to raise funds from capital markets for mortgage loans: (1) Mortgage-Backed Bonds (subsequently referred to in this thesis as “Mortgage Bonds”), and (2) RMBS. The CEEC Study Country and Russian banks that are attempting to access capital markets currently use bonds for recapitalization and to finance their purchase of additional loans. Therefore, their loans remain on their balance sheets as assets of the bank. These assets are offset by their retail deposit liabilities. The essential difference between the CEEC Study Countries and Russia is the CEEC Study Countries have chosen a mortgage bank approach, whereas Russia has attempted to implement several liquidity facility approaches.⁶ Although there are similarities between the two approaches, there are also important differences that have vast implications to the future development of mortgage markets in these countries.

Traditional Bausparkassen and Mortgage Banks

A discussion of mortgage banks in the CEEC Study Countries requires review of the another primary banking system that is involved in mortgage lending in these countries: bausparkassen. The bausparkassen system, which originated in Germany and Austria, can be viewed as competing with and providing an alternative to mortgage banks (“landesbanken” in German) and their mortgage bond financing. Under such a system, the institution accepts

deposits in set quantities and at set periods from people intending to purchase a home. The intent is that, when the potential homebuyer reaches a certain level of savings, the institution will provide a mortgage that, along with the initial savings, will allow the homebuyer to purchase a house. Thus, a commitment or contract between the potential homebuyer and lender is created so that, if the homebuyer meets his or her savings requirements, the institution will in turn provide his or her mortgage loan. Therefore, the system is also referred to as a “contract savings system,” as well as “housing loan associations” or “building societies.” In modern Germany, Austria and elsewhere in Western Europe, these operations are typically part of universal, savings or commercial banks.⁷

There are two main points in understanding this type of system in relation to its competition with mortgage banks. First, the traditional German *bausparkassen* system involves subsidies from the government (to be discussed later in this thesis) in order to promote the purchase of homes. In the traditional model, depositors accept lower deposit rates in exchange for below-market mortgage rates some years later. In addition, the contractual relationship between the potential borrower and lender provides the lender with a more consistent and stable deposit base than in traditional retail lending. Second, in the traditional model, the system is a *closed* system. In other words, only the deposits provided by the “members” or potential homebuyers of a specific *bausparkassen* serve as the funds for the loan program. Furthermore, only those members are able to obtain mortgages from the institution at below-market rates.

Mortgage Banks are now found throughout Western Europe, but are historically and economically connected with the banking systems of Germany and Austria, as well as Denmark

⁶ This thesis will address only the model applied at the national level. In addition, according to Struyk (1999), Sberbank in Russia at one time did act as a mortgage bank in Russia. However, it ceased its residential mortgage loan operations in 1993 and is not discussed further in this thesis.

⁷ Universal banks are a common bank model in Europe wherein, unlike the U.S. banking system, both traditional commercial banking and investment banking activities are housed.

and Sweden. These institutions were formed to provide long-term mortgage lending so that, like *bausparkassen*, they could foster home purchases. Originally, in the traditional German model, these mortgage banks were independent institutions. However, as with *bausparkassen*, this type of system is commonly found within a larger commercial, savings or universal banks. The essential difference between a mortgage bank and a *bausparkassen* system is that a mortgage bank system is an *open* system. First, there is no direct connection between the amount a person deposits in the bank and how much he or she can borrow for a mortgage. A potential homebuyer can actually not even be a depositor with the bank. Therefore, the system does not rely on relating specific deposits to specific loans. Second, because the system relies on short-term deposits that can be withdrawn at any time, there is a potential asset-liability issue on the balance sheets. To address this mismatch problem, the traditional German-Austrian system includes a connection to capital market funding: *Pfandbrief* [*singular*]; *Pfandbriefe* [*plural*]

A *pfandbrief* is a fixed-rate mortgage bond, which is a face-value, collateral-backed bond. The *pfandbrief* instrument has existed since 1771, when it was invented in what was then part of the German Duchy of Breslau, and has continually been used in Germany, Austria and Scandinavia. Currently, German and Austrian banks are aggressively promoting *pfandbriefe* and these debt instruments are increasingly becoming a major part of European capital markets. Historically, *pfandbriefe* were backed by bank retail deposits. Today, they are collateralized by specific bank loan portfolios and are issued in the capital markets to raise new funds. More specifically, there are three types of *pfandbriefe*:

- *Öffentliche* (“Public”) *Pfanbriefe*. Mortgage Bonds backed public-sector loan debt.⁸

⁸ Governments may issue *öffentliche pfandbriefe* to fund loans for public-sponsored housing and housing infrastructure. However, this thesis focuses solely on private housing market mechanisms.

- “*Traditional*” *Mortgage Pfandbriefe*. Mortgage Bond issues in the amount of Euro 5 million up to 500 million, which are sold on the open market; and
- *Jumbo [Hypotheken] Pfandbriefe*. Bond issues of Euro 500 million or more (that are issued through syndicates following a minimum of three investor bids called “market-makers”).

Since no CEEC Study Country market can support a jumbo pfandbrief issuance, the *traditional pfandbriefe* are the most comparable to the mortgage bonds of the CEEC Study Countries discussed in this thesis.

Like *bausparkassen*, there is a public policy component to mortgage banks and their *pfandbriefe* in terms of supporting homeownership. In the traditional German-Austrian model, mortgage banks are separate banks that have the exclusive right to issue *pfandbriefe*. In exchange, the banks are subject to strict capital requirements, lending criteria and insolvency procedures to ensure that the ratings of these *pfandbriefe* remains high (OECD, 2000). The high rating allows the mortgage bank to access to low cost funds since *pfandbriefe* are considered low-risk investments. The banks then offer lower-rate loans, typically a first mortgage, due to this lower cost of funds. *Pfandbriefe* remain the direct debt of the bank by remaining on its balance sheets. This is another reason why mortgage bank lending is heavily regulated; to ensure the solvency and stability of the bank, its mortgages and the reputation of the *pfandbrief* security.

Arndt (1999) explains that while many mortgage bank activities are included within larger commercial or universal banks in Germany (as well as Central and Eastern Europe), the activities and composition of *pfandbriefe* remain regulated. Each individual *pfandbrief* is not backed by specific collateral. Instead, a specific, registered collateral pool of both *residential and commercial* mortgage loans (“cover pool”) backs an entire *pfandbrief* issue or “series.” Loan assets must be divided into separate cover pools for public and traditional mortgage

pfandbriefe. These assets are required to be clearly identified in a Cover Register, which in Germany, is consistently reviewed by the Federal Banking Supervisory Authority.

To further ensure high ratings on the bond issuances, only first-class mortgages are eligible for pfandbrief collateral and these mortgages can only account for up to 60% of the value of the mortgaged property. However, the entire property (all 100%) secures the mortgage. The first class mortgages, and hence all pfandbriefe, are comparable to senior debt in a MBS. Individual pfandbriefe do not face individual claims within their respective registered collateral pool. Instead, for example, an entire pfandbrief cover pool supports the entire corresponding pfandbrief issuance. The cover pool has an unlimited duration and its composition is variable. When a loan is originated that meets legal requirements, it is added to the cover pool. Similarly, when a loan is repaid, it is removed from the cover pool. Overall, the large number of claims “within” the cover pool offset risk. If a mortgagee with several loans on his or her property defaults, or the value of the property falls to 65% of the mortgaged value, the mortgage bank’s first-class mortgage claim remains fully secured, while other lenders face losses. In the unlikely event that a mortgage bank fails, the cover pool is pledged to satisfy the claims of the pfandbrief holders, including interest and redemption payments. Pfandbrief holders do not hold a first lien on any other assets of the bank.

Pfandbriefe in Central Europe

The CEEC Study Countries have a long tradition of mortgages, yet 50-plus years of centrally-planned economies removed or essentially eroded laws that potential mortgage lenders feel are prerequisites of mortgage lending. Much of the history of mortgage lending in these countries relates to their histories as part of the Austrian-Hungarian Empire (Hungary and the Czech Republic) or Germany (parts of Poland). In addition, their proximity to Germany and

Austria also facilitated interrelated economic and banking interests before World War II. Despite this history, mortgage bank activity in Central and Eastern Europe has been slow to develop over the past few years and pfandbrief issuances have been very limited. Mortgage bond legislation has actually been introduced in all three CEEC Study Countries, as well as the Slovak Republic and Latvia. In addition, legislation has been drafted in Estonia, Bulgaria and even Russia (OECD, 2000). German banking interests are particularly committed to creating a broader market for pfandbriefe in all of Europe, and have been particularly interested in the potential of the markets of the CEEC Study Countries.⁹ Since April, 1998, mortgage banks in EU countries have been permitted to lend in Central and Eastern Europe. In response, German banks, as well as those of Austria, the Netherlands and others, are heavily involved in capitalizing banks in the CEEC Study Countries. Therefore, they have strong economic and political influence in implementing this type of capital market funding. In fact, the mortgage bank/bond acts introduced in the three CEEC Study Countries, the Slovak Republic and Latvia are based heavily on Germany's *Hypothekbankgesetz* (Mortgage Bond Act), as well as the traditional, historical German-Austrian mortgage bank model. All of the acts implemented by the CEEC Study Countries fulfill the criteria of the European Union's minimum standards for Mortgage Bonds, which are outlined in Article 22 of its UCITS Directive.¹⁰ German and other EU member banks cannot fund their loan operations in transition countries directly through pfandbriefe issued in their home markets. In addition, most CEEC Study Countries at one time did not allow or limited direct foreign entry into their banking systems, although entry is now allowed. Therefore, to operate in these countries, German and other foreign banks created subsidiaries that issue their own mortgage bonds within the transition country.

⁹ The formation of the EU allowed mortgage banks to engage in cross-border activities in EU member states and the European Economic Area (which includes the CEEC Study Countries), subject to strict risk and solvency guidelines.

♦ Czech Republic – The legislation to allow long-term residential and commercial mortgage loans has been in effect in the Czech Republic since October of 1995. The term *pfandbrief* is a legally protected term in Germany. Similarly, the term *Hypotéční Zástavní List* (Czech for “Mortgage Bond”) is legally registered in the Czech Republic and Mortgage Banks must obtain licenses for mortgage banking operations from the Ministry of Finance and Central Bank (ENB). However, it is important to note that the Czech *Act on Bonds*, like the German act, does not limit the issuance of Mortgage Bonds to specialized Mortgage Banks. Instead, any bank, including Czech Building Societies (bausparkassen), may be granted the right to issue such bonds as part of its overall activity, provided the right is applied for and granted as part of its banking license. As a result, mortgage lending activity in the Czech Republic is predominantly included within ordinary commercial or universal banks. According to the European Mortgage Federation (“EMF”), as of March 2001, only *eight* mortgage banking licenses had been issued and all but one of these licenses have been issued to universal banks. The remaining licensed institution is the Czech-Moravian Mortgage Bank, which operates solely as a mortgage bank (EMF, 2001). As of August, 2000, the European Commission (“EC”) indicated a total of *nine* issued licenses to the following universal banks: Bank Austria - Creditanstalt, Česká spořitelna (“CS”), CSOB, GE Capital Bank, HypoVereinsbank, Komerční banka (“KB”), Raiffeisen Bank and Zlunostenska banka. The remaining license is held by Českomoravská hypoteční banka (“ČMHB,” which is the Czech-Moravian Mortgage Bank), the only bank currently pursuing only mortgage lending activities. At the end of 1999, the mortgage market lending volume was clearly dominated by the following banks owned or controlled by foreign banks: CMHB (controlled by Investiní a Po tovní banka) at 29.1%; HypoVereinsbank, CZ at 24.4%; KB at 23%; and CS at 20.1% (EC, 2000).

¹⁰ Directive on Undertakings for Collective Investments in Transferable Securities (“UCITS”).

To ensure stable mortgage lending in light of such operations being housed in universal banks that take part in different levels of lending risk, the Czech Republic's *Act on Bonds* follows the German model and requires that the universal banks provide specific loan collateral for any mortgage bond issuance. This loan collateral is legally separated from the remainder of the universal bank's pool of assets in the event of loan default or bankruptcy of the bank itself. Although the Czech law imposes a maximum 70% the LTV on property serving as collateral for the mortgages that turn serve as collateral on the Mortgage Bonds, this standard is not as restrictive as the 60% limitation under German law.¹¹ The LTV coverage covers the nominal loan amount, as well as promised mortgage bond interest yields (Stöcker, 2001).¹ However, Kûhn (2000) explains an exception to the coverage rule (referred to as "alternative coverage") whereby up to a maximum of 10% of nominal value of the mortgage bond issue can be covered by the mortgage bank through cash reserves, deposits with EHB, government bonds or EHB bonds. Through all of these regulations, the mortgage loan collateral serves exclusively as first-class, non-surbordinated collateral for the mortgage bonds. To ensure this status, under new provisions of the *Civil Code of Procedure*, mortgage loans "serving as cover assets of the nominal amount of mortgage bonds" are guaranteed a higher priority than statutory liens (including tax liabilities) in the case of bank or loan default. Each bank must maintain independent "evidence" on its mortgage lending to ensure that it is maintaining strict compliance with the regulations of the *Act of Bonds* . However, unlike the German model, the Czech Republic does not require a specific and independent trustee to monitor bank compliance.

¹¹ In the German model, these regulations translate to a limit on the total volume of pfandbriefe in relation to bank capital. Outstanding pfandbriefe are limited to a multiple of 60 times the "liable" capital of pure mortgage banks, and 48 times for mixed (universal or commercial banks with mortgage banking activities) banks. Mixed banks are assumed to carry a higher level of lending risk and thus are required to maintain higher liquid capital reserves. It is not clear from Stöcker (2001) whether the mixed banks in the Czech Republic are subjected to the 48 capital multiple rule, rather than the 60 multiple rule.

There are additional regulations within the Czech laws on mortgage loan underwriting to ensure the stability of Mortgage Banks and mortgage lending. For example, mortgages have to follow specific underwriting and documentation procedures. More importantly, they are required to provide fixed-rate loans, which helps to encourage mortgage borrowing in a country where interest rates have been historically high and volatile. According to the EMF (2001), the standard term for mortgage loans is 20 years, with a five-year fixed rate structure. Similar to the German Model, the five-year term includes a typically high, but negotiable, prepayment fee. As of June, 2000, the offering interest rate was approximately 9% for the five year fixed-rate term. There are also two variants of the typical loan terms, although neither appears to be popular with potential Czech borrowers. First, there is a one-year fixed-rate loan, which the bank is able to fund from its short-term deposits, rather than Mortgage Bonds. Second, there is a one-year adjustable-rate loan that converts (assuming renewal) to a five-year fixed-rate loan at the conclusion of the five-year term.

Most Czech households interested in mortgage loans prefer the 20-year term, especially since many borrowers qualify for a four percent (4%) subsidy from the government. For those families that qualify, the subsidy is deducted directly from the loan rate and a portion of the tax savings (due to the deductibility of loan payments) is removed from the net mortgage payment. The paid interest can be deducted from one's income tax base. Mortgage loans are even attractive to those that do not qualify for the subsidy since mortgage loan interest is tax deductible. The result is an effective real interest rate that approximates zero percent (0%). The maximum allowable LTV on any mortgage to be used as Mortgage Bond collateral is 70%, with up to another 20% of the appraised value allowed to be borrowed at higher, floating rates. Underwriting is focused on the borrower's family's maintaining discretionary income greater

than 1.6 times the designated minimum living income of a comparable-sized family. Similar to the U.S., the resulting target payment is between 30% and 35% of family net income.

The goal of the subsidy is to encourage the construction and purchase of new homes. Therefore, the subsidy only applies to new, privately-owned single-family houses and apartments. Either builders or private persons can apply for the mortgage loans. The following is a summary table of mortgage loan activity:

Table 2.1 - Czech Mortgage Loan Activity: 1996 to 1999				
Loan Data	1996	1997	1998	1999
Total Mortgage Loans	6,188	4,092	4,988	6,414
•Housing Loans as % Commercial Bank Assets	1.5%	2.2%	3.1%	3.9%
Total New Mortgage Loans	9,088	9,247	10,987	10,922
•Percent of Total Mortgage Loans	59.5%	69.3%	68.8%	63%
•Percent of GDP	58%	55%	60%	59%
•Individual	5,676	3,407	4,594	6,103
•Corporate	512	685	394	243
Total Subsidized Mortgage Loans	2,023	1,690	1,766	2,281
•Volume	2,127	1,887	1,934	3,055
•Individual	1,998	1,685	1,724	2,243
•Corporate	15	5	22	0
•Cooperatives or Municipalities	na	na	na	68
Loan Characteristics:				
•Average Basic Interest Rate	11.4%	12.9%	14.2%	10.3%
•Average State Subsidy	4%	4%	4%	4%
•Average Term (Months)	na	na	185	na
<i>Source: EMF, 2001</i>				

According to Stöcker (2001), the mortgage loans can be used for (1) apartment or house construction, (2) land purchases or apartment, (3) house purchases (within one-year of certification of qualification), and (4) repayment of a loan received after January 1, 1995. The government guarantees that borrowers can receive financial aid until the mortgages are repaid, provided that the repayment period does not extend beyond 20 years. In addition, the mortgages cannot exceed CZK¹² 2 million for a house with two apartments, CZK 1.5 million for a single-

¹² The Czech currency is the *Koruna*, which is abbreviated as "CZK."

family house, and CZK 12,000 per square meter of an apartment (up to CZK 800,000 per unit in an apartment building).

