Regulation and Supervision of Mortgage Lending in Emerging Markets

An Assessment in Bulgaria and Romania

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Acknowledgements

Overview of the Southeast Europe Mortgage Finance Project. This report is part of an ongoing series of activities supported by USAID's Office for Economic Growth, Bureau for Europe and Eurasia and by USAID Missions in Southeast Europe[1]. The project, which aims to support development of the primary and secondary mortgage markets in Southeast Europe (SEE), began with the Urban Institute's assessments of the mortgage markets in Bulgaria, Croatia, and Romania.[2] The assessments were prepared in the fall of 2002 as background information for the USAID-supported, region-wide conference - Developing Secondary Mortgage Markets in Southeast Europe – which was held in Sofia on February 4 and 5, 2003.

The Conference culminated in the formation of a Working Group dedicated to improving mortgage finance in Southeast Europe (SEE), called the SEEMFN (Southeast Europe Mortgage Finance Network) Working Group. The SEEMFN is a public private partnership of mortgage finance practitioners and policy analysts from SEE and abroad, and donors and international financial institutions, all working together to promote better domestic mortgage markets and greater integration of the region's financial markets. In so doing, SEEMFN is designed to support and complement the bilateral efforts of USAID missions in the region to promote mortgage market development. SEEMFN's specific goals are to improve the mortgage laws, policies and procedures in the region based on international standards and best practice. This is expected to lead to faster primary market development as well as issuance, in greater volume and sophistication, of mortgage securities, which are in demand by many institutional investors and pension funds in SEE. SEEMFN meets twice a year. Please refer to our website http://ceemortgagefinance.org for further information about the Assessment Reports, the Conference, the SEEMFN Working Group, and related conferences and studies.

For this report, interviews were conducted in both Romania and Bulgaria with officials of the central banks, insurance and other financial services regulatory bodies, both bank and nonbank mortgage lenders, insurance companies, and other pertinent industry participants, including real estate appraisers. The interviews were conducted from September 20 – 24, 2004 in Bucharest, Romania and September 27 – October 1, 2004 in Sofia, Bulgaria.

The authors are extremely grateful for very instructive comments from Jean Lange, Senior Advisor, USAID, and Bryan Stirewalt, regulatory expert, BearingPoint and Mitch Berns, Mortgage Market Strategies, LLC.

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[1] Southeast Europe includes the countries of Bulgaria, Romania, Croatia, Albania, Bosnia-Herzegovina, Macedonia, Slovenia, Serbia and Montenegro, and Kosovo.

[2] See Merrill, Sally, Carol Rabenhorst, and Paul Sacks, "Developing Secondary Mortgage Markets In Southeast Europe: Assessments Of The Mortgage Markets In Bulgaria, Croatia, And Romania," The Urban Institute, Washington D.C., January 2003.

1.0 Executive Summary

Overview:

This paper addresses issues facing both emerging and developed markets alike in the regulation and supervision of an increasingly important type of finance: mortgage lending for residential and commercial properties. Assessments of the regulation and supervision of mortgage lending were carried out in Bulgaria and Romania. Both of these countries are, in many ways, representative of increasingly successful emerging markets, with rapidly expanding portfolios of mortgage loans.[3]

Available mortgage loans are predominantly short-term, variable-rate products, and currently represent only small proportions of total bank assets. Mortgage lending, however, is increasing rapidly and can be expected to continue to do so. Both countries are experiencing strong economic growth, and monetary conditions are greatly improved, with both countries having recovered from past episodes of severe hyperinflation. Privatization and restructuring of the banking systems are nearly complete, with both countries having benefited from major inflows of capital and expertise from large foreign banks.

Commercial banks do almost all the mortgage lending in Bulgaria and Romania, and both banking systems appear well regulated. The central banks use traditional supervisory tools to carry out their prudential responsibilities, including risk-based capital adequacy requirements, periodic on-site examinations, financial reporting and disclosure requirements, and off-site monitoring. Both countries also are taking actions to bring their regulations and standards into compliance with EU directives in preparation for their anticipated EU accession in 2007.