The Mortgage Bond market developing in the Czech Republic remains very small, partly reflecting the overall limited mortgage market activity, as shown by the following table:

Table 2.2 - Czech Mortgage Bond and Contract Savings Activity: 1996-1999						
Mortgage Bond or Bausparkassen	1994	1995	1996	1997	1998	1999
Mortgage Bond New Issues	na	na	1.8	1.1	2.2	11.9
Mortgage Bond Issues Outstanding*	na	na	1.8	2.9	5.1	17
Bausparkassen Savings+	6.4	16.3	34.5	59.6	81.7	93.6
Bausparkassen Lending+	0.0	0.2	2.1	8.3	24.9	39.5

Sources: EMF, 2001

*Including Bonds Issued that Year (Line 1 of Table). Decimals (Fractions) indicate full announced issue not completed; +In billions (Currency: Czech Koruna or "CZK")

Vereinsbank (CZ), a subsidiary of Germany's Vereinsbank, issued the first Czech Mortgage Bond in 1996. This issue was followed by those of Hypobank (CZ), a subsidiary of Germany's Hypobank (a Mortgage Bank), and the Czech-Moravian Mortgage Bank. In order to stimulate interest in Mortgage Bonds, there is an income tax deduction on the yields from these bonds. Nevertheless, the market continues to be slow and, as of the fall of 2000, only 17 total issues remain outstanding, totaling Euro 520 million.¹³ Individual bond nominal values in these series range from CZK 10,000 (BACA and some KB and CMHB issues) to CZK 100,000 (Vereinsbank and other KB issues) to CZK 1.0 million (Hypobank issues). Yields range from 8.5% to 12%, with only one KB issue using a variable rate of PRIBOR¹⁴ plus 3.5%. According to Kůhn (2000), most issues were purchased by institutional investors, with a few bought by retail and medium investors. The first issues were primarily from subsidiaries of Western European banks that had attracted insufficient retail deposit funds in the Czech Republic. Other banks began

¹³ Kůhn (2000) tabulates a total (between 1996 and 2000) of CZK 18 million issued from BACA, CMHB, CS, Hypobank, KB and Vereinsbank.

¹⁴ The Prague Interbank Offered Rate ("PRIBOR"). As with LIBOR (the London Interbank Offered Rate), PRIBOR is the rate that Czech creditworthy banks charge one another for large loans in the Prague market and it is used as a benchmark for

issuing bonds in 1999 when interest rates declined, making fixed-rate loans and bonds more feasible.

Unfortunately, based on records provided by Kûhn, the residential mortgage market appears to have been relatively unaffected by these issues. Bond maturities are typically only five years and likely mimic the relatively short terms of the loans in their collateral pools. More importantly, only one Hypobank and one Vereinsbank issue were backed by residential mortgage loans, with the remainder of the issues listed as commercial in nature. The prevalence of commercial loans in the collateral pools suggests residential mortgage lending remains limited and has not been affected by the availability of longer-term sources of funds.

◆ Hungary – Hungary’s *Mortgage Bank and Mortgage Bond Act* was adopted 1997 and introduced the German-styled mortgage bank system to the country. Unlike the Czech Republic, the mortgage law of Hungary, like that of Germany, specifically requires the separate and independent creation of specialized mortgage banks. The Act legally protects and registers the name *Jelzáloghitelintézet* (Hungarian for “mortgage bank”) and *Jelzáloglevél* (Hungarian for “mortgage bond”). More importantly, according to Stöcker (2001), the Act specifically identifies the activities in which a licensed mortgage bank can participate so as to reduce lending risk and ensure liquidity for mortgage loans. These activities include: (1) raising capital, (2) originating mortgage loans, (3) originating loans without mortgage collateral against public and directly-enforceable guarantees, (4) issuing bank guarantees, (5) participating in certain swap contracts,¹⁵ and (6) issuing and administering their own bonds. There is only one pure mortgage

determining floating rates of interest. Similarly, Poland applies WIBOR (the Warsaw Interbank Offered Rate) as a benchmark rate.

¹⁵ Swaps: Since bonds are fixed-investment securities, there is a need to protect the investment from interest rate and/or currency exchange risk. Investors can enter into interest rate swap agreement markets to help protect them from interest rate fluctuations by allowing them to arrange the trade their bonds in the future. According to Thau (1992), this allows them to improve total return by: (1) trading for a lower yield bond to generate a tax loss to partially recoup erosion of bond principal from rising interest rates, (2) upgrading to a bond with better credit quality (particularly when yield spreads between credit

bank (or “housing savings bank”) operating in Hungary and it competes with the HypoVereinsbank Hungaria and Bank Austria-Creditanstalt, which have mortgage bank operations. This pure mortgage bank is public and is called the Land and Mortgage Bank (*Földhitel es Jelzálogbank* or “FHB” in Hungarian). Prior to the *Mortgage Bank and Mortgage Bond Act*, a mortgage banking system already existed in Hungary, especially through the *Országos Takarékpénztár* (abbreviated “OTP” in Hungarian), the state savings bank, as well as through state-owned commercial banks. Therefore, the FHB was primarily established to allow farmers to refinance agricultural land. The FHB is a government-sponsored entity that was developed (with the help of existing banks) as part of the *Mortgage Bank and Mortgage Bond Act* to assist farmers in refinancing agricultural land. However, the FHB is also licensed to participate in mortgage lending for housing, as well as commercial real estate and municipal infrastructure. In Hungary, mortgage bonds are tax-exempt, yet they remain unpopular. As of 1999, there has been one Mortgage Bond issuance and that was from the FHB. The issue was small at HUF¹⁶ 1 billion (Euro 3.9 million) issued in 1999 with a five-year duration (Kolek and Cohrs, 1999). As with the Czech issuances, this issue has had virtually no impact on the availability of long-term residential mortgage funding. At most, it provided a symbolic signal of Czech progress toward accessing capital market funding for mortgage lending.

Since it requires specialized mortgage banks, Hungary can be seen as even more conservative than the Czech Republic in its concern for stable Mortgage Banks. As with the German and Czech laws, the Hungarian *Mortgage Bank and Mortgage Bond Act* requires that mortgage banks provide specific mortgage collateral for any mortgage bond issuance. Similarly,

ratings narrow, thus reducing the yield benefit from holding riskier securities), (3) increasing dividend income by extending maturities or changing credit quality, or (4) taking advantage of expected changes in interest rates (for example, swapping a bond with a shorter maturity if the current bondholder expects interest rates to increase, as with an upward sloping long-term yield curve). Investors can also enter into similar international swap markets to hedge against potential currency exchange rate risks, provided there is an international market for such currencies, which there is not for the CEEC Study Countries.

Hungary's Act requires that the total nominal bond amount (total face value) and interest yield outstanding be completely covered at all times by specified collateral ("cover assets"). Following the German model, cover assets are allowed to have a 60% LTV on the mortgage lending value, with 100% of asset value serving as collateral (which is referred to as *hitelbiztosítéki érték* or "loan collateral value") in the Act. However, in contrast to Germany's 60/48 bank capital "multiple rule," the volume of all mortgage loans may be up to of 70% of the value of all real estate serving as cover assets (in other words, a total bank mortgage loan portfolio cover pool of 70%). In addition, there are large minimum capital balance requirements. Lastly, Hungary feels Mortgage Banks (especially since the only one is state-sponsored) should have a special mission to improve loan maturities. Therefore, the government has tried to encourage longer-term mortgage loans than found in Czech and Polish mortgage banks by requiring that 80% of outstanding loan balances comprising the cover assets be of a five-year or greater term (Chiquier, 1999).

Unlike the Czech model, the Hungarian *Mortgage Bank and Mortgage Bond Act* requires that a trustee (referred to as the "Asset Supervisor") be appointed by (but separate from) the mortgage bank to monitor and certify that there is adequate cover assets for the outstanding mortgage bonds in a cover register (Stöcker, 2001). In contrast, Germany provides a government entity, the Federal Banking Supervisory Authority, to monitor the banks. The cover register records the cover assets to be used to satisfy any claims by mortgage bondholders and bondholders can require the sale of cover assets in the event of mortgage default or bank insolvency. To assist the mortgage bank in ensuring that outstanding mortgage bond issues remain collateralized, a recent law changes the priority of payment for mortgage lenders, in the

¹⁶ The Hungarian currency is the *Forint*, which is abbreviated as "HUF."

event of mortgage default and foreclosure, from last to fourth. Unlike the U.S., this moves mortgage priority ahead of taxes, social security and other public debt (Black, et. al., 2000).

◆ Poland – Poland’s *Act on Mortgage Bonds and Mortgage Banks* was passed in 1997. Like Hungary, Poland adopted a mortgage bank model more in line with that of Germany, whereby mortgage banks are required to be specialized institutions. Similarly, specific banking activities are outlined under the Act, including: (1) granting mortgage loans, (2) granting loans not covered by mortgages to specified government (public) borrowers or granting loans guaranteed by public entities, (3) acquiring public loans granted by other banks, and (4) issuing mortgage (traditional and public) bonds (Stöcker, 2001). Poland’s Act legally protects and registers the name *list zastawny* (Polish for “mortgage bond”). Unlike the Czech Republic and Hungary, the Act originally focused on mortgage lending for public-sector (community) project financing, but has expanded to housing lending. Currently there is a debate as to whether non-mortgage banks should be allowed to issue mortgage bonds. As of 2001, there have been numerous mortgage bank license applications to the Central Bank. However, only two mortgage banks have been permitted to begin operations: HypoVereinsbank Bank Hipoteczny and Rhienhyp-BRE Bank Hipoteczny. Both banks are subsidiaries of German banks and together they currently control less than 1% of the mortgage loan market (Kluza, 2001). A third bank, Slaski Bank Hipoteczny (partially owned by ING, a Dutch company) has been licensed as a mortgage bank but has not received approval for beginning operations. Merrill (2001) reports that PKO BP had also considered applying for a mortgage bank license, but appears to have reversed this decision. In total, there have been only two bond issuances from these banks: (1) A zloty-denominated¹⁷ issuance in June, 2000 by Rheinyp-BRE Bank Hipoteczny, S.A. in the

¹⁷ The Polish currency is the *Zloty*, which is abbreviated as “PLN.”

amount of PLN 5 million, purchased by BRE's parent, and (2) A Euro-denominated bond by HypoVereinsbank Hipoteczny in the amount of Euro 3.63 million¹⁸ and due in June, 2010.

The nominal value of Rheinhyp-BRE's planned total mortgage bond program series is PLN 100 million, with a PLN 100,000 nominal value on each bond. These bonds carry a floating rate based on WIBOR to protect the bond investor from interest rate fluctuations, which means the cover asset loans are more than likely variable rate to ensure this bank risk is passed on to the borrow. The issues were a non-public ("closed") offering to institutional investors and were primarily bought by domestic banks (Kudron, 2001). However, in theory, these bonds can be further traded on the Over-the-Counter ("OTC"; or "CeTO" in Polish) market. BRE Bank, S.A., as discussed in Chapter Two with respect to pfandbrief, is considered the "market maker." The market maker ensures there are potential buyers for the bonds and enters into issue agreements with these investors prior to the bonds being issued. It also serves as the paying agent or "servicer" for the bonds, collecting loan payments and paying interest according to the dates and frequency designated on the bond interest coupons. In contrast to the Rheinhyp series, the nominal value of HypoVereinsbank's planned mortgage bond series is much larger at PLN 1,000,000,000 (for the period 2000 through 2003). Also, the bonds are fixed-rate at 5.95%, with a bond maturity period of 10 years and the nominal value for each bond at Euro 10,000. The market maker, as well as the purchaser of the bonds, was by Bank Przemyslowo – Handlow ("BPH Bank, S.A."), which later merged with Vereinsbank.

One last interesting point should be made with respect to the servicing agent, which often may also be the "depositor" where the bonds are maintained and into which interest and principal bond payments are made. The *Act on Mortgage Bonds and Mortgage Banks* allows issued bonds to take either a "material" (as with the HypoVereinsbank issue) or "de-materialized" (as with the

¹⁸ Per Kluza (2001) and Kudron (2001). Merrill (2001) lists the issue as PLN 3.9 million.

Rheinhyp-BRE issue) form. According to Kudron (2001), the material form is an actual paper bond form. In contrast, the dematerialized form is a computerized record. Nevertheless, even in the case of the material issue, investors typically keep the bonds on deposit with the issue depository, which is BRE Bank, S.A. in the case of the Rheinhyp-BRE issue.

As in the Czech Republic and Hungary, Mortgage Banks in Poland must keep a cover register of their mortgage bond cover assets. Following the German model, they must also keep separate registers listing the assets covering their traditional and public-sector mortgage bonds. Upon licensure, the Bank Supervisory Committee appoints a Trustee and Deputy and these two officials, who are independent from the Commission, regularly monitor the required mortgage bond coverage through the cover register. As of 2000, the mortgage claims of mortgage banks are given fifth priority in the event of loan default (Black, et. al., 2000), and now rank above tax liabilities and social security claims. In the event of a mortgage bank's bankruptcy, the protection of mortgage bondholders follows the German model. The mortgages listed in the cover register, as a separate pool of assets, are pledged against the claims of the holders of mortgage bonds. Bankruptcy, however, does not necessarily accelerate the maturities of outstanding mortgage bonds.

Under Czech law, mortgage bond principal and interest must be covered by the issuing mortgage bank at all times. According to Stöcker (2001), loans are to be covered by mortgages that must not exceed 60% of the mortgage bank real estate value, meaning a maximum of 60% of this value can be refinanced via mortgage bonds. However, as with the German model, the mortgage loans serving as the collateral for the mortgage bonds are recorded and pledged at the full amount of the loan. This allows the part of the loan above the 60% limit to also serve as collateral, resulting in what is referred to as "over-collateralization." Loan and asset valuation

are carried out under specific provisions, acknowledging only those characteristics and yields that are permanent and can be ensured based on tenant characteristics. A mortgage bank can grant loans up to 80% of its real estate value portfolio value. However, any amount above 60% cannot be refinanced by mortgage bonds and must be refinanced by other means. The loan share exceeding this 60% limit cannot not exceed 10% of all mortgage loans of the mortgage bank.

◆ Summary of Mortgage Bank and Bond Activity in the CEEC Study Countries – The

following table provides a summary of some of the issues discussed in detail above:

Regulation or Activity	Czech Republic	Hungary	Poland
Effective Date of Enabling Act	7/1/95	6/7/97	1/1/98
Specialized Licenses	Yes (Limited #)	Yes	Yes
Mortgage Bond Name Registration/Protection	Yes	Yes	Yes
Bond Refinancing Limits	Mortgage Loans	Mortgage Loans*	Mortgage Loans*
Cover Register Requirement	“Independent Evidence” Only	Yes	Yes
Prioritization Under Bankruptcy	Yes	Yes	Yes
Regulations on Valuation	No	Yes	Yes
Lending Limits:			
•Relative Lending Limits for Mortgage Bond Refinancing	70% of Market Value	60% of Mortgage Lending Value	60% of Mortgage Lending Value
•Overall Limit on Lending Value	No	No (Generally)	80%
•Non-Cover Limit (Above Relative Lending Limit)	No	No	10%
Trustee Required	No	Yes	Yes
Substitute Cover	Yes	Yes	Yes
Substitute Cover Limit	10%	20%	10%
Public-Sector Bond Issuances	No	No	Yes
Ranking of Cover Mortgages	Yes	Yes	Yes
Special Public Supervision	Yes	Yes	Yes
Special Investment Regulations	No	Yes	No
Article 22 (4) UCITS Directive	Compliant	Compliant	Compliant
Mortgage Bank Licenses and Bond Issuances:			
No. of Mortgage Bank Licenses	7	1	3
No. of Mortgage Bond Issuances	15 (96-'99)	Unavailable (As of 8/99)	2 (As of 6/01)
Bond Issuance Values (Euro Conversion: Date not available)	Total: CZK 16.5 b (Euro 451 m)	Total: HUF 2,056 mm (Euro 8.2 m)	PLN 5 m; and Euro 3.9 m
Bond Maturity and Interest Rate	5 Years; 8.12-12% Fixed Rate	5 Years; 15.5% Annual Nominal	5 and 10 years; variable and fixed (5.95%)
<i>Source: Stöcker, 2001; Merrill, 2001; Kudron, 2001</i>			

*Also, public sector loans (but only if mortgage loan financed in Hungary)

Liquidity Facilities in Russia

The Liquidity Facility models being applied in Russia derive from the American experience in creating liquidity in the residential mortgage markets. These Russian efforts do not derive from the German-Austrian mortgage bank and pfandbrief models. Therefore, prior to studying the Russian efforts, it is important to review the related American liquidity facility models upon which the Russian model is based.¹⁹ This review shows that the development of secondary markets in the U.S. had as much to do with the policies and laws that established U.S. liquidity facilities as did with private market forces. In many ways, a liquidity facility fills a funding role in the absence of a mortgage bank tradition and healthy mortgage bank sector, like that found in Europe. The U.S. liquidity facilities receive government guarantees on their debt obligations and related securities. These guarantees are given in exchange for limitations on their business operations pertaining to the purchasing, servicing and selling of mortgage loans originated by others in the primary market, thereby creating/strengthening a secondary market.

◆ Liquidity Facilities in the United States – The real estate downturn of the 1930's led to a reorganization of mortgage lending in the United States. This reorganization was spearheaded by the creation of a mortgage guarantee program under the Federal Housing Administration (FHA) in 1934 and a mortgage insurance program under the Veterans Administration (VA) in 1944. These programs helped to establish standardized underwriting terms and procedures, as well as ensuring long-term lending on high-quality residential properties. The long-term mortgages reduced monthly fixed payments and helped to make home mortgages more affordable to the average person. Furthermore, the standardized underwriting criteria and loan terms (full amortization, fixed-payment) required by the FHA and VA programs helped to create

¹⁹ Poland has also initiated a liquidity facility for Dual-Indexed Mortgage ("DIM") loans. However, this model is not discussed in this thesis. For a review of this facility, see Merrill (2000). For further discussion on DIM loans, see Struyk (2000).

a market of low-risk loans that were attractive to institutional investors seeking long-term, low-risk investments. The programs helped to increase capital in the mortgage market by helping originating lenders to sell their loan assets, freeing up funds to originate new loans. In addition, the national scope of the program helped to end variations of capital availability in different areas of the country that resulted in different mortgage rates.

The Federal National Mortgage Association (FNMA or “Fannie Mae”) was established in 1938 to assist FHA in the creation of a nationwide market for FHA and VA mortgage loans. Fannie Mae remained owned by the government and supervised by the Department of Housing and Urban Development (HUD) until 1968, when it became a private corporation. In 1948, Fannie Mae was given the responsibility of buying mortgages guaranteed by the VA program. However, changes in 1954 were significant in the development of U.S. secondary mortgage markets. As part of the National Housing Act in 1954, Fannie Mae was given, along with other duties, the authority to purchase and *sell* mortgages. Therefore, it was able to reduce or increase mortgage market liquidity through the sale of mortgages in its portfolio. Since the late 1960’s-early 1970’s, Fannie Mae no longer purchases mortgages in the OTC market. Congress empowered Fannie Mae to purchase both federal and non-federal loans to reduce the lack of liquidity and credit in the mortgage market. Fannie Mae auctions commitments to purchase mortgage loans from lending originators and in return receives a fee. This fee covers the risk that Fannie Mae assumes relating to the possibility that yields will rise over the term of its commitment to the originator. Since the originator can choose to sell to another under the forward commitment, the Fannie Mae commitment serves as a put option for the originator. Along with fees, Fannie Mae funds its loan purchases by issuing MBS, as well as selling company stock and company debt (discount notes, bonds, etc.).

Under the HUD Act of 1968, Fannie Mae was split into two entities, which created a new secondary market vehicle. Fannie Mae became a privatized company, which was the stated eventual goal at its inception in 1934. In contrast, the special assistance, management and liquidation operations of Fannie Mae, which became part of a new agency called the Government National Mortgage Association (GNMA or “Ginnie Mae”), remained a government agency supervised by HUD. Direct control over Ginnie Mae was continued because Ginnie Mae subsidizes and underwrites various HUD programs, using funds borrowed from the U.S. Treasury. Ginnie Mae is credited with creating pass-through RMBS in 1970. Under the system, private mortgage lenders originate and assemble pools of government-insured mortgage loans from the FHA or VA programs. In addition, following the credit crunches of 1973-1974, Ginnie Mae can purchase non-federally insured loans to remove these loans from originator balance sheets and recapitalize institutions. Ginnie Mae issues guarantees for the timely payment of interest and principal each month, followed by the sale of the securities in the Secondary Market. These securities are seen as low-risk investments since Ginnie Mae provides a guarantee that is backed by the “full faith and credit of the U.S. government.” Ginnie Mae pass-through securities provide a monthly installment of interest on the unpaid balance of the certificate rate, as well as payment of scheduled amortized principal (whether collected or not by the servicer), and prepayment or other recoveries of principal. The certificate rate has historically been in the range of 50 basis points below the contract rate of the underlying mortgages, with 44 basis points going to the originator for servicing and 6 basis points going to GNMA for its guarantee.

The year 1970 brought about the Federal Home Loan Mortgage Corporation (FHLMC or “Freddie Mac”) to further develop secondary markets and enhance the *conventional* loan activities of those savings and loans insured by the Federal Savings and Loan Insurance

Corporation (FSLIC). Freddie Mac is a privately-held corporation. However, like Ginnie Mae, it was originally chartered by the government, which maintains supervisory oversight through the Federal Home Loan Bank (FHLB) system in exchange for an implicit guarantee to the public of Freddie Mac's continued operations. In addition, the required supervision relates to Congress granting Freddie Mac the right to purchase both federally-insured and conventional mortgage loans from thrifts. Although originally a portfolio-based institution similar to the old Fannie Mae, Freddie Mac switched to off-balance sheet finance by issuing securities in 1974 called Participation Certificates (PCs). PCs are pass-through securities backed by a pool of conventional mortgage loans. Similar to Ginnie Mae securities, PCs represent ownership in the pool of mortgages. PCs are not insured by the full faith and credit of the government, nor are they backed by the FHLB. However, Freddie Mac guarantees timely pass-through of interest to the investors. In return, Freddie Mac earns between 30 and 50 basis points for its administrative services and insurance (guarantee).²⁰ Freddie Mac also can raise funds through stock and debt issues since it is a private corporation.

◆ Liquidity Facilities in Russia – In 1996, Russia was the first country in the former Soviet Bloc to set into motion the establishment of a liquidity facility for the purchase of residential mortgage loans. The request for this facility came from Russia's commercial banks, which did not feel a fully-privatized mortgage bank could provide sufficient liquidity in light of the poor economy and current lending environment. Although originally created by Presidential Decree in 1993, the Agency for Housing Mortgage Lending or "Natasha Mae" was activated on August 26, 1999 by a federal government resolution entitled *On the Agency for Housing*

²⁰ Fannie Mae, Freddie Mac and Ginnie Mae provide other investment vehicles beyond the scope of this thesis. For example, they issue Real Estate Mortgage Investment Conduits (REMICs), which are structured multi-class securities backed by either PCs, MBS or previously issued REMIC tranches. REMICs may also be backed by Ginnie Mae MBS.

Mortgage Lending (Resolution No. 1010).²¹ In many ways, Natasha Mae replicates the development and mission of Fannie Mae in 1934. In particular, as outlined by Struyk (2000), Natasha Mae is intended to provide the following functions to build up the primary mortgage market and then create a secondary mortgage market:

- Develop and implement uniform mortgage standards and procedures to be used by lenders;
- Assist lender with underwriting practices and the development of new loan vehicles and financial systems;
- Initiate the beginnings of a secondary mortgage markets by purchasing loans from banks; and
- Attract investors to residential mortgage lending by issuing mortgage-backed bonds.

Ultimately, Natasha Mae, as with Fannie Mae, is intended to promote a national market and help to equalize the availability of housing credit throughout Russia.

Formed as an independent open, joint-stock company similar to a Ginnie Mae or Freddie Mac structure, the Russian government was to maintain control of Natasha Mae through 51% ownership of the company's shares. However, as of the end of 2000, the state maintained full ownership of the shares due to low demand for these shares. The Russian government deems this control necessary because it is to guarantee of all debt issued by Natasha Mae.²² In addition, another resolution formed a Board of Supervisors consisting of various governmental body representatives (such as the Federal Commission on Securities, the Central Bank, five

²¹ There are other liquidity facilities being attempted in Russia. The most notable is the Moscow Mortgage Agency ("MMA"), which was created by the Moscow city government (Resolution No. 194) on March 16, 1999, under the guidance of Harvard University, Fannie Mae, the International Finance Corporation, BankBoston and others. The MMA was developed to purchase loans from banks issuing loans through the Moscow Mortgage Program. Unlike Natasha Mae, MMA is licensed as a credit institution. As of March, 2000, two banks (Investsberbank and Moscow Bank of Sberbank of Russia – or "MBSR") were part of the program. Prior to 1999, Investsberbank had originated 27 loans totaling \$580,000 and MBSR had issued 100 loans. The loan terms were a vast improvement over other Russian loans, with 10-year terms, fixed rates and 70% LTVs. However, the program was suspended in 1999 due to lack of funds, although Moscow insists that the program will be continued.

²² In 1998, due to federal budget limitations, the City of St. Petersburg (as an Oblast, which is a jurisdiction somewhat similar to a U.S. state) guaranteed a loan of approximately \$10 million to Natasha Mae for its purchase of housing loans in the city.

commercial banks and rating agency representatives) to monitor Natasha Mae's activities. As was the original intent for Fannie Mae at its creation in 1934, the overall intent in Russia was to create a government-sponsored liquidity facility that would eventually become privatized. To begin its purchase of mortgage loans, Natasha Mae was initially to be funded by a \$80 million (Ruble 450 billion in Fall, 1997) equity payment from the Russian government. However, as of mid-1999, the government had contributed only \$14 million (Struyk, 1999). As of last year (2000), The U.S.-Russia Investment Fund (TUSRIF) had invested \$130 million into the program, with \$30 million invested toward St. Petersburg loan originations and \$100 million invested toward Moscow loan originations. The provision of TUSRIF capital to local banks provides these banks with a reliable, fixed-cost of capital that allows the banks to provide longer-term loans to citizens.

According to Struyk (1999), the original business plan for Natasha Mae prior to the Russian Debt Crisis of 1998 was to refinance its portfolio through international debt markets using a debt issuance backed by a federal (Russian) government guarantee. The reasoning was that international funding would actually be priced lower than domestic capital market sources and that the pricing would also be more stable. With the 1998 crisis, the plan was revised to access domestic markets, particularly regional banks, as well as \$10 to \$20 million loan from an international aid agency. As of 1999, Natasha Mae planned to develop a medium-term bond and use these bonds to issue approximately \$1 billion in debt over three years. The first issue was planned to be a 5-year term, with interest rates adjusted semi-annually, along with corresponding rate adjustments applied to the underlying mortgages (Struyk, 2000). No specific structure for the bonds has yet been developed. However, the limited quantity and quality of mortgage loans will preclude multiple tranches of bonds with different yields and maturities. Unlike the

pfandbrief model, no strict pooling of loans is planned, yet the debt issues are to be collateralized by mortgage loans. The bonds carry no tax advantages. As of 2000, Natasha Mae is licensed as a “Non-Bank Financial Institution” by the Central Bank of Russia (rather than a joint-stock company) since this designation provides tax advantages relating to deductibility of its bond interest and some bond management fees as expenses. So far, Natasha Mae has unsuccessfully sought a credit institution/banking license from the Russian Central Bank. This has impeded its ability to expand its operations throughout the country, which is a primary goal of Natasha Mae. If it does not receive such a license, Natasha Mae will be supervised by the Russian Securities Commission as a corporation (Struyk, 2000; Pastukhova and Rogizhina, 2000)

A benefit of the establishment of Natasha Mae, as with the creation of Fannie Mae, is the effort to standardize mortgage loan terms and create a credit review system that ensures quality mortgage loans. Initially, Nastasha Mae intends to only newly originated loans. Since Natasha Mae plans to carry out its own review of each originating bank’s loan underwriting and then return loans not meeting its criteria to the originator. Through this process, the originating bank is given an incentive to carry out proper underwriting of its loans. In addition, as the servicing agent for Natasha Mae, each participating bank will be responsible for delinquent payments through replacement or repayment of the loan payments or the entire delinquent loan.

Natasha Mae is established as a portfolio-based facility like Fannie Mae, but will eventually seek to move into securitization by purchasing loans originated under international underwriting standards and suitable for pooling under an RMBS system. This evolution is intended to follow the Ginnie Mae and Freddie Mac models. Although Natasha Mae initially is to purchase various loans, the overall intent is to move toward the purchase one type of loan originated under specific, set terms. According to Struyk (1999), the required loan will be a

dollar-denominated conventional mortgage note and contract, with variable rates tied to the cost of borrowed funds (measured against LIBOR). Meanwhile, the provision of stable, fixed rate capital from Natasha Mae purchases will further protect participating banks from interest-rate fluctuations. Payments will be computed in U.S. dollars and then converted to rubles using the daily dollar-ruble exchange rate applicable on the payment due date. Dollar-denominated loans are used in Russia since they shift currency risk to the borrower and thus the bank is willing to lower the initial interest rate to the borrower and increase the available loan size and LTV. The maximum LTV will be 70%, with a minimum loan size (in rubles) of \$5,000 and a maximum of \$70,000. Loan terms will be between 5 and 10 years, with an 18-month prepayment lock-out period. Loans will be purchased “at par” from the originating bank, meaning the outstanding loan balance plus earned interest not yet paid by the borrower.

◆ Summary of Secondary Mortgage Market Programs in Russia – The following page includes a table that identifies the current secondary mortgage market programs in Russia and summarizes some of the information discussed earlier in this section.

Table 2.4 – Summary of Russian Bank Secondary Mortgage Market Programs

Institution	Sponsor	Locations	Participating Banks	Loan Term	Annual Interest	Max LTV	Max Loan	Program Volume	Loan Term Ranges	Comments
Agency for Housing Mortgage Lending (Natasha Mae)	Federal Govt.	Moscow St. Petersburg Novosibirsk	St. Petersburg: •Inkasbank •Petrovski Bank •Baltijski •Promstroibank	10 yrs (max.)	15% to 18% (\$U.S.)	70%	NA	Total: \$80,180	\$6,000 to \$35,000; 3 to 10 years; Prepayment allowed after 18 mos.	Jointly with TUSRIF through equity and \$5million line of credit (LOC). Spring pilot program occurred in 1999 through Natasha Mae St. Petersburg branch. Payments in hard currency.
Moscow Mortgage Agency	Moscow Govt.	Moscow	•Investsberbank •Moscow Bank of Sberbank of Russia	10 yrs (max.)	10% (\$U.S.)	70%	NA	Total: \$580,000*	127; 10 years	27 loans originated by Investsberbank; 100 loans originated by Sberbank. All U.S. denominated. As of September, 2000, no refinancing made since program suspended in 1999 due to lack of funds. Initial Plan was for \$5 million.
Delta Capital	TUSRIF (Private)	Moscow	St. Petersburg	5-10 yrs (max.)	18% (\$U.S.)	NA	NA	Loans issued for \$1.5 million	5 to 10 years	TUSRIF; Opens LOC to Selected Banks Against Rights of Claim Under Mortgage Loans Issued by Banks; Loans Issued for \$1.5 million; Plans for 2000 were \$100 million.
Other Oblast and Municipal Liquidity Facility Programs: •Russian Mortgage Association (inactive) •Ufa Mortgage Agency •Irkutsk Mortgage Agency •Samara Oblast Housing and Mortgage Fund										
<i>Sources: Pastukhova and Rogizhina, 2000; EMF, 2000; Struyk, 2000; Mints, 2000</i>										

*Investsberbank only

CHAPTER THREE: ANALYSIS AND CONCLUSIONS

Chapter One summarizes that mortgage and long-term lending remains a relatively new concept in the CEEC Study Countries and Russia, while Chapter Two reveals that mortgage lending (particularly residential mortgage lending) in these countries currently involves capital market funding only to a very limited extent. This chapter, Chapter Three, discusses some of the reasons why links between housing markets and capital markets remain so underdeveloped. Many answers and questions relate to demand, competition and the underlying principles of expected risk-adjusted returns.

Primary Mortgage Market Development

The fundamental reason for limited capital market access in the residential mortgage markets of the CEEC Study Countries and Russia is the limited development of their primary residential mortgage markets. The following table reveals this deficiency:

Country	New Housing (1998 Data)			Home Mortgage Purchases as % of GDP (1997-1998 Data)	Housing Loans Outstanding as % of GDP*
	Effective Real Interest	Spread Over Deposit Rate	Share of Potential Market		
Czech Republic	0%	0-2%	<15%	na	4% (approx.)
Hungary	1%	2%	<15% (approx.)	1.6%	2% (approx.)
Poland	10%	6%	20% (approx.)	0.6%	2.5% (approx.)
Russia	na	na	na	< 0.5%	na

Source: Diamond, 1999; Struyk, 2000; OPIC, 2000

na = not available; *Year listed as "recent" by OPIC (2000) but specific year not provided

As Lea (2000) explains, the primary determinant in the successful development of mortgage markets is an active primary mortgage market. Development of a strong and competitive primary market eventually provides the quality loans and borrowers that are needed for securitization and long-term investment. Currently, none of these countries provides a sufficient

primary mortgage market base to establish strong mortgage bond and secondary mortgage markets. A review of the determinants of the primary mortgage markets in the CEEC Study Countries and Russia reveals why there is limited activity within the mortgage markets of these countries. Based on a study of these determinants, it appears that the mortgage markets of these countries remain in the early-to-middle stages of development defined by Lea, Shlomo and Pollock and discussed in Chapter One.

◆ Cultural and Economic Issues – An underlying problem in the development of residential mortgage markets in the CEEC Study Countries and Russia relates to the cultural and social aspects of transforming from a communist government with a centrally-planned economy to a democracy with an economy based on free market principles. The full scope of the psychological and social impacts on the citizens of these countries is beyond the scope of this thesis. However, the main point to consider is that most of these countries did not initiate housing privatization policies until at least 1990.²³ Under these policies, many citizens were given their homes or apartments. Therefore, many citizens of these countries are not familiar with buying homes (particularly new ones) and are certainly not familiar with borrowing over a long period of time for such purchases. In addition, they have little familiarity with banks and capital markets, and thus do not trust these financing sources. Many citizens prefer to purchase their homes with cash, with only the younger generation beginning to understand and accept the use of long-term loans for such purchases. Furthermore, there is not a strong U.S.-styled apartment market or condominium market to stimulate housing finance since that market is often provided through individuals or households who own several units and then rent them.

²³ The exception would be Hungary, which began its privatization programs in the 1970's and, by 1990, had privatized approximately 70% of its stock (Black, et. al., 2000).

Part of the mistrust related to borrowing can be attributed to the unstable macroeconomic conditions during the transition period of the last 10 years, particularly in Russia. The mistrust also relates to the fact that, prior to privatization, many domestic banks in these countries were directly connected to the government and industry and were not in the business of relationship lending, which is often necessary to convince a person to take out a mortgage loan. As discussed in Chapter One, the lack of confidence in banks (as well as the economy as a whole) is of particular concern in Russia. The problem is often referred to as the “under the mattress” syndrome, whereby citizens prefer to maintain hard currency (typically U.S. dollars) in their homes, rather than in deposit accounts. Since deposit accounts are the fundamental source of mortgage funds in a developing economy, banks lack funding and cannot lend and thus cannot help to expand the money supply. As economic conditions stabilize and financial institutions improve, it is likely that citizens will become accustomed to long-term borrowing, which will include mortgage financing. As shown below, the CEEC Study Countries successfully continue to grow their Gross Domestic Products (GDPs) and stabilize inflation, as required for EU and European Monetary Union (“EMU”) membership.