One specific concern is this: as mortgage lending increases in importance and mortgage products become increasingly sophisticated and complex, the characteristics of the business can dictate particular regulatory and supervisory consideration. These include larger size, longer-term, and possibly fixed-rate loans; increased credit, interest rate and operations risk; more complex hedging and funding strategies; option pricing; the need to address collateral risk; and the extreme sensitivity of loan default, and loss given default, to the loan-to-value ratio (LTV). Also, primary market support functions are especially important in emerging market mortgage lending: having an effective legal infrastructure, including foreclosure and repossession; an appraisal process based on international standards; credit information bureaus; and mortgage-related insurance products, including in some countries, disaster insurance. In developed economies, prudential regulators often address these issues with special provisions and approaches, some of which are discussed in this paper.

In summary, in Southeast Europe, as elsewhere, it is anticipated that mortgage lending will become an increasingly important activity for commercial banks. Specialized mortgage lenders may also grow in importance, a process already begun in Romania. As the markets develop and become more competitive, mortgages products are likely to become increasingly sophisticated and complex, with loans of longer duration, higher LTVs, and fixed rather than variable rates. This profile results in risk characteristics that have led regulators in developed markets to utilize additional measures, such as stress

[3] As noted above, more complete information can be found on the website www.ceemortgagefinance.org

testing and duration modeling. In high LTV lending, credit enhancements, such as mortgage guarantee insurance, and risk weight issues must also be addressed.

Summary of Recommendations:

Regulation and Supervision of Mortgage Lenders

- At present, neither Bulgaria nor Romania has any specialized regulatory or supervisory regime that is particular to mortgage lending or to the specific risks inherent in originating, underwriting, servicing and holding mortgage portfolios. Mortgage lending is viewed as one component of commercial banks' consumer lending business and is treated as such by the central bank regulators. ***Our primary recommendation is that, as mortgage portfolios grow and mortgage products become more complex and longer-term, that consideration be given to the special requirements of this type of lending.***

- As the primary supervisory authorities, the Bulgarian National Bank (BNR) and the National Bank of Romania (NBR) should address and correct the weaknesses in bank risk management systems, and in loan enforcement and foreclosure procedures that were identified in the recent Financial Sector Stability Assessments performed by the IMF and the World Bank.

- As mortgage portfolios continue to grow and mortgage products proliferate, BNB and NBR should consider establishing specific duration limits and requiring the use of stress tests to more precisely measure and set specific capital requirements for interest rate risk.

- BNB and NBR should also consider adding an additional element to their respective bank rating systems that explicitly rates the degree of market risk taken by a bank, the bank's ability to identify, measure, monitor and control that risk, and the financial support provided by that bank's earnings and capital.

- BNB and NBR bank examiners should receive specialized training in the risks posed by large mortgage operations and in holding large mortgage portfolios.

- BNB and NBR should take steps to ensure that supervisory-imposed underwriting requirements – such as maximum LTV ratios and maximum debt service limits – are empirically based, longstanding ones designed to control excessive risk taking and protect depositors, and not to meet other short-term economic policy objectives.

- Supervisory assessments of lenders' underwriting policies should give consideration to other types of available credit enhancements, such as mortgage guarantee insurance or additional acceptable collateral, rather than relying strictly on hard and fast limits on LTV and debt service ratios.

Mortgage Market Development and Support Functions: Appraisal, Credit Bureaus, Mortgage-Related Insurance Products, and Databases

- First and foremost, consideration should be given to establishing regulatory principles, and minimum qualification standards, to improve the quality and consistency of real estate appraisals and to establishing comprehensive, readily available databases of real estate sales information to facilitate appraisals of market value based on comparable sales.

- On-going efforts to improve mortgage lenders' access to creditor information and to capital market funding through mortgage bonds and securitization should be encouraged.

- Mortgage lenders in Romania and Bulgaria already require borrowers to obtain property-casualty insurance, and disaster insurance is now emerging. Because some large cities in Bulgaria and Romania are in earthquake prone areas, prudential insurance regulators should ensure that large, well-capitalized and geographically diversified insurers adequately reinsure domestic companies providing catastrophic property insurance on mortgaged properties.

- For mortgage finance to develop and become more affordable and widely available to a broader spectrum of borrowers, lenders in emerging markets should develop the risk management systems, the funding and hedging strategies, and the skills to assume and successfully manage more credit, collateral, market and operations risk.

- Ultimately, comprehensive databases on the size, composition, and performance characteristics of residential and commercial mortgage loan portfolios should be developed. In the future, such data could be used for supervisory purposes in better assessing the adequacy of bank reserving and underwriting. In addition, it would facilitate the pricing and sale of loan pools in a secondary market.