Figure 3.1

Source: EBRD Investment Profiles, 2001

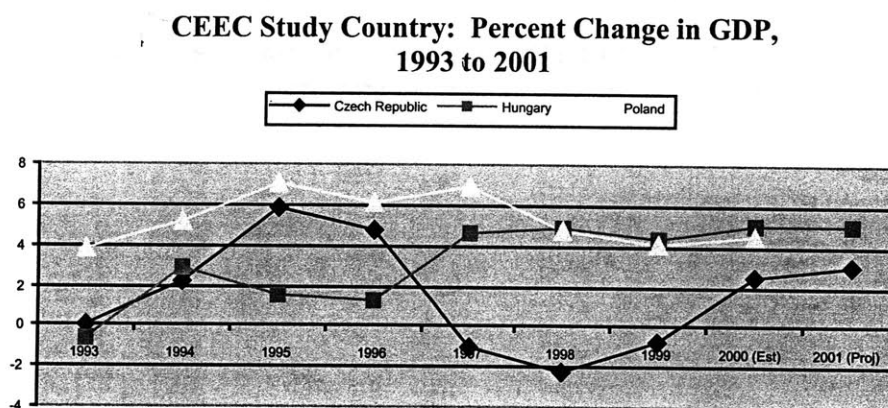
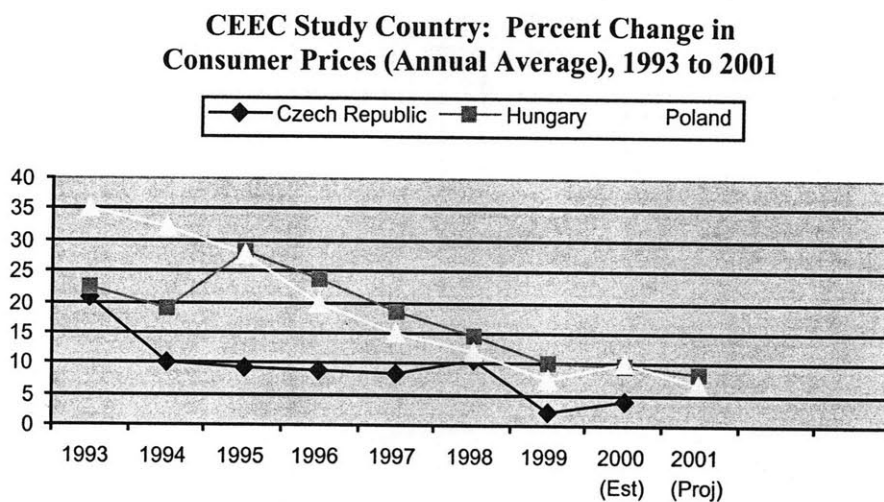


Figure 3.2

Source: *EBRD Investment Profiles, 2001*



Meanwhile, Russia has once again begun to improve its economy and is beginning to bring its inflation down to manageable levels, as shown below.

Figure 3.3

Source: *EBRD Investment Profiles, 2001*

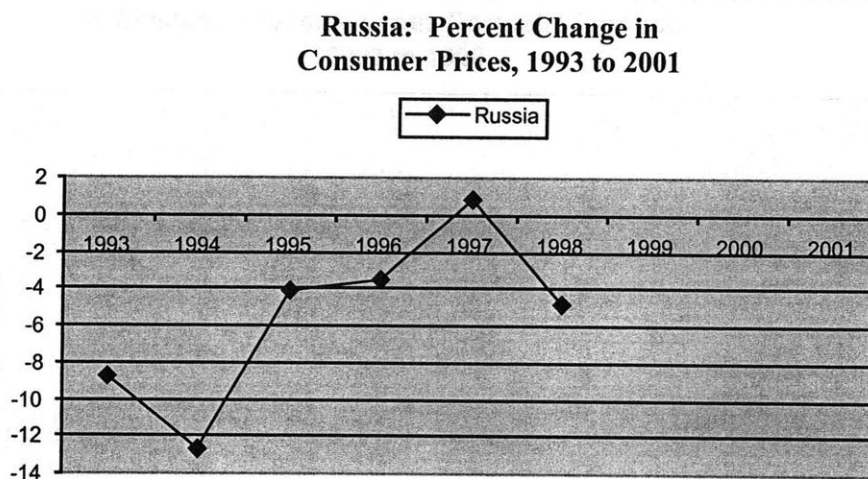


Figure 3.4

Source: EBRD Investment Profiles, 2001



Along with overall macroeconomic improvement, the strengthening of the banking sectors in the CEEC Study Countries and Russia will have an impact on residential mortgage lending and the future need for further capital market access. Reduced expectations of future inflation will allow domestic banks to consider long-term fixed-rate lending, while borrowers will be more likely to consider larger borrowing as their economic prospects improve. CEEC Study Countries have a distinct advantage over Russia in that they benefit from the EU's *Acquis Communautaire* and other regulations that place discipline on each country's Central Bank and independent banks to prepare for entry into the EU and EMU. In addition, foreign investment and ownership in the banks of the CEEC Study Countries provide additional discipline from the private sector. A lack of competition and efficiency in a banking sector leads to larger spreads between what depositors are paid by banks and what the lenders then in turn offer the general public for lending rates. According to the EBRD (2001), foreign-owned banks (primarily German, Dutch, French, U.S. and Austrian) and banks controlled by foreign strategic investors

control 70% of the Czech banking sector. Meanwhile foreign and joint-venture banks (primarily Austrian, American and Italian subsidiaries) control approximately 35% of total bank assets in Hungary; and foreign and joint-venture banks (primarily German, Austrian, American, Dutch, Italian and Irish subsidiaries) control over 70% of total bank assets in Poland.²⁴ The end result is that the banking sectors of the CEEC Study Countries remain well-capitalized by foreigners, even during times when these countries lacked domestic capital sources, such as during the recent Czech recessions. It remains to be seen whether the CEEC Study Countries have enough competing banking interests to force a reduction of spreads over deposit rates in order to reduce the price of residential or other mortgage lending.

In Russia, although the 1998 financial crisis hit the economy hard, relatively few banks actually liquidated and, by the end of 2000, stability in the banking sector appeared to be restored. The EBRD reports that improved bank liquidity and falling interest rates in Russia has led to a 43% (in real terms) increase in credit by commercial banks to corporations. However, the sector still maintains attributes that would benefit from long-term mortgage lending and capital market access. These attributes include: (1) weak capital bases, (2) dominance of short-term liabilities on balance sheets, and (3) poor legal structures. Therefore, in Russia, foreign-owned banks are becoming the preferred savings institutions for both Russians and foreigners living in Russia. These banks now control approximately 7.5% of the total banking sector capital at the start of 2001, down from 10.7% at the start of 2000. It is likely that improved access for foreign banks and financial institutions will have a beneficial impact on the Russian

²⁴ The foreign interrelationships of banks in the CEEC Study Countries is complicated and is continually changing through mergers. For example, in Poland, Commerzbank holds a 50% stake in Rheinyp-BRE Bank Hipoteczny and BayerischeHypoVereinsbank holds a controlling (86%) interest in Bank Przemyslowo-Handlowy (BPH, S.A.), which plans to merge with PBK (which is already controlled by Bank Austria-Creditanstalt).

banks by way of competition, professional training of local employees and stimulation of related real estate professionals.

◆ Legal and Transparency Framework – Deposit finance remains the primary source of funding in developing countries until the legal and capital market infrastructure evolves. As part of this evolution, the legal environment, particularly with respect to the rights of domestic and foreign investors, precedes and fosters the development of capital markets.²⁵ Such a framework must include up-to-date and transparent mortgage laws, land registration systems and contract laws. Black et. al. (2000) correctly states that the a strong and transparent legal frameworks is essential for long-term mortgage lending. In addition, he states that there must be clear enforcement laws, including laws of foreclosure. As summarized by Adlington, et. al. (2001), many of these issues are still being addressed by the CEEC Study Countries and Russia. Foreign direct investment, along with laws related to future EU and EMU membership, has pushed the CEEC Study Countries toward adopting standard, universally-accepted accounting and other legal procedures. Such changes help to foster cross-border investment and lending, and move these countries toward the possibility of securitization. Nevertheless, legal and transparency issues remain particularly difficult for former socialist countries moving toward capitalism and free markets. These countries face serious real estate and housing policy decisions that must be balanced with a concern for social instability in light of their citizens having never before faced the possibility of eviction or foreclosure. As part of their accession into the EU, the CEEC Study Countries are addressing privatization, property restitution, foreclosure and allowances for foreign ownership and investment. As discussed in Chapter Two, the laws setting up mortgage lending in each country improve the standing of bondholders in the event of mortgage bank

²⁵ The need for legal and policy reform to develop institutional investment through capital markets is discussed later in this chapter.

bankruptcy. Each country must take a comprehensive look at its laws in order to establish mortgage lending. For example, in order to improve the rights of creditors, amendments to the *Civil Code*, *Code of Civil Procedure*, *Act on Bankruptcy and Settlement*, and *Act of Public Auctions* have all taken effect in the Czech Republic. Similar laws have been adopted or amended in the other CEEC Study Countries. In fact, Hungary's *Act of Execution* was the first of the CEEC Country actions taken to improve mortgage ranking for cover asset mortgages and other mortgages.

Russia, with no supervision from the EU, EBRD and other organizations, has made less progress on the legal and transparency front. In contrast to the CEEC Study Countries, Russia does not yet face large levels of foreign investment in its banking system and related pressures to adopt a mortgage system that emanate from foreign interests in the CEEC Study Countries. Unfortunately, Russia faces many of the same legal and economic issues that the CEEC Study Countries still face, albeit to a much stronger degree. A full discussion of such issues is beyond the scope of this thesis. Nevertheless, it can be said that Russia continues to address the need for a basic legal framework to allow for mortgage lending. As an example, *the Conceptual Basis for the Development of Residential Mortgage Lending* has served as the guideline for some changes, including the Civil Code, Housing Code and other federal, oblast ("state") and municipal acts to allow for the legal protection of mortgage lenders and investors. For Russia, a key step forward was the 1998 federal *Law Of Mortgage (Pledge of Real Estate)*, which expands the ability for borrowers to pledge mortgages as collateral. However, the law still does not adequately address foreclosure (Struyk, 2000). As stated earlier, political and social pressure to preserve a balance between private markets and public policy exists in this and other former communist societies. As an example, in Russia, provisions for the housing of potential evicted homeowners were

required to be addressed during the creation of new mortgage, foreclosure and eviction laws, as with the *Law on Buildings for Temporary Residence*.

Long-Term Mortgage Lending Development

◆ Competing Housing Systems in the CEEC Study Countries – There are essentially three primary forms of residential mortgage financial systems active in Europe (including the CEEC Study Countries), all of which can be incorporated within universal or commercial banks. The three systems are: (1) retail deposit banks, (2) bauparkassen, which are contract savings institutions or building societies, and (3) mortgage banks. As previously discussed, deposit-based lending is the most rudimentary form of a mortgage financing system. Still, this type of financing accounts for 62% of funding for mortgage loans in the EU (Hardt and Manning, 2000). Although also reliant on individual deposit-funding, bauparkassen include the use of a savings contract that guarantees a more predictable deposit funding base. In the CEEC Study Countries, contract savings systems are a major competitor to mortgage bond and capital market financing.²⁶ These baupar systems maintain vast appeal among the citizens of former communist countries because embedded in the system is a somewhat socialist policy of communal saving for the “betterment” of the entire depositor base. This populist appeal should not be underestimated, particularly among citizens who are unfamiliar with mortgage loans and are faced with what they see as a paying a large portion (although equivalent to U.S. rates) of their income toward housing.

Proponents of baupar systems argue that, under contract savings programs, savers are protected from high and volatile interest rates (as has been the history in the CEEC Study Countries and Russia) because deposit and lending are contracted at below-market rates.

Proponents also argue that a baupar system allows savers to create credit histories in countries that traditionally have not created or maintained such records, while increasing the aggregate savings level of the country. On the other hand, opponents argue that these types of contracts are long-term and thus inflexible in nature, especially during economic problems and rising interest rates when investors need to seek higher returns to maintain real income. Even as the CEEC Study Countries improve economically and maintain low interest rates, such programs can be seen as encouraging inefficient allocation of capital as savers are locked into low return deposits and are unable to seek out alternative investments. Meanwhile, other banks are deprived of capital through a non-competitive process. More importantly, baupar systems continually need to attract new depositors to subsidize older depositors who are completing their contracts and taking out loans. Therefore, opponents argue that these systems tend to require government subsidies to homebuyers to attract a sufficient and on-going supply of participants so that the system functions properly. Although the subsidies are transparent in that they are provided directly to the homebuyer, they are a burden to governments trying to reduce, not increase, their budget requirements in light of EU accession.

Diamond (1999) points out that the traditional German baupar model is intended to support, rather than compete with, traditional mortgage bond financing. In the traditional model, the baupar loan typically serves to support a larger (yet low LTV) and longer-term mortgage bank loan, as well as possible other commercial bank loans. Diamond argues that baupar systems may ultimately serve as the dominant mortgage lending source in the CEEC Countries, primarily due to subsidies. He claims they will not likely play the traditional role they have in Western Europe due to the following circumstances unique to the CEEC Study Countries:

²⁶ Excluding any distinction between pure mortgage banks and banks with mortgage banking components. Applying such a distinction, pure mortgage banks face *severe* competition from well-capitalized, diversified universal/commercial banks.

•*Supplementary Savings.* Until market interest rates converge with those of the EU, CEEC Study Country borrowers will need to pay between 30% and 50% of their house prices in cash. Much of their savings will need to be accumulated prior to the completion of the contract period and will likely be regularly transferred into the contract savings institution (building society). With limited or non-existent commercial savings accounts, potential borrowers will not create relationships with commercial banks, nor will they create regular bank records and credit histories. In the end, building societies and other banks may find similar default rates on their loans because the borrower is faced with a high downpayment and because the commercial bank has no prior bank and credit history on which to judge the loan applicant.

•*Subsidies and Real Returns.* In high inflation and interest rate environments, the government subsidy on contract savings accounts serves primarily as a method to preserve the real value of the account. Under these circumstances, there is little or no increase to household savings or downpayments produced by the subsidy. Furthermore, assuming that only 10% to 20% of household income is committed to payment of the *bauspar* loan, Diamond argues an individual or family can typically only handle up to a 30% LTV Ratio on an additional conventional loan. Added to this is the fact that building society loans are typically short-term (for example: 5 years in Hungary; 8 years in the Czech Republic) and thus do not vastly increase the borrowing capacity of borrowers, despite government subsidies that result in generous interest rates. Under such circumstances, contract savings programs are essentially a pure subsidy, rather than a true method to increase the downpayment and purchasing power necessary to stimulate new housing industries and markets. Instead, borrowers, especially middle and upper-class income earners, use contract savings programs to arbitrage between the net cost of their subsidized contract savings loans and the higher returns they can receive from keeping their

own money in other investments (Diamond, 1999). Contract savings subsidies are expensive to governments. Nevertheless, once in place, these subsidies are difficult to remove, even in cases when interest rates have declined substantially and such programs are less necessary (as in the CEEC Study Countries).

• *Crowding Out of Private Lending.* Contract savings programs retard the development of the private, unsubsidized banking system, which in turn impacts additional mortgage lending capacity, capital markets and other areas of the economy. Under such systems, other loans will typically be limited to 20 to 30% LTV (Diamond, 1999). The result is that only higher-income individuals turn to additional financing with commercial or mortgage banks in order to extend their purchasing power through larger, longer-term loans and the above-mentioned arbitrage opportunities. Fundamentally, the problem with the contract savings approach is that, in a stable and low interest environment, these systems should be replaced by competitive banking systems. CEEC Study Countries are attracting foreign banks and are creating the domestic systems to provide alternatives. However, the demand is kept artificially low by *bauspar* programs.

In summary, the improved interest rates seen in the CEEC Study Countries will increase loan affordability and LTV Ratios in these countries. Until then, as summarized by Diamond (1999), Hungary and the Czech Republic will face:

- Contract savings systems that utilize large segments of household savings while producing only small and medium-sized housing loans;
- Commercial banks presented with few mortgage loans opportunities, primarily in new housing and urban areas; and
- A small need for mortgage bonds due to the limited number of commercial and mortgage bank loans.²⁷

²⁷ For example, Chiquier (1999) estimates that the Mortgage Bonds issued by the Czech-Moravian Mortgage Bank, Hypobank CZ and Vereinsbank, CZ represent only between 13% and 17% of the entire funding for their mortgage portfolios. Kúhn (2000) offers similar conclusions for the mortgage bank market as a whole.

In Poland, mortgage banking lags behind the Czech Republic and Hungary since these countries implemented mortgage banks and mortgage bond systems earlier than Poland. Chiquier (1999) predicts that, although Polish mortgage bonds (like those of the Czech Republic and Hungary) are structured to be financially safe, they will not likely be liquid in the near future, which increases their risk to investors. Kûhn (2000) notes that liquidity in the Czech Republic has been strongest with the larger (CZK 1.5 to 2 billion or more) issues, which attract more investors and cause price fluctuations and interest upon transactions in the OTC. Without such price changes relating to perceived liquidity and demand, mortgage bonds are purely deposit instruments, rather than true liquid investments. Although Poland started developing mortgage bank lending later than Hungary and the Czech Republic, the competitiveness of its banking sector and growing economy suggests that it will, over the longer term, have a more successful Mortgage Bond market than the Czech Republic and Hungary. Nevertheless, it appears that these issues will have much higher percentage of commercial (rather than residential) mortgage loans serving as collateral for the bonds than seen in Germany (where an estimated 35% of a pool typically consists of commercial loans)

As banking becomes more stable, competition will increase in the CEEC Study Countries and new domestic and international investment opportunities will arise. Alternative investment vehicles will likely develop that will draw depositor funds away from pure deposit institutions. Such was the case with the development of mutual funds during the high interest rates of the 1970's and the corresponding drain of funds from thrifts and similar deposit-based institutions. Prior to that time, from the 1930's to the 1970's, thrifts were able to fund long-term, fixed-rate mortgage loans with their variable-rate deposits because interest rates were stable. Low/stable interest rates, technology and improved procedures may allow non-contract savings lenders to

reduce interest rate spreads to better compete with the baupar programs. However, this will be difficult in light of the subsidies to the contract savings programs. In the end, mortgage bankers may need to continue their focus on commercial mortgages for their mortgage bonds, thus moving away from the traditional pfandbrief balance of residential and commercial mortgage loans to used to diversify risk. The more likely outcome is that mortgage bankers may seek further subsidies, reduction in capital requirements or other action to improve their ability to compete. This is especially likely with Hungary's state-sponsored mortgage bank.