2.0 The Banking System and the Mortgage Market: Structure and Condition

Almost all of the mortgage credit in Bulgaria and Romania is supplied by commercial banks that are licensed, regulated and supervised by the central banks – the Bulgarian National Bank (BNB) and the National Bank of Romania (NBR), respectively. In Romania, two nonbank mortgage finance companies – Domenia Credit and Eno Credit -- are required to register and report data to NBR, and will come under NBR supervision and examination once proposed legislation is enacted. There is also at least one specialized housing savings bank – Raiffeisen Bank Bausparkassse Romania – that, since May 2004, is licensed and regulated by NBR. In Bulgaria, there is at least one nonbank mortgage lender that is in the start-up process, and that expects to be brought under BNB's regulatory purview before significant lending operations begin.

As a result of privatization, hyperinflation, and various economic and banking crises that both countries experienced in their transitions from communist rule, almost all of the commercial banks in Bulgaria and Romania are foreign-owned. With the privatization of Romania's largest bank – Banca Comerciala Romana (BCR) – completed in 2004, 27 of Romania's 31 commercial banks, with 80 percent of total bank assets, are majority foreign-owned. In Bulgaria, majority foreign owned commercial banks hold over 80 percent of assets. Foreign bank branches also have a significant presence in both of these markets, with about 6 percent of bank assets in Bulgaria and 8 percent in Romania.

Commercial banking is fairly concentrated in these two countries. In Bulgaria, the 10 largest commercial banks held 72 percent of total bank assets and almost 74 percent of deposits as of March 2004. The largest Bulgarian bank – Bulbank—accounted for 16 percent of assets. In Romania, the 5 largest commercial banks held 62 percent of assets and 61 percent of deposits as of June 2004, with BCR accounting for 29 percent of total system assets.

Available BNB data indicate that real estate lending is more highly concentrated than other types of lending in Bulgaria. Two banks -- DSK Bank[4] and United Bulgarian Bank – held 62 percent of the total 465.8 million BGN in reported housing loans to individuals as of March 2004. Three banks – First Investment Bank, Biochim Commercial Bank, and Bulbank – held 41 percent of the total 1,896 million BGN in commercial real estate and construction loans.[5]

BNB data also indicate that commercial banks in Bulgaria, at March 31, 2004, are well capitalized, with a reported capital adequacy ratio (total capital to risk-based assets) of 21 percent; highly liquid; and profitable – with a 2.5 percent ROA and 22 percent ROE and with high net interest margins (5.7 percent). Overall, 25 Bulgarian banks and foreign bank branches were assigned the highest BNB supervisory ratings as of March 2004.

Data available from NBR indicate that Romania commercial banks, at December 2003, are also well capitalized, with a reported capital adequacy ratio of 21.2 percent; highly liquid; and profitable, with a 2.2 percent ROA and a 15.6 percent ROE, but with

[4] Historically, state-owned DSK accounted for all mortgage lending in Bulgaria.
[5] See "Commercial Banks in Bulgaria, Quarterly Bulletin", Bulgarian National Bank , Sofia (March 2004).

somewhat declining net interest margins and increased provisioning following the implementation in January 2003 of more stringent NBR provisioning requirements (i.e. loans 90 days past due are now classified as “loss” with 100 percent provisioning).[6]

The principal sources of funds for commercial banks, and thus for mortgages, in both Bulgaria and Romania are demand and time deposits and, to a much lesser extent, loans, lines of credit, and equity from parent foreign banks, and in some cases, international lending institutions like the EBRD and the IFC. During the period July 2001 to September 2004, seven Bulgarian banks also financed mortgages by issuing 63 million euros in mortgage bonds. The bonds, denominated in either euros or BGN, had maturities of two, three or five years, and interest rates ranging from 6.1 percent to 8.00 percent.[7]

Romania is in the process of amending its laws to facilitate mortgage bonds and securitization. However, the likely investors for such bonds -- pension funds, insurance companies, and mutual funds -- are not as well positioned on the buy side in Romania as they are in Bulgaria. While no mortgage bonds have been issued in Romania as of October 2004, at least one nonbank mortgage lender currently operating with equity capital and loans expects to finance its continuing operations by issuing mortgage bonds in the near future. In the first half of 2004, two Romanian banks did, however, complete the first-ever issuance of commercial bank corporate bonds in the amount of ROL 1,880 billion.