◆ Mortgage Bond Financing in the CEEC Study Countries – Due to pending EU membership, the future of long-term mortgage financing and mortgage bonds in the CEEC Study Countries is linked to the future of the pfandbrief market in Western Europe, the EU and the Eurodollar. The continued presence of mortgage bonds as the primary access vehicle to capital market finance for mortgage loans in Western Europe and the CEEC Study Countries appears to be secure for two reasons. First, according to Coles and Hardt (2000), the EU (through Article 87 and 88 of the EC Treaty) prohibits the use of government-subsidized “liquidity” entities. This law effectively prohibits any establishment a U.S.-styled liquidity facility in the CEEC Study Countries as they approach EU membership. Second, German and Austrian banking interests are marketing and lobbying hard to further expand the pfandbrief market throughout Europe. As discussed previously, a large portion of the banks in the CEEC Study Countries, particularly those involved in mortgage lending, are owned or controlled by foreign interests, namely Western European banks. For example, HypoVereinsbank and Rheinhyp are very active in Poland, and HypoVereinsbank and Austria-Bank Creditanstalt are involved in the Czech Republic and Hungary. German banks, Austrian banks and the European Mortgage Federation (EMF) are successfully creating a larger pfandbrief market (discussed further under “Currency

Risk and the Euro” later in this thesis). Therefore, the reputation, financial strength and liquidity of German and Austrian banking and the pfandbrief market will have a major influence on the mortgage bank and mortgage bond markets of the CEEC Study Countries. To assist in the development of this market, the 1988 EU UCITS (Article 22, Paragraph IV) provides a very limited definition for “mortgage bond” by recognizing that Mortgage Bonds must be: (1) issued by a credit institution, (2) subject to special public/governmental supervision, (3) include sufficient cover for bond liabilities, and (4) provide privilege for bondholders in the event of bankruptcy of the issuer or bank. These “principles of mutual recognition” within the EU were chosen as an alternative to a detailed definition proposed as part of a 1985 draft EU Directive to govern securities guaranteed by mortgages (Hardt and Manning, 2000). More detailed regulations related to investment, asset-liability valuation, LTVs, cover registers and trustees are needed to protect the reputation and liquidity of these vehicles as the pfandbrief market expands across Western and Eastern Europe.

The traditional argument for mortgage bond (long-term) financing and the use capital markets relates to the need for banks to address any mismatch between the maturities of their assets (loans) and liabilities (deposits). In the case of the CEEC Study Countries, this mismatch is not currently a problem since almost all of the banks involved in mortgage lending are universal or commercial banks with a diversified asset-liability base. Black, et. al. (2000), Merrill (1999), Diamond (1999) and others argue that mortgage banks, as well as secondary markets, offer no advantage over the deposit-based funding of universal or commercial banks when mortgage lending volumes are as low as those of the CEEC Study Countries. Mortgage bonds are only necessary when lending levels are high or otherwise competitive, requiring banks to seek to free up committed funds.

Pure mortgage banks and mortgage bond financing cannot currently compete with traditional deposit-based funding in Western or Eastern Europe. Universal and commercial banks in both Western Europe and the CEEC Study Countries remain highly liquid and can maintain low interest rate spreads. In addition, they offer a wide variety of services to borrowers and can finance the high level of monitoring required for mortgage lending and Mortgage Bond financing. Therefore, in order to operate as a pure mortgage bank, subsidies are necessary directly to the bank or its borrowers, as is the case with *bauspar* systems. For example, without subsidies to borrowers to draw them away from competitor banks, the FHB in Hungary and the Czech-Moravian Mortgage Bank in the Czech Republic, which are pure mortgage banks²⁸, have found it uneconomical to compete in the residential mortgage lending arena with the universal and commercial banks. In actuality, subsidies help to continue domestic and foreign bank interest in mortgage lending and the creation of domestic bond markets. In most of the countries, universal and other banks are given tax-exempt status to their mortgage lending profits. Similarly, tax-exempt bond interest creates an incentive to investors to participate in capital market development and mortgage bond secondary markets through the purchase of bonds. Mortgage bond interest in the Czech Republic, Hungary and Poland is tax-exempt to the investor, increasing the bond's effective yield without additional risk.²⁹ This means that the banks are provided a subsidy in that they receive assistance from government policies in raising funds and lowering their cost of capital without lowering their lending risk. Another subtle "subsidy" is the fact that the some of the CEEC Study Countries allow slightly more relaxed over-collateralization standards than the German *pfandbriefe* model to encourage more lending

²⁸ The Czech Rating Agency (CRA) indicates that the Czech-Moravian Mortgage Bank is actually a licensed universal bank that operates exclusively in the mortgage lending sector (CRA, 1999).

²⁹ For example, Kúhn (2000) reports that there are Czech mortgage bonds at yields that are one percent (1%) below those of government bonds of similar maturity due to the mortgage bond interest yield tax exemption.

by reducing cover asset requirements. However, a primary internal “subsidy” (actually, an internal credit enhancement) is the ability of lenders to prevent pre-payment of loans, which preserves bond yield, but may be further regulated when these countries enter the EU.

Mortgage Bond financing can provide a benchmark at the long end of the yield curve and reveal the risk premium for the expectation of lower interest rates and inflation into the future (OECD, 2000). Furthermore, the CEEC Study Country governments may see strong bond markets as providing an alternative debt market during potential capital flight from stock market corrections or international crises (as occurred in Russia in 1998). In defense of the government-sponsored FHB, Hungary argues that mortgage bonds are an important investment vehicle that can diversify the Hungarian capital market and ultimately help to attract more investment. However, Varhegyi (2001) suggests that the state has alternative options, such as guaranteeing (“re-insuring”) any private market insurance on the bonds. Despite Hungary’s assertions, in the CEEC Study Countries, mortgage bond financing appears to be primarily an imported preference, rather than a necessity of the mortgage-lending environment at this stage in their development. Western European banking interests appear to be investing over the long-run to firmly implant mortgage bond financing in the CEEC Study Country markets and to prepare for an integrated European pfandbrief market in the future. Meanwhile, they seek subsidies to compete with pure deposit-based lenders, rather than out of necessity for liquidity.

Ultimately, the spread on Mortgage Bonds will decide whether they are successful as a long-term source of funding in the CEEC Study Countries. In Western Europe, these bonds are seen as a safe source of debt, with higher yields than government bonds and treasury bills. German pfandbrief maintain a spread of approximately 30 to 40 basis points over German government bonds (“bunds” in German). Germany has the largest and most known pfandbrief

market. However, economic, legal and administrative barriers remain in the CEEC Study Countries that typically keep mortgage bond spreads above government bonds in excess of those found in Western Europe, thus keeping this type of funding from competing with deposit-based lending. Ultimately, advantages to long-term mortgage financing will appear as the mortgage markets of the CEEC Study Countries continue to develop. Capital market financing will improve competition and force universal banks and deposit lenders to reduce the interest rate spreads over their deposit rates to remain competitive. The EU economies are in a low-interest rate environment and the reduced level of uncertainty and volatility may lead to an interest in long-term, fixed-rate finance. As the economies of the CEEC Study Countries maintain lower levels of inflation, lenders may be willing to provide the fixed-rate, long-term mortgage loans ideal for mortgage bond financing.

In summary, despite foreign universal and commercial bank involvement, there remains a lack of mortgage bond activity in the CEEC Study Countries, primarily due to the overall low level of mortgage lending. Therefore, in the CEEC Study Countries, pure mortgage banking loans will not likely grow to serve as an additional loan on top of a contract savings loan or other bank loans, unless they are subsidized to attract borrowers. If such subsidies are provided, they still will tend to serve mainly middle and upper-income borrowers that will use these banks to gain additional loans that allow them to seek out more expensive housing than they could access using solely a contract savings program or regular bank loan. Although uncertainty remains, it seems relatively clear that the future of mortgage bank and mortgage bond lending lies with the universal and commercial banks, not with the pure mortgage banking attempted in Hungary and the Czech Republic.

◆ Liquidity Facility Viability in Russia – Lending risk is quite high in Russia and the Liquidity Facility model is often viewed as an appropriate mechanism to help foster primary and secondary mortgage markets in such an environment. Given the status of its general economic and legal environment, Russia has a primary mortgage market that is in an earlier stage of development than those of the CEEC Study Countries, partially due to the lack of foreign banking involvement. Prior to 1998, only about 10 banks were involved in mortgage lending. With interest paid on deposits at (U.S. dollars) 12% in 1998 and 18.2% in 1999, Russian banks were forced to lend at terms ranging from six months to two years with interest rates ranging from 17% to 30% (U.S. dollars). These loans were only available to highly-paid professionals in Russia (Mints, 2000). Rather than directly subsidizing mortgage lending or borrowing, as is done in the CEEC Study Countries, Natasha Mae focuses on sharing in the lending risk of Russian banks. Although the government is indirectly subsidizing the system in this manner, as with the Fannie Mae model, the intent is to keep the systems separate and eventually also privatize Natasha Mae. The long-range hope is that lowering risk will improve private banking systems, foster competition and eventually bring down the cost of loans to levels that are affordable to many more Russians.

As outlined by the Overseas Private Investment Corporation (“OPIC”), the early stages of secondary market development in many transitioning countries requires the government to share lending risk related to the following:

- *Commitment Risk.* Banks face the difficulty of finding a steady and reliable stream of quality lending opportunities and borrowers;
- *Pipeline Risk.* Banks face portfolio risk while the loans are on their books and are being prepared for securitization. If the loans are to remain on the bank books, this risk is increased, especially if prepayment or default occurs;

- *Documentation Risk.* Banks, as well as potential investors, face unclear entitlement issues, mortgage laws, loan procedures and creditor rights pertaining to mortgage loans and underlying real estate; and
- *Liquidity Risk.* Banks face liquidity risk when originating loans if no investors can be found. Similarly, those investors that purchase mortgage-backed bonds or securities face weak capital and secondary markets in which to trade such securities to allow for portfolio management.

A government-sponsored liquidity facility serves as a “middle-man,” providing banks with the comfort of a source of demand for their loans, provided the loans are underwritten in accordance with specific standards. The liquidity facility thus helps to create and police the documentation environment. In addition, the liquidity facility, as was the case of Fannie Mae and Ginnie Mae in the 1970’s, can help to control pipeline and liquidity risk through its agreements to purchase certain numbers of loans and thus control bank supply through its demand. Eventually, with the development of a secondary market, the liquidity facility can impact secondary market liquidity of residential mortgage-backed bonds and RMBS through its issuances. Due to its governmental or semi-governmental nature, the liquidity facility is subsidized and can make necessary decisions based on policy, rather than pure profit. Thus, it can incur risks without necessarily requiring a matching risk-adjusted return allowing banks to take on risk and then pass it on to the liquidity facility. This allows lower bank rates to potential borrowers and encourages home purchases. Mints (2000) discusses that, in environments with high lending rates, it is necessary to provide lenders with alternative methods for accessing cheaper funds and longer terms than are possible through deposit funding. In Russia, the mortgage credit market is directly linked to the overall domestic credit market, which has expensive return requirements. Natasha Mae is an attempt to help to separate these markets by serving somewhat as “subsidized” buffer between these credit markets.

The Russian model, Natasha Mae, is attempting to limit much of the bank risk that prevents loans from being affordable to vast numbers of Russians. In addition to the previously listed risks described by OPIC, Struyk (1999) identifies specific risks associated with the Natasha Mae that apply to any Liquidity Facility model using on-balance sheet financing:

- *Interest and Exchange Rate Risk.* Borrowers are subject to variable rate, dollar-denominated loans, meaning they will be assuming the majority of interest and exchange rate risk. Natasha Mae will face losses during the periods between the adjustments on these rates over LIBOR. The main problem will be the risk of late payments and defaults resulting from sharp changes in these rates;
- *Credit Risk.* Due to the lack of credit and loan histories at participating banks, Natasha Mae maintains a full recourse policy with the originating banks in order to align their interests with Natasha Mae. This policy encourages banks to perform proper underwriting and maintain credit and default histories;
- *Prepayment Risk.* Like CEEC Study Country borrowers, Russians tend to prefer prepayment. Natasha Mae maintains an 18-month lock-out period on prepayment, but is subsequently at risk to prepayment and refinancing risk. This makes it difficult for Natasha Mae to determine its own borrowing needs in terms of establishing bond maturities; and
- *Counterparty Risk.* This is arguably the most complicated risk. The Natasha Mae program is reliant on member banks to originate and service loans. These banks must be willing to move forward with default and possible foreclosure proceedings. Natasha Mae always is faced with the risk of bank failure. More importantly, Natasha Mae is highly reliant on the Russian federal government (sovereign) guarantee, which has not provided the necessary assurance to investors to allow Natasha Mae to move from government to capital market funding.

There is another crucial problem related to the hope of moving from government to capital market funding. Although they are not part of the German pfandbrief market, the mortgage banks and bonds of the CEEC Study Countries are associated with the strength and

underwriting standards of their Western European parent companies, and the pfandbrief vehicle itself. These circumstances provide a tremendous advantage in the effort to build domestic, and eventually, international investor trust. In addition, several of the parent companies have bought the mortgage bonds of their subsidiaries to help stimulate circulation in the CEEC Study Country domestic markets. Natasha Mae does not have these advantages. Instead of foreign bank credibility, it relies on the Russian government guarantee, which relates back to the liquidity and creditworthiness of the Russian government. Thus, the poor Russian sovereign rating over the past few years has directly impacted required yields on any proposed bonds since these bonds need to include a risk premium above Russian government bond yields. As of December, 2000, Mints (2000) states that investors seek approximately a 15% annual rate on Russian bonds, meaning that a lender would need to charge a dollar-denominated rate of approximately 20%, or a ruble-denominated rate of 30% to address currency exchange risk. Obviously, this rate is unaffordable to the majority of Russians. Even with Russian sovereign bond rates improving in 2001, the required interest rate will still remain unaffordable due to the risk premium. In addition, the problem does not only affect the potential borrowers. Even with variable interest rates on the loans, potential rate fluctuations need to be considered by the liquidity facility because it is a portfolio-based lender and does not securitize and pass on its interest rate risk. This is part of the "pipeline risk" discussed earlier. Securitization is also difficult in high inflation economies since borrowers, originators and liquidity facilities are faced with interest rate risk. Borrowers often default in such environments and banks and bond issuers must properly price their loans and bonds, respectively, to address this risk, as well as reductions in real returns on any fixed-rate portion of the process. The advantage for Fannie Mae and Ginnie Mae in the U.S. is that they were developed prior to the high inflation environment of the mid-

1970's (as opposed to during it, like Natasha Mae), which provided time to produce efficiencies and procedures that allowed these entities to ultimately succeed. In addition, they had the benefit of support from a stable and financially-secure federal government.

The last point to consider is the most important: the role and needs of potential investors. According to Mints (2000), the Natasha Mae model eventually envisions selling pass-through RMBS to foreign investors, rather than the initial mortgage-backed bonds that will keep loans on its balance sheet. Under an RMBS model, mortgage title, default and other risks identified earlier for Natasha Mae would be passed through to investors. In the Fannie Mae and other U.S. models, these long-term investors are conservative, risk-averse institutions. Russia does not have many of these entities domestically and its investment environment cannot meet the expectations of foreign institutions. Similar problems exist in the CEEC Study Countries. Therefore, these issues, in relation to all four countries, are discussed in the section below.

◆ Emerging Institutional Investment – Long-term mortgage lending and bond markets require that long-term saving is institutionalized through the involvement of pension funds, life insurance and similar institutions with long-term liabilities. These institutions accumulate and in turn reinvest savings into capital markets, including investment vehicles (such as mortgage bonds and RMBS) that provide the funding for long-term mortgage loans. Currently, the CEEC Study Countries and Russia lack the fundamental domestic institutional investor base found in other advanced or emerging countries (Kawalec and Kluza, 2000). Furthermore, these countries have very limited domestic capital markets and secondary bond markets wherein such institutions can invest and trade mortgage bonds, and thus maintain the liquidity of their investment portfolios through a secondary mortgage *bond* market. Institutional investors and capital markets support and develop one another, and ultimately have a profound impact on long-

term mortgage lending. Chiquier (1999) points out that mortgage bond markets cannot develop if banks remain the sole or primary investor in these markets. Currently, they are the overwhelming primary investors in the CEEC Study Countries, with the Czech Republic having the most success with attracting institutional investors to-date.

Given Pollock's assertion from Chapter One that the pre-requisite capital markets needed for wholesale lending cannot be created quickly, the limited capital market development in the CEEC Study Countries and Russia presents a serious challenge to mortgage market evolution. As an indication of these underdeveloped capital markets in relation to Gross Domestic Product (GDP), Kutan and Brada (2000) calculated the following comparison of Financial Intermediation-to-GDP Ratios,³⁰ which shows that the CEEC Study Countries are well below the ratio calculated for the European Union:

Table 3.2 - Financial Intermediation-to-GDP Ratios	
Country	Ratio
Czech Republic	162.4%
Hungary	85.9%
Poland	63.4%
European Union	288.1%
<i>Source: Kutan and Brada, 2000</i>	

Stock market development in most the CEEC Study Countries (the exception being the Czech Republic) and Russia is even behind the emerging markets of Malaysia, Thailand, Mexico and Chile, especially when measured as a Share Capitalization-to-GDP Ratio.

Vittas (2000; 1998) claims that financial market development should not be the primary objective of pension reform. However, he agrees with the general assertion of experts that pension funds and other institutional investors provide long-term benefits to financial markets, including:

³⁰ Total Financial Intermediation is defined as: Bank Assets plus Stock Market Capitalization plus Bond Market Capitalization.

- Acting as a countervailing force and competition to commercial and investment banks;
- Stimulating innovation of new financial vehicles;
- Pressuring financial institutions, particularly the banking sector, and government to improve market transparency, regulation and facilities; and
- Strengthening corporate governance.

The absence or lack of capital market depth does not alone preclude institutional reform, especially since other forces, such as technology, deregulation privatization and foreign direct investment, also impact capital market development. Vittas also points out that macroeconomic stability, small budget deficits, low inflation and positive long-term real rates of interest are essential to the development of securities markets and institutional investment. In many developing countries, including the CEEC Study Countries (and to some extent recently, Russia), opening markets to foreign banks, insurance companies and other institutions has helped to support and foster domestic pension and other institutional reform. Since domestic players are limited, the entry of these foreign institutions, as in the banking sector, help to bring about what Vittas describes as the necessary “critical mass” for institutional investment programs to succeed. These investors promote equity and bond market development and ultimately help develop mortgage finance by supporting residential (as well as non-residential) mortgage bonds and RMBS. Furthermore, they modernize and strengthen the legal infrastructure related to such finance, including the following:³¹

- Creation, registration and liquidation of collateral;
- Foreclosure of mortgages;

³¹ However, Vittas (1998) notes that reforming countries with little or no tradition of institutional investing (which would include the CEEC Countries and Russia) typically begin with a more strict regulatory environment. As the tradition develops, these

- Repossession of assets and their disposal in secondary markets; and
- Exit options (such as swap agreements and future options)³² through advanced security markets.

Institutional development also helps to insulate domestic markets from international financial crises (as with Chile and South Africa during the 1998 crisis) by providing a minimum domestic level of demand for securities to buffer against withdrawal of foreign investment. For example, in the early 1970's, lenders in the U.S. facing volatile interest rates switched to variable rate debt. However, pension legislation in 1974 imposed minimum funding requirements on pensions that created a strong demand for long-duration fixed-income securities. The result was the growth of zero-coupon bonds and MBS. Vittas (1998) indicates that similar stimulation of mortgage bond markets was seen in Chile after its 1981 pension reforms. Therefore, OPIC (2000) states that its policy for stimulating emerging residential secondary markets will focus on local capital market sources of housing finance, which it sees as the stable reliable source of mortgage loans for developing countries in the long-run. Interesting, a key problem of Natasha Mae has been a reliance on potential foreign capital market investors to support its operations; a problem that Fannie Mae never faced.

The primary problem of pension funds in the CEEC Study Countries and Russia is that these countries inherited large Pay-As-You-Go (PAYG) pension programs from their communist predecessors. Although these types of programs predominate in many industrialized countries (including continental Western Europe), they are not complemented in the CEEC Study Countries by other *private* pension schemes found in the West. Branco (1998) explains that,

countries move to more flexible rules (such as the "prudent person" standard) since the foreign institutions that become involved in the system tend to self-police the system to maintain both their investments and reputations.

³² See Footnote No. 15 regarding swaps. Bond future options are similar agreements for the future purchase or sale of bonds to hedge against expected future interest rate, exchange rate or other risks that will decrease overall bond returns. Kuhn (2000) points out that mortgage bond yields typically follow swap transaction rates to compensate for the costs for such hedging.

since PAYG systems are defined-benefit programs whereby workers are “entitled” to pre-determined benefits, such programs reduce incentives for private savings. The result is that there is often an observed correlation between large PAYG system countries and shallow capital markets.³³ In response, the CEEC Study Countries have sought out a “multi-pillar approach” to pension reform since 1997, as advocated by the World Bank and others. The following is a *limited* review of recent pension reforms that will likely increase investment in long-term instruments, such as mortgage bonds, in the CEEC Study Countries:

Table 3.3 - Pension Reform and Mortgage Investment					
Country	Pillar 1	Pillar 2	Pillar 3*	Fund Characteristics*	Mortgage Bond Investment
<i>Czech Republic</i>	Public Pension <ul style="list-style-type: none"> • Public • Mandatory • PAYG 	Employer Supplementary Insurance <ul style="list-style-type: none"> • Voluntary • State Contribution • Tax-Deductible 	None	Total Funds: 18 active Total Assets: CZK 44 bn; 11 bn in contributions Total Participants: NA; 2.48 mm with supplement insurance	No mortgage bond limits. Cannot provide mortgage loans.
<i>Hungary</i>	Social Security <ul style="list-style-type: none"> • Public • Mandatory • PAYG 	Private Funds <ul style="list-style-type: none"> • Public • Mandatory (New Workers) • Choose Fund 	Private Funds <ul style="list-style-type: none"> • Voluntary • Similar to 2nd Pillar • 30% Tax-Deductible 	Not Available	Mortgage bond investment limited (as with Germany). Voluntary Funds can provide mortgage loans.
<i>Poland</i>	Social Insurance <ul style="list-style-type: none"> • Public • Mandatory • PAYG 	Open Fund <ul style="list-style-type: none"> • Public • Mandatory • Managed Privately • Invest Part (7.3%) of SI in Financial Markets 	Employer Fund <ul style="list-style-type: none"> • Voluntary • 38 programs 	Total Funds: 21 Total Assets: PLN 11 bn Total Participants: 10.5 mm	Mortgage bond investment being debated. Funds can provide mortgage loans.

Source: INPRS Documents Nos. 3 and 24, 2001; Laursen, 2000

*As of February/March, 2001

The most complicated reform relating to mortgage bonds has been in Poland. For some time, government regulations were not clear as to whether financial institutions could purchase mortgage bonds. Furthermore, mortgage bonds were not deemed eligible investments for either insurance companies or pension funds. On the other hand, investment funds were allowed to

³³ For example, Germany, with a large PAYG system, has a relatively limited institutional investor base (Vittas, 1998).

hold mortgage bonds up to 5% of total assets. To revise and clarify the laws in Poland relating to mortgage bond investment, the following amendments were recently enacted:

- *Pensions Funds.* Amendments to the Act of Bonds of June 29, 2000 (Journal of Laws, No. 60, Item 702);
- *Insurance Companies.* Amendments to the Act on Insurance Activity of July 21, 2000 (Journal of Law, No. 70, Item 819);
- *Investment Funds.* Amendments to the Act of Investment Funds of November 16, 2000 (Journal of Law, No. 114, Item 1192) – Revises the upper limit to 25% of total assets may be invested in Mortgage Bonds.

In summary, these amendments clearly allow all three entities to invest in mortgage bonds and will help to stimulate domestic demand for mortgage bonds. Similarly, Hungary and the Czech Republic grant non-banking institutional investors higher ceilings for the purchase of mortgage bonds versus their limits for other securities (Chiquier, 1999). Although pension funds may in the long-run reduce bank deposits, overall savings will likely remain constant or increase slightly, with the pension funds dramatically increasing the total supply of long-term funds available for mortgages. Such competition will force banks and other financial institutions to become competitive, with depositors and borrowers the ultimate beneficiaries. Meanwhile, as Chiquier (1999) reports has been used in the Czech Republic, there is the possibility of allowing banks to be exempted from limits on mortgage bond investments. This would encourage an inter-banking mortgage bond market, provided overall bank equity caps (meaning the percentage of bank equity held in mortgage bonds) are maintained.

In Russia, the problem with institutional investment partially lies in the domestic banking and financial sectors. According to Davis (1998), sound banking and overall financial sector is seen as essential for pension and insurance reform since such institutions typically hold bank assets. As previously discussed, Russian banks remain relatively undercapitalized and there has

been limited foreign investment in banking to help improve the sector. The result is weak bank sector that needs long-term institutional investors to improve its liquidity by purchasing mortgage-backed securities (as was planned with Natasha Mae and the Moscow Mortgage Agency) and other securities. Unfortunately, the weak institutional sector in turn needs stronger banking and financial sectors to provide it with secure assets. In contrast, the CEEC Study Countries have been able to move forward with pension and insurance reform due to their relatively well-capitalized banking sectors, as well as the incentive of being required to meet certain EU pension reform requirements and related government budget reductions. Nevertheless, many international investors have avoided these markets due to the macroeconomic instability displayed by the CEEC Study Countries and Russia, particularly highlighted by the Russian government's bond default in 1998. In addition, the lack of investment (particularly international) in the real estate of these countries reflects concern over their ongoing domestic struggles to resolve legal and transparency issues relating to real property. Some of the most serious issues involve land privatization, property ownership and restitution, and foreclosure (See Adlington, et. al., 2000).

As shown by Figure 3.3 earlier in this paper, Russia has recently faced severe macroeconomic instability that impacted its banking system, interest rates and, thus, its mortgage lending environment. The question arises as to what level of success can be achieved by Natasha Mae or any other liquidity facility under such conditions. Mints (2000) raises legitimate questions regarding reliance on institutional investors, whether domestic or international, for such a model. Unique circumstances made such mortgage systems successful in the U.S. in terms of providing cheaper, longer-term mortgage loans than possible solely under a deposit-based system. Russia lacks the institutional investor base found in the U.S. that ultimately

purchased large numbers of the loans collected by Fannie Mae and others. Mints (2000) explains that, as of the end of 2000, the Russian Federation pension fund does not make investments and that non-government pensions are quite small (approximately 1% of the population participates in such pensions). Based on the 1.9 billion rubles (approximately \$75 million at Year End 2000) placed in such funds and assuming 20% of these funds are invested in mortgage-backed bonds, Mints estimates that only a total of \$15 million could be raised by Natasha Mae and others through bond issues. Mints further shows that companies often use life insurance as a “semi-legal” means to provide tax-exempt pay to employees. Rather than receiving a higher salary, both the employer and employee save on taxes by agreeing to pay the employee with one-year life insurance certificates. According to Mints, total annual “long-term” (which includes one year certificates) life insurance premiums amount to approximately \$200 million. Again, assuming 20% investment in long-term mortgage-backed bonds, only approximately \$8 million in total would be available to fund Natasha Mae and others. The result is that there is insufficient domestic funding for Natasha Mae.

Alternative investors are needed for Natasha Mae and other liquidity facilities. The problem is, as OPIC (2000) reports, that international institutions are not investing in the housing of emerging countries, including Central and Eastern Europe. Globalization of financial markets has increased the competition for the long-term capital of these institutional investors. These investors are risk-averse, concerned primarily with liquidity and risk-adjusted returns. Similar to domestic investors, foreign institutional investors are concerned about economic volatility, legal frameworks and other issues. In addition, they face high transaction costs due to the lack of adequate loan management practices and infrastructure in these countries relating to loan processing, payments and collections. Although institutional investors, with the help of

international rating agencies, can assess and price sovereign debt, they are unfamiliar with the risks and necessary adjustments to pricing individual mortgage debt. Meanwhile, U.S. investors such as Heitman International and U.S. developers such as Hines do not see adequate demand or risk-adjusted returns for the development of residences in Central and Eastern Europe, except for certain high-end housing for wealthier citizens, ex-patriots and foreign employees of foreign companies based in these areas. The result is a lack of interest in pursuing residential investment, including mortgage debt, in the CEEC Study Countries and Russia.

Given that international institutional investors are just starting to enter the CEEC Study Countries due to the remaining economic, legal and political risks, it is understandable that Russia is not a target at this time. Opportunity funds, using U.S. institutional funds,³⁴ are increasing their activity in Eastern Europe, but require yields of 20% or more, and thus do not provide affordable rates to banks or their borrowers. Therefore, the only other option, as Mints points out, appears to be international agencies that do not require returns commensurate with their assumed risk. One organization, the U.S.-Russia Investment Fund (TUSRIF), has invested in Natasha Mae. However, it appears focused on funding a private company, Delta Credit, which serves somewhat as a liquidity facility, but is more similar to private mortgage lenders in the U.S. Although this entity has been relatively successful in obtaining mortgages, it too has not yet issued mortgage-backed bonds and will eventually face the same problem as Natasha Mae: Obtaining a reliable source of funds at a rate that allows it to remain capitalized and purchase loans from banks.

There is also moral hazard problem inherent in the issuing of mortgage bonds and/or MBS, whether commercial or residential in nature. In order to raise new funds, sellers are

³⁴ Many U.S. institutional investors currently invest a small portion of their funds (between 3% and 5%) in opportunistic or venture funds that seek out high-risk, high-yield investments.

offering mortgages they represent as being of high-quality. A buyer cannot carry out due diligence on each loan and must rely on the underwriting standards of the originator, particularly in the case of MBS, whereby the mortgage loans and creditor liens become the property of the investor and do not remain on the originator's books. Specifying underwriting standards helps to reduce the risk. In addition, the ability to return poor quality loans can create incentives (as shown with the Natasha Mae procedures) for originators to properly underwrite loans so as to avoid the expense of returned loans. Mortgage bonds inherently provide internal credit enhancement (discussed later under the "Credit Enhancement" section of this chapter) through the use of over-collateralization. However, especially with Natasha Mae, additional credit enhancements are likely needed, which can be placed with the originator itself, or the individual mortgage security. Such enhancements raise issues of the role of rating agencies and government debt ratings.

◆ Domestic Rating Agency Development – Domestic institutional involvement in domestic capital markets coincides with a need for increased investment management and transparency. Transition economies lack the variety of the supporting professional skills necessary for institutional investment. Improvements in regulation must coincide with services such as domestic ratings agencies, asset management and other financial investment skills. Even the CEEC Study Countries, which are the most advanced countries of the Soviet Bloc, are just now becoming familiar with such mechanisms. As an example of progress, Poland's own Central European Rating Agency (CERA) has provided domestic bond ratings for such bond series as the Rheinyp-BRE Bank Hipoteczny SA Mortgage Bond issues. Such domestic ratings are essential since the small level of mortgage bond issues in the CEEC Study Countries do not attract the attention of the international rating agencies, namely, Moody's, Standard & Poor's

("S&P's") and Fitch IBCA. CERA provides an "AA" rating for the PLN 5 million Mortgage Bond issue from Rheinhyp-BRE Hipoteczny SA. This high, investment-grade rating³⁵ of the Bonds reflects a high level of certainty that bond principal and interest payments to the bondholder will be timely. According to the CERA report, this analysis is based on the high quality of loans (average 66% LTV) and credit enhancement through over-collateralization (40.2%) of the loan balance in the Cover Asset revenues over the nominal value of the outstanding mortgage bonds. As another example, Moody's is assisting the fledgling Czech Ratings Agency (CRA) with domestic mortgage bond ratings in the Czech Republic. Although typically focused on Czech municipal bond issues that are too small to cover international rating firm fees, CRA provides a long-term "Baa+/Acr" rating on the initial Bank-Austria Creditanstalt (CZ) on the CZK 300 million (up to a maximum of CZK 2.5 billion) mortgage bond issue. The "Baa" represents medium-grade risk, with current stability but possible potential problems related to competition from HypoVereinsbank, CZ (which is focused on the same market) when more mortgage bonds in the series are to be marketed and issued. The designation "Acr" indicates that the issuing entity has a "very high capability and disposition to pay and value received deposits, with an expected stable future." According to the CRA report, the first CZK 300 million issue is fully covered with receivables from mortgage credits, the level which does not exceed 62.3% of the usual value of the mortgaged real estate.

In Russia, the Institute of Urban Economic (IUE), a partnership headquartered in Moscow with ties to the Urban Institute in Washington, DC, provided the first domestic credit rating (Rating: 55 -) to a Novgorod (Oblast) Bond issue in July of 1997. As of 1997, the IUE (1997) reported its intent to further develop a Russian domestic credit rating agency within IUE

³⁵ This is the highest allowable rating for a non-government debt issue in Poland since the highest rating under CERA is the Polish government's sovereign debt rating (CERA, 2000).

to help disseminate credit risk information for subnational bonds and to help municipalities and investors find each other. Currently, the municipal and other domestic bond markets remain fragmented. The establishment of a domestic credit agency will help to increase transparency and competition in the domestic capital market. However, it is unclear how IUE will assist with bond ratings related to Natasha Mae since there is an inherent conflict of interest (or “moral hazard”) since IUE is involved in setting up and running of Natasha Mae.

◆ The Sovereign Ratings Dilemma. Traditionally, rating agencies have viewed the sovereign government debt rating as the upper ceiling for all other debt issuers in a country. This appears to be the philosophy applied by CERA and CRA in their rating analyses. The argument for this approach is that no entity within a country, especially a transitional country, can offset risks related to the sovereign government and its macroeconomic policies. Sovereign risk for investors encompasses a variety of risks in terms of the ability of the sovereign government to (1) limit currency transfers out of the country and control convertibility, (2) alter the exchange rate and devalue domestic currency, and (3) politically and legally interfere with investments and transactions. Thus, cash flows and returns owed to a foreign investor can be severely altered by the act of the sovereign government. In the case of Natasha Mae, the government guarantee is intended to serve as a credit enhancement for the mortgages that it intends to issue. However, the guarantee lacks credibility or value in light of the weak financial state of the government. The following is a summary of sovereign debt ratings with respect to foreign and domestic currency (See Appendix I for rating descriptions):

Sovereign Rating		Local Currency			Foreign Currency		
<i>Czech Republic</i>	<i>Rating Date</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>
S&P	4/01	AA-	Stable	A-1	A-	Stable	A-2
Moody's	1/01 - 2/01	A-1	na	na	Baa1	na	P-2
Fitch IBCA	1/01 -2/01	A+	na	na	BBB+	na	F2

Sovereign Rating		Local Currency			Foreign Currency		
<i>Hungary</i>	<i>RatingDate</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>
S&P	4/01	A+	Stable	A-1	A-	Stable	A-2
Moody's	1/01	na	na	na	A3	na	P-2
Fitch IBCA	1/01	na	na	na	A-	na	F2
<i>Poland</i>	<i>RatingDate</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>
S&P	4/01	A+	Stable	A-1	BBB+	Positive	A-2
Moody's	1/01	na	na	na	Baa1	na	P-2
Fitch IBCA	1/01	na	na	na	BBB+	na	F2
<i>Russia</i>	<i>RatingDate</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>	<i>Long-Term</i>	<i>Outlook</i>	<i>Short-Term</i>
S&P*	6/01	B	Stable	B	B	Stable	B
Moody's	1/01	na	na	na	B2*	na	NP
Fitch IBCA	1/01	na	na	na	B	na	B

Sources: EBRD Investment Profiles, 2001; S&P, 2001

na = not available; *These ratings were revised upward from the April, 2001 rating of B-/Stable/C for both local and foreign currency; na = not available

The sovereign credit ratings of the three CEEC Study Countries fall within investment grade ratings levels, while the credit rating for Russia is not considered investment grade by any of the agencies.

However, according to Beers, et. al. (2001) and Koo, et. al. (2000) of S&P's and Fitch IBCA, respectively, ratings standards are beginning to change as international markets mature. For example, sovereigns have been shown to default on their obligations without resorting to exchange and currency controls that impact government-sponsored and private entities alike. Thus, a debt issuer within the country, including a government-supported entity such as Natasha Mae, may not be directly impacted and may deserve a higher debt credit rating than the rating on the sovereign debt. In addition, loan originators and securitizers can provide political and currency risk insurance on their loans or bonds. Local government bonds are often guaranteed by the sovereign government, which helps to improve international investment interest. Similarly, in Hungary, the establishment of a state-owned mortgage bank allows the government to subsidize the entity by providing credit insurance in the domestic market. However, private mortgage bond and MBS issuers do not have this luxury, except in the case of government-sponsored liquidity facilities. Therefore, these banks turn to the private swap and future markets

discussed earlier (see Footnote Nos. 15 and 32), whereas smaller domestic banks and institutions must turn to OPIC, the World Bank's Multilateral Investment Guarantee Agency ("MIGA") or others for credit and risk insurance on behalf of their potential investors. In terms of improving the marketability of private residential mortgage securities overseas, OPIC has stated that providing such guarantees and insurance will be a priority of the organization going forward. Under such guarantees, OPIC or others guarantee the scheduled payments of interest and principal to Class A bondholders, even if loan payments are reduced by lower exchange rates or currency transfer restrictions out of the originating country. With this type of insurance, rating agencies will provide higher credit ratings to those mortgage bonds or MBS (whether residential or commercial) tranches covered by such guarantees and insurance, thus increasing their marketability.

Ratings agencies also separately rate mortgage servicers, which is important in terms of understanding the value of mortgage bonds and MBS, as well as government-sponsored entities, such as liquidity facilities. Instead, these entities are increasingly being judged based on their stand-alone credit quality. Of course, often any government or non-government originating mortgage loans can and typically do fall below the sovereign credit rating. For example, S&P's ratings for the top banks in Russia in 2001 range from CCC+ to D, well below the ratings for the Russian sovereign credit rating. Obviously, "C-rated" and "D-rated" banks cannot create investment grade ("BBB" and up) securities. This is a primary problem in marketing mortgage bonds in Russia, including those of Natasha Mae. In contrast, structured finance allows the ratings of German *pfandbriefe* to achieve a higher rating than the issuing bank. This occurs based on the size of the mortgage pool, the size of the *pfandbrief* market, the resulting liquidity of the instrument and the overall growing reputation of the *pfandbrief* "brand." The CEEC

Study Countries will likely benefit from the prestige and growth of this market, provided that they maintain mortgage bond laws that are similar to those of the rest of the EU so that mortgage bonds across Europe maintain the same quality. As the amounts of mortgage loans grow, CEEC Study Countries will be able to provide multiple tranches of mortgage bonds to attract a variety of investors seeking different yields. Currently, the issuances are so small that the issuing banks must concentrate on high investment quality issuances to create a familiarity and interest in domestic markets. In addition, the parent banks must purchase their own issuances in order to help stimulate the demand and interest.

◆ Credit Enhancement – As briefly discussed earlier, credit enhancement involves raising the credit quality of a security above that of the issuing entity or the pool of assets backing the security. This enhancement can be either internal (produced by the assets themselves) or external (provided by a third party for a fee), and can be applied to mortgage bonds or MBS. Improving the liquidity of CEEC Study Country and Russian mortgage-backed bonds, particularly to attract international investor interest, requires the use of enhancements to raise the credit quality of these investment vehicles above the sovereign credit rating of the country in which the bond is issued. Mortgage bonds in the CEEC Study Countries rely primarily on internal credit enhancements and the high credit quality of the issuing banks (and their German/Austrian parent banks). These mortgage bonds, unlike their “pfandbrief” counterparts in Western Europe, still need strong external credit enhancements to convince investors that they, along with the issuing bank, are protected against interest and exchange rate risk. Additional enhancements (such as political risk insurance) are particularly important in Russia, where the government and bank credit qualities remain below investment grade. International investors typically require that enhancement agreements involve an offshore trust or entity that

can ensure guarantees without the possibility of interference from the domestic government of the country from which the security originates. Because CEEC Study Country and other mortgage-backed security markets are small, the necessary international swap and insurance markets are either not available or are too expensive for such issues to be economically viable. Therefore, OPIC and MIGA are actively involved in providing various levels of credit enhancement to improve the credit quality of mortgage-based investment vehicles from emerging markets.

OPIC (2000) outlines the following risk mitigation measures necessary to develop secondary markets in the order of recommended reliance (from first to last): (1) effective management controls, (2) access to reliable data, (3) availability of financial instruments, (4) capital reserves for all transaction parties, and (5) insurance. Both CEEC Study Country and Natasha Mae bond programs incorporate effective management controls through strict underwriting procedures to encourage quality underwriting by banks and ensure high quality mortgages to back the securities. However, as discussed earlier, access to reliable data, particularly credit histories, remains a difficult issue. The primary internal credit enhancements for mortgage bonds are the over-collateralization and underlying first mortgages required for the mortgage bonds. Since mortgage bonds do not involve full securitization, they cannot apply the use of subordinated tranches (which is essentially another form of over-collateralization) as another internal enhancement. Mortgage bonds are already, in essence, the equivalent of the grade "A" tranches of an MBS.

Other internal credit enhancements are also used. For example, the use of fixed-rate coupons, as with the Czech Bank of Austria Creditanstalt issues and the Polish HypoVereinsbank issues, protects investors from interest rate fluctuations. As the CEEC Study Country and

Russian insurance markets improve, lenders will likely also require borrowers to seek out domestic mortgage insurance to protect the lenders from borrower default. This insurance will also serve as a type of internal credit enhancement by improving the credit quality of the underlying loan collateral itself. Banks can also apply excess servicing agreements to guarantee that they will make up for any differences between the interest and principal payments they receive from the mortgage pool and the payments due to their bondholders. The issuer may also offer a reserve fund to ensure payment to bondholders, which is essentially what the capital requirements placed on mortgage bonds helps to ensure. However, these risks are expensive to a bank and must be considered in the pricing of their mortgage bond issues.

External credit enhancements include the interest and exchange rate swap and future contracts discussed earlier. Mortgage banks are typically responsible for establishing such agreements to manage their own portfolio risk in light of the servicing agreements and reserve funds they offer investors to improve mortgage bond marketability and liquidity. In the case of MBS, the investor may be responsible for such arrangements and receives higher yields on the MBS to compensate for such risk and related hedging costs. However, MBS issuers may also assume various levels of risk to enhance the credit quality and marketability of an issue. Other possible enhancements include surety bonds (which are insurance policies to investment grade bonds and MBS tranches), third-party or parent guarantees,³⁶ and letters of credit. As an alternative to a line of credit, actual cash can be borrowed by the issuer and invested in short-term commercial paper as pledged collateral (referred to as a “Cash Collateral Account”). Most of these enhancements subject the bank (and possibly the investor if the bank cannot meet its commitments) to “third-party” risk because the bank is reliant on the creditworthiness of the

³⁶ In many ways, the Vereinsbank, Bank Austria-Creditanstalt and other Western bank names applied to subsidiary banks in the CEEC Study Countries help to serve as “guarantees” to domestic and foreign investors that equate such names with stability.

entity providing the enhancement or insurance. This was a primary problem during the 1998 Russian debt crisis, when domestic Russian banks, as the ruble was devalued, were unable to fulfill their swap agreements with foreign investors who had made such swap arrangements to protect themselves from exchange rate risk.

In the case of the Rheinhyp-BRE Bank mortgage bond issue in Poland, credit enhancement is centered on the overcollateralization, currency swap agreements and liquidity lines guaranteed by the bank's shareholders, Rheinhyp AG and BRE Bank, SA (CERA, 2000). Unfortunately, the CRA (1999) report does not adequately explain whether additional credit enhancements apply to the Bank of Austria-Creditanstalt issues in the Czech Republic. Instead, the CRA report focuses on the use of over-collateralization and the credit quality of the issuing bank. Nevertheless, the key issue in evaluating credit enhancement is that banks and investors should first rely on the internal credit enhancement of the investment vehicle, then on capital reserves for losses, and last on hedging agreements (such as swaps) and insurance guarantees from third parties. In the domestic markets of the CEEC Study Countries and Russia, hedging and insurance guarantees are essentially unavailable or unreliable. Therefore, the focus for investors is internal credit quality, which is high among the mortgage bonds issued in the CEEC Study Countries, but remains highly suspect among potential mortgage-backed bonds in Russia.

The Future of Secondary Markets and Securitization

OPIC (2000) argues that there is no need for secondary markets in small countries (20% of less of the U.S. population), which would include the CEEC Study Countries. First of all, houses do not turn over to the extent they do in the United States. Second, mortgage bond and RMBS deals are too small, too concentrated and thus lack the diversification of loans, borrowers and economic regions that fostered development of such markets in the U.S. Black, et. al. (2000)

supports the OPIC assertion by stating that the primary mortgage markets in Poland and Hungary are small and thus additional capital is not currently a problem and may not be for five or more years. A country does not need a secondary market in order to begin or sustain housing mortgage finance in the transitional years of an economy. In summary, the markets of both the CEEC Study Countries and Russia are in the wrong state of mortgage lending development (as discussed and defined in Chapter One) to allow for secondary markets, especially any use of pass-through RMBS. As previously discussed in this thesis, Secondary Market development requires a competitive primary market with various banks and other financial institutions competing for loans and funding. Western Europe, the CEEC Study Countries and Russia do not truly have such competitive mortgage markets at this time. For example, OTP has a 90% monopoly in Hungary and PKO controls 60% of Poland's market. Thus, there is currently limited incentive to lower risk, improve efficiency and pass on lower spreads and offer loans to lower-income sectors due to improved operating margins. Pricing becomes competitive as funding rates that properly reflect credit, interest rate and liquidity risk are passed to consumers.

Successful secondary markets in the U.S. involve the separation of mortgage loan origination and underwriting markets from investment markets. Lenders are able to use their origination expertise to the fullest, while allowing investors to concentrate on assessing and pricing interest rate, credit and liquidity risk. Meanwhile, the tightening of margins causes banks to focus on loan servicing fees rather than the net interest income from holding loans on their books (Jaffe and Renauld, 2000). This separation or specialization is essential to securitization, which allows banks to pass credit and interest rate risk on to the investor. Therefore, the markets must be transparent so that investors can assess and price this risk when purchasing mortgage securities. However, securitization remains expensive in Europe at this time due to the lack of

consistent mortgage data, loan and transaction procedures and a variety of other areas and services, such as valuation, loan terms and foreclosure laws (Coles and Hardt, 2000). Standardization is only beginning to occur in Western Europe, so the CEEC Study Countries are provided only limited guidance from EU standards and general banking competition. Therefore, MBS are not yet popular in Europe and none have been reported in the transition countries of Eastern Europe (OECD, 2000).³⁷ As for Russia, standardized underwriting practices are limited to those banks that choose to join the lending programs of Natasha Mae or another liquidity facility or private company (i.e., Delta Credit).

◆ Obstacles to European Securitization – As reporting by Coles and Hardt (2000), less than 2% of all outstanding mortgage loans in Europe are funded through securitization. The main issue is that Europe fundamentally does not have the same conditions found in the U.S. that fostered its securitization market. However, as interest rates become stable, traditional deposit savers in the CEEC Study Countries will search out higher yield (yet safe) investment vehicles, such as mortgage bonds and MBS. The primary competitor to MBS (both residential and commercial) in Europe and the CEEC Study Countries is the existence of mortgage banks and their mortgage bonds, which provide a well-funded alternative on-balance sheet funding vehicle. These institutions are well-capitalized through deposits and mortgage bond financing. At this time, even Western European securitization has a difficult time competing for funds since the mortgage banks maintain lower spreads due to the lack of specialized players in the mortgage industry needed for securitization. MBS institutions pay a higher cost for the use of funds. Coles and Hardt (2000) identify that MBS in Europe typically trade at an average margin of 75 to 150 basis points over German government bonds, while mortgage bonds, with a strong reputation and

³⁷ Moody's and other international rating agencies do report that they have reviewed potential Commercial Mortgage Backed Security (CMBS) deals originating from the CEEC Countries.

over-collateralization, maintain a lower margin of 20 to 30 basis points over the German government bonds.

Mortgage bonds, by remaining on a bank's balance sheet, also protect investors from interest rate risk, which has historically been a concern in the CEEC Study Countries. Securitization offers the efficient use of capital, higher liquidity and portfolio risk management options to banks who are able to remove assets from their balance sheets. Currently, 98% of mortgage loans remain on European bank balance sheets and less than one percent (1%) of mortgage loans included in MBS in 1998 represented residential mortgage loans (Hardt and Manning, 2000). However, several trends are emerging that may lead to securitization becoming more popular. Increasing bank competition and specialization may improve spreads for securitization, forcing mortgage banks to seek off-balance sheet finance. Mortgage banks already are required to hold high current bank capital requirements against their loan assets. In the U.S., the need for bank mortgage capital is kept low through government-supported securitization that removes over 50% of mortgage loans from bank balance sheets. This continuing capitalization gives American institutions advantages when moving into the European mortgage market, while Europeans face the higher basis point spreads discussed in the preceding paragraph.³⁸ Therefore, the EMF is currently seeking lower mortgage bank capital requirements in an effort to free up capital. Based on a prescribed regulatory formula, mortgage lenders in Europe need to hold between 4% and 8% of their capital on balance sheet for mortgage loans required to be weighted at between 50% and 100%. According to EMF (2000), there is a need to reduce mortgage bank capital requirements for residential mortgage loans because these banks are unnecessarily over-capitalized, which suggests capital is being used inefficiently. The large capital reserves are

³⁸ The EMF (2000) estimates that U.S. liquidity facilities, such as Fannie Mae, save approximately 50 basis points on their cost of capital due to government guarantees, and that U.S. banks involved in mortgage lending benefit directly from this subsidy.

partially due to the over-collateralization and high bank capital requirements used to ensure high ratings on mortgage bonds. More importantly, the EMF is concerned that universal and other banks involved in mortgage lending will move toward securitization due to the high capital allocation requirements relating to residential mortgages serving as collateral on mortgage bonds. Currently, banks are required to maintain 50% weighting (per Directive 98/32/EC) on MBS and 10% on mortgage bonds and 50% on mortgage loans. The EMF supports the 10% weighting of mortgage bonds required under Article 11.2 of the EU's Solvency Ratio Directive (Directive 89/647/EEC). However, it believes the weighting of the MBS should relate solely to credit risk and quality. In the U.S., MBS from the U.S government -sponsored liquidity facilities (as well as other "AAA" rated entities) are weighted at 20%, giving U.S. institutions an advantage in securitization over their European competitors (Hardt and Manning, 2000; EMF, 2000).

◆ Possibilities for European Securitization – As the competitive environment increases across Europe, smaller lenders will develop and use securitization and thus require little capital to originate loans. Mortgage Banks and others will be forced to seek to free-up capital through off-balance sheet funding to compete. Otherwise, they will need to find ways to increase their margins in light of rising costs of deposits and competition that requires them to hold their lending rates constant. A competition is emerging in Europe between the savings and efficiencies related to the consolidation of banking services within the universal bank model (through which mortgage bonds are issued), and the savings and efficiencies from smaller, specialized mortgage players (i.e., the securitization or MBS model). Diamond (1999) argues that mortgage bonds will continue as a funding option, while pure mortgage banks will not survive. Assuming the EMF succeeds in lowering the risk-weights for mortgage lending, it remains to be seen whether mortgage bonds or RMBS (and CMBS) will ultimately dominate. It

is likely that both models will compete side-by-side, with the MBS market securitizing higher risk loans and offering investors their proceeds through high yield tranche options.

The impact of EMU membership and the eurodollar ("Euro") for the CEEC Study Countries remains unclear. Currently, investor bond purchases are inhibited by exchange rate risk. Below are historical currency exchanges for the CEEC Study Countries and Russia that show improvement against the U.S. dollar, but continued fluctuations with the Euro:

Figure 3.5

Source: *EBRD Investment Profiles, 2001*

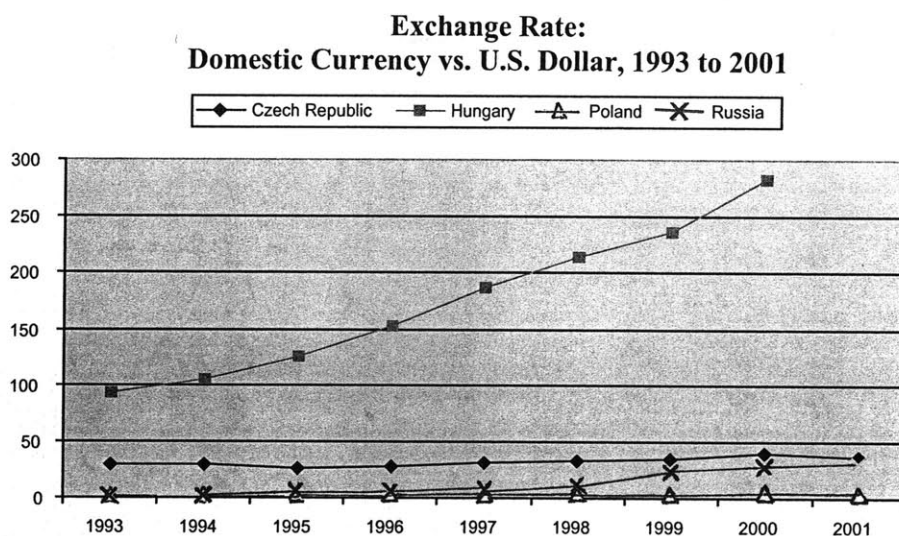
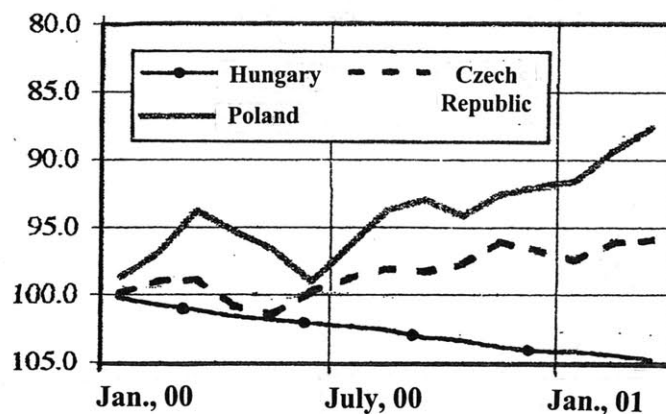


Figure 3.6

Source: *EBRD Annual Meeting Regional Overview, 2001*

**Exchange Rate: Domestic Currency vs. Eurodollar,
Jan., 2000 to Jan., 2001 (Monthly Average, 12/99 = 100)**



As of January 1, 1999, the EMU countries (which includes most of the EU countries) use the Euro and have agreed to a Central Bank that conducts a single monetary policy. The main advantage for securitization is that Euro-denominated loans allow the pooling of large numbers of loans without the concern of local currency risk, which has been a major problem in the CEEC Study Countries (and, to a larger extent, Russia). In addition, it improves transparency and competition by making it easier to compare loan pools from across Europe.

Euro-denominated mortgage bonds are also being issued to help foster the secondary market in these investments. When a mortgage bond is issued, the cover assets may not be exposed to foreign exchange rate risks since the loans may be designated in the local currency. However, in the case of Euro-denominated mortgage bond issues (as with the HypoVereinsbank example in Poland), investors are promised payment in Euros, subjecting the issuing bank to exchange rate risk. Similarly, Natasha Mae bonds could be issued as dollar-denominated bonds to match the dollar-denominated payments required from loan borrowers. Exchange rate risk often confines these mortgage bond issues to the domestic markets since there are no long-term swap markets for the CEEC (and Russian) domestic currencies for international investors to hedge against currency devaluation. Investors are forced to rely on currency and related political risk insurance, which as OPIC (2000) states, should be the last resort of risk management. Overall risk to the issuing banks will continue to rise when and if these banks, especially specialized (non-diversified) mortgage banks, are required to make loans in other currencies than the incomes and payments of their borrowers. In the future, these banks also need to primarily rely on long-term hedging products, rather than government guarantees and risk insurance. These markets will only develop as the CEEC Study Country and Russian currencies become more stable and the Euro becomes the primary mortgage market currency in the EU. A common

currency allows for trade without the risk of a loss in value of a security receiving local currency payments. Otherwise, the loan and/or bond originators, through insurance or other hedging vehicles, must guarantee the value of the payments passing through to the investor (in the case of RMBS) or the coupon payments and overall value of the bond (in the case of a mortgage bond).

As the pfandbrief and Euro markets grow, the Euro-denominated jumbo pfandbrief market will likely become the benchmark for non-government debt in Europe. CEEC Study Countries will likely join the growth of this market, which is expected to grow as the EU reduces government spending and allows for more private debt issues in the capital markets. Meanwhile, it is likely that the CMBS market in the CEEC Study Countries will also develop because industrial, distribution and some commercial properties are becoming attractive there and can provide the necessary loan values and returns necessary for investment. This is evidenced by the high levels of non-residential mortgages comprising CEEC Study Country mortgage bonds. The question is what the timeline will be for the EU and Euro to link markets and allow for geographical diversification and large pools of loans throughout Europe. Such combinations of markets, although likely years away, will increase the availability of quality residential mortgage loans and provide geographical diversity. Merrill (2000) states that it is unclear whether Poland will access long-term mortgage funds from capital markets through mortgage bonds or securitization.. However, given the higher level of competitiveness and larger population of Poland, it is likely that it will produce CMBS, and possibly RMBS, before the Czech Republic and Hungary. Currently, Russia is also researching the necessary legislation and methods for MBS, including a *Law On Mortgage Securities* (Pastukhova and Roghizhina , 2000). The interest in Russia from the standpoint of mortgage securitization and pooling mortgages is the

shear size of its population , as well as its geographic and economic diversity. However, it appears that it will be years before this potential market can be tapped.

Conclusions

In the short term, wholesale funding through the capital markets will not improve the affordability of residential mortgage financing in the CEEC Study Countries or Russia. The mortgage bonds issued so far have short maturities (typically five years) to match underlying loan terms and to allow investors short investment horizons and a sense of liquidity. The exception has been Hungary, which has provided longer-term loans, but only through subsidizing its sole mortgage bank, which still has been unable to compete with universal and commercial banks involved in mortgage lending. In the end, the bonds have so far not provided banks with long-term funding associated with capital market access. However, the limited demand for residential mortgage lending ensures that such long-term funding is not truly needed at this time. Such a need would only arise in the unlikely event that capital market access could reduce lending rates below those offered by subsidized baspar systems and draw their depositors away, while also creating large new levels of mortgage lending demand. That being said, the establishment of mortgage-backed bonds is helping to lay the groundwork for more competitive lending environments in the CEEC Study Countries and Russia in the longer term. Although mortgage bond markets are developing slowly, it is important to note that, as of 1968, Fannie Mae's portfolio still amounted to only \$7 billion, or a little more than 2.5% of the whole mortgage market (Mints, 2000). This was thirty years after the creation of Fannie Mae. The horizon for improvement in Eastern Europe is not as long. A primary determinant in the future of mortgage market development will be the continued removal of barriers to entry for banks and other financial institutions. Mortgage-backed bonds

and MBS provide another step in the development of fully competitive mortgage markets and will help to lead to the efficient use of capital. The market appears headed toward one comprised of large banks providing multiple mortgage services, along with lesser capitalized lenders who compete through securitizing their portfolios. As Black, et. al. (2000) states, there is no right or wrong method of wholesale access to mortgage capital markets, provided the playing field is even and competitive. The CEEC Study Countries will continue to integrate into European mortgage markets and banks will face the need to choose either mortgage bond or MBS vehicles for recapitalization. More importantly, there will be competition between the desire for bank consolidation, which brings mortgage services within universal banks, and MBS financing, which tends to unbundle services among various entities. If mortgage banks are not allowed more lenient capital requirements in light of U.S. competition, they may be faced with seeking out riskier commercial loans to be included within their mortgage bonds to improve yields. Nevertheless, they will likely need to also use RMBS and CMBS vehicles in which to include their more risky loans that can be addressed through the financial engineering of securitized tranches. In the meantime, Russia must continue to focus on primary mortgage market development, with Mints (2000) arguing for the need to focus on baupar systems. Recent improvements in Russia's sovereign credit rating raises the hope that Natasha Mae and other liquidity facilities can purchase loans in certain urban areas and begin to introduce domestic and international bond markets to Russian mortgage-backed bonds. However, there is a continued need for essential banking reform, including further entry of foreign competitors to assist in creating a more competitive and modern banking system. At this time, Russian banks do not have the reputation or capital reserves of the foreign-owned and controlled banks

operating in the mortgage markets of the CEEC Study Countries. Without these benefits, Russia will continue to lag behind its former Soviet satellites to the West.

LITERATURE CITED

- Adlington, Gavin, et. al. *Developing Real Estate Markets in Transition Economies*. A Paper for the U.N. Intergovernmental Conference, December 6-8, 2000, Geneva. Prepared for the U.N. ECE Real Estate Advisory Group by Land and Property Economics (LAPECO), with Support from the Royal Institute of Chartered Surveyors (RICS) Research Foundation, the World Bank, and the European Bank for Reconstruction and Development (EBRD).
- Angel, Shlomo. *Housing Policy Matters: A Global Analysis*. New York: Oxford University Press, 2000.
- Arndt, Franz-Josef. "The Pfandbrief." *The Pfandbrief: Facts and Figures About Europe's Biggest Bond Market*. Association of German Mortgage Banks: 1999.
- Beers, David T., Marie Cavanaugh, Paul Coughlin and Michael Petit. *Revised Ratings Methodology for Government-Supported Entities*. Published Commentary. New York: Standard & Poor's, June 5, 2000.
- Bernstam, Michael S., and Alvin Rabushka. *Fixing Russia's Banks*. Public Policy Inquiry Paper of the Hoover Institution, Stanford University, 2000.
- Black, Rebecca, Krzysztof Jaszczot and Michael Lee. *Solving the Housing Problem: Lessons from Poland and Hungary in Creating a New Housing Finance System*. Warsaw: USAID Regional Urban Development Office (Central Europe), June, 2000.
- Branco, Marta de Castello. *Pension Reform in the Baltics, Russia and other Countries of the Former Soviet Union*. International Monetary Fund (IMF) Working Paper, European II Department. February, 1998.
- Central European Rating Agency (CERA), S.A. *CERA Credit Report – Rheinhyp – BRE Bank Hipoteczny SA*. [Mortgage Bond Issuance]. Warsaw: June, 2000.
- Chiquier, Loïc. *Regulation of Mortgage Banks and Mortgage Bonds in Poland: Assessment of the Regulatory Framework for Mortgage Banking in European Union Countries with Lessons Learned from Poland*. U.S. Agency for International Development (USAID) East European Regional Housing Sector Assistance (EERHSA) Project No. 180-0034; ENI/EEUD/UDH, Contract No. EPE-C-00-95-001100-00, RFS No. 643 /Urban Institute Project No. 06610-643. Washington, DC: The Urban Institute, January, 1999.
- Coles, Adrian, and Judith Hardt. "Mortgage Markets: Why U.S. and E.U. Markets Are So Different." *Housing Studies*. 2000. Volume 15, No. 5, pp. 775-783.
- Czech Rating Agency (CRA). *CRA Rating Report – Mortgage Bonds of the Bank of Austria Creditanstalt Czech Republic (CZ), a.s.* Prague: June 9, 1999.

- Davis, E. Philip. *Policy and Implementation Issues in Reforming Pension Systems*. European Bank for Reconstruction and Development (EBRD) Working Paper No. 31. August, 1998
- Diamond, Douglas B. “*The Transition in Housing Finance in Central Europe and Russia: 1989 – 1999*.” Prepared for USAID Support for Economic Growth and Institutional Reform CLIN 002: Legal and Institutional Reform, USAID Contract No. PCE-I-00-97-00052; Under Subcontract to Price Waterhouse Coopers LLP. November, 1999.
- European Bank of Reconstruction and Development (EBRD). *Regional Overview: Central and Eastern Europe*. Unpublished Paper Prepared by the EBRD for its Annual Meeting, April, 2001.
- European Bank of Reconstruction and Development (EBRD). *Czech Republic Investment Profile, 2001*. Prepared by the EBRD Country Promotion Programme and Distributed for the EBRD Annual Meeting and Business Forum in London, April 22–24, 2001.
- European Bank of Reconstruction and Development (EBRD). *Hungary Investment Profile, 2001*. Prepared by the EBRD Country Promotion Programme and Distributed for the EBRD Annual Meeting and Business Forum in London, April 22–24, 2001.
- European Bank of Reconstruction and Development (EBRD). *Poland Investment Profile, 2001*. Prepared by the EBRD Country Promotion Programme and Distributed for the EBRD Annual Meeting and Business Forum in London, April 22–24, 2001.
- European Bank of Reconstruction and Development (EBRD). *Russian Federation Investment Profile, 2001*. Prepared by the EBRD Country Promotion Programme and Distributed for the EBRD Annual Meeting and Business Forum in London, April 22–24, 2001.
- European Commission, Directorate General for Economic and Financial Affairs. “Czech Republic: The Financial Sector.” *Enlargement Papers*. Number 3. August, 2000.
- European Mortgage Federation (EMF). *Position Paper on the Commission’s Consultation Document on Regulatory Capital Requirements for EU Credit Institutions and Investment Firms*. April, 2000.
- European Mortgage Federation (EMF), Ministry for Regional Development. *Czech Republic Country Paper*. Unpublished Paper. March, 2001.
- Hardt, Judith, and David Manning. *European Mortgage Markets: Structure, Funding and Future Development*. Unpublished Paper. EMF/OECD: June, 2000.
- Hessel, Helena. *Rating the Transition Economies*. Published Commentary. New York: Standard & Poors, April 16, 2001.

- International Network of Pensions Regulators and Supervisors (INPRS). *Room Document No. 24: Recent Developments in Selected CEEC [Countries]: Romania, Poland, Hungary and the Czech Republic*. Unpublished Paper Prepared for the Private Pensions Conference at the National Palace of Culture, Sofia, Bulgaria, April 23-26, 2001.
- International Network of Pensions Regulators and Supervisors (INPRS). *Room Document No. 3: Survey of Investment Regulation of Pension Funds in OECD Countries*. Unpublished Paper Prepared by the OECD Secretariat for the Private Pensions Conference at the National Palace of Culture, Sofia, Bulgaria, April 23-26, 2001.
- Jaffee, Dwight M. (Haas School of Business; University of California, Berkeley), and Bertrand Renaud (The World Bank). *Strategies to Develop Mortgage Markets in Transition Economies*. 1996. Unpublished Paper.
- Kaganova, Olga. *Urban Real Estate Markets in Russia: The Current Stage*. Real Estate Issues. Summer, 1998. Volume 23, Issue 2, pp. 30-35.
- Kawalec, Stefan, and Krzysztof Kluza. *Challenges of Financial System Development in Transition Economies* (Draft Paper). Prepared for the session "Banking and Capital Markets: The Unfulfilled Promise in Europe and Central Asia," as part of the program of seminars "Making the Global Economy Work for Everyone" at the Annual Meeting of the International Monetary Fund and the World Bank, September 22-25, 2000. Warsaw: July 27, 2000.
- Kluza, Krzysztof. Correspondence with Thesis Author, dated June 18, 2001.
- Kolek, Stefan, and Thomas Cohrs. "Fixed Income Markets." *Euromoney*. December, 1999. Issue 368, pp. 140-142.
- Koo, C. Mia, Samuel Fox, Chris Chau and Roger M. Scher. *Rating Emerging Market Existing Asset Securitizations*. Fitch IBCA, Duff & Phelps International Special Report. September 25, 2000.
- Kudron, Stanislaw. Poland State Office for Housing and Urban Development. Correspondence with Thesis Author, dated July 2, 2001.
- Kûhn, Pavel. Speech Text Summary from the Annual Central European Mortgage Bond Conference. Slovakia: November 16-17, 2000.
- Kutan, Ali M., and Josef C. Brada. *The Evolution of Monetary Policy in Transition Economies*. Federal Reserve Bank of St. Louis Review. March/April, 2000. Volume 82, Issue 2, pp. 31-40.
- Lea, Michael J. "Prerequisites for a Successful Secondary Mortgage Market: The Role of the Primary Mortgage Market." *Housing Finance International*. December, 2000. Volume 15, Issue 2, pp. 26-41.

- Lea, Michael J. "The Applicability of Secondary Mortgage Markets to Developing Countries." In *Secondary Mortgage Markets: International Perspectives*. Michael J. Lea, Ed. Chicago: International Union for Housing Finance, 1998.
- Merrill, Sally Roe. "Housing Finance at the Millenium: An Assessment of Achievements and Outstanding Issues." *Housing Finance International*. Chicago: June, 2000. Volume 14, Issue 4, pp. 3-15.
- Merrill, Sally Roe, and Edward Kozlowski. *Developing Housing Finance in a Transition Economy: The Case of Poland*. Working Paper. Washington, DC: The Urban Institute, June, 2001.
- Mints, Victor. "Selecting a Housing Finance System for Russia." *Housing Finance International*. Chicago: December, 2000. Volume 15, Issue 2, pp. 49-57.
- Organisation for Economic Cooperation and Development (OECD). *Workshop on Housing Finance in Transition Economies: Summary Record of Meeting, Paris, June 19-20, 2000*. Paris: OECD; Official Use/Distribution, OECD Meeting, October 10-11, 2000.
- Overseas Private Investment Corporation (OPIC). *Bridging the Housing Gap in Emerging Markets: A Report from the Overseas Private Investment Corporation*. Washington, DC: OPIC, Fall, 2000
- Pastukhova, Natalia, and Natalia Rogizhina. "Principal Changes in Long-Term Residential Mortgage Lending in Russia During 1998-2000." *Areas of Activity Bulletin*. Moscow: The Institute for Urban Economics, 2000.
- Polański, Zbigniew. "Poland and International Turbulences of the Second Half of the 1990s." In *Financial Turbulence and Capital Markets in Transition Economies*. Jens Hölscher, Ed. New York: St. Martin's Press, 2000.
- Pollock, Alex J. "Simplicity Versus Complexity in the Evolution of Housing Finance Systems." In *Secondary Mortgage Markets: International Perspectives*. Michael J. Lea, Ed. Chicago: International Union for Housing Finance. 1998.
- Stöcker, Otmar M. "Central and Eastern Europe: New Legislation on Mortgage Banks and Mortgage Bonds." *Mortgage Banks and the Mortgage Bond in Europe*. Brussels: The European Mortgage Federation (EMF), 2001.
- Struyk, Raymond J., Editor. *Homeownership and Housing Finance Policy in the Former Soviet Bloc: Costly Populism*. Washington, DC: The Urban Institute Press, 2000.
- Struyk, Raymond J., and Nadezhda B. Kosareva. "Natasha Mae: First Secondary Facility in the Former Soviet Bloc." *Housing Finance International*. May, 1999. Volume 13, Issue 3, pp. 29-36.

- Thau, Annette. *The Bond Book*. Chicago: The Probus Publishing Company, 1992.
- Varhegyi, Eva. *The Role of Mortgage Finance in Stimulating the Real Estate Market*. Center for International Private Enterprise (CIPE). Unpublished Paper. 2001.
- Vittas, Dimitri. *Institutional Investors and Securities Markets: Which Comes First?* World Bank Development Research Group Unpublished Paper. Presented at the ABCD LAC Conference, San Salvador, El Salvador, June 28-30, 1998.
- Vitta, Dimitri. *Pension Reform and Capital Market Development: "Feasibility and "Impact" Preconditions*. World Bank Development Research Group Unpublished Paper. May, 2000.

APPENDIX

Appendix I – Description of International Rating Agency Credit Ratings			
International			Description
S&P's	Moody's	Fitch ICBA	
AAA	Aaa	AAA	Gilt edged. If everything that can go wrong, goes wrong, they can still service debt.
AA	Aa	AA	Very high quality by all standards.
A	A	A	Investment grade; good quality.
BBB	Baa	BBB	Lowest investment grade rating; satisfactory; but needs to be monitored.
BB	Ba	BB	Somewhat speculative; low grade.
B	B	B	Very speculative.
CCC	Caa	CCC	Even more speculative. Substantial risk.
CC	Ca	CC	Wildly speculative. May be in default.
C	C	C	In default. Junk.

Source: Direct Excerpt from Thau, 1992

Note: Standard & Poor's adds plus (+) or minus (-) signs to signify ratings slightly above or below the main categories. Moody's adds a "1" to signify slightly higher ratings above its categories.