3.0 Banking Regulation and Supervision

The central banks of Bulgaria and Romania use traditional supervisory tools to carry out their prudential responsibilities, including risk-based capital adequacy requirements, periodic on-site examinations, financial reporting and disclosure requirements, and off-site monitoring. Both countries also are taking actions to bring their regulations and standards into compliance with EU directives in preparation for their anticipated EU accession in 2007.

Bulgaria

In Bulgaria, the Law on Banks, and a set of 22 implementing regulations, establishes rules on licensing, capital adequacy, loan classification and provisioning, credit concentration, conflicts of interest, internal controls and governance, liquidity, and conservatorship and liquidation. Consolidated supervision and a central credit register are also mandated. Banks are rated annually on a CAMEL – capital, asset quality, management, earnings, and liquidity – scale and quarterly on a CAEL – capital, asset quality, earnings, and liquidity -- scale. Both a minimum leverage ratio (total capital to balance sheet assets) of 6 percent and a minimum risk-weighted total capital adequacy ratio of 12 percent (exceeding the 8 percent standard required by Basle I) are prescribed. Loans that are fully and totally secured by first mortgages on fully insured and fairly valued residential real estate are weighted 50 percent.[8]

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[6] See “Romanian Banking System”, National Bank of Romania, Supervision Department, Bucharest (June 2004).
[7] Data complied by the Institute for Market Economics, Sofia, Bulgaria.
[8] See “Law on Banks and Regulations No. 1 – No. 26”, Bulgarian National Bank.

A Financial System Stability Assessment (FSSA) performed jointly by the IMF and the World Bank in 2002 concluded that:

- Bulgaria's banking system is generally well supervised.

- BNB has in place a regime of strict prudential regulation and supervision based on international best practice and that is fully or largely in compliance with Basel Core Principles for Effective Banking Supervision.

- BNB's Department of Supervision is sufficiently staffed, effectively monitors compliance with prudential regulations, and takes enforcement actions based on regularly scheduled examinations and off-site monitoring.

Stress tests performed as part of this assessment indicated that the banking system in Bulgaria "is very resilient to foreign exchange and interest rate risks, and can absorb considerable credit risk." The assessment noted, however, several vulnerabilities as loan portfolios grow and risk exposure increases, including weak loan enforcement and collateral foreclosure rules, and underdeveloped bank risk management systems. It also noted the lack of any specific capital requirements for market risk (principally, interest rate risk and foreign exchange risk) and operations risk, but found that commercial banks have very little interest rate mismatch since the maturities of both assets and liabilities generally are very short and floating interest rate instruments are widely used. [9]

Romania

In Romania, the Statute of the NBR, the Banking Act, and implementing regulations comprise a similarly comprehensive bank regulatory and supervisory regime. Banks are periodically assessed and rated on a CAAMPL system to give early indication of deterioration in capital adequacy, shareholding quality, asset quality, management, profitability, and liquidity. A minimum capital adequacy ratio of 12 percent is also prescribed.[10]

A Financial System Stability Assessment performed jointly by the IMF and World Bank in 2003 concluded that:

- Romania's banking system appears generally well supervised.

- NBR has a strong supervisory framework that complies or largely complies with nearly all the Basel Core Supervisory Principles, but needs to strengthen consolidated reporting and supervision and the monitoring and management of market and credit risk.

- The credit and risk management skills of Romanian commercial banks may not have kept pace with the extremely rapid growth of private sector credit that occurred since mid-2002.

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[9] See "Bulgaria: Financial System Stability Assessment", IMF Country Report No. 02/188 (August 2002).
[10] See "Uniform Bank Rating System, CAAMPL", National Bank of Romania, Supervision Department (June, 2004).

Stress tests showed that the Romanian banking system is resilient to a range of market risk (both interest rate risk and exchange rate risk) and credit risk shocks, partly because of relatively small, albeit rapidly growing, credit portfolios, the prevalence of variable rate assets and liabilities, and relatively short maturities. The assessment cautioned the NBR, however, to ensure that Romanian banks implement interest rate risk management, including stress testing, and to take better account of certain risks, including operational risk.[11]

4.0 Regulatory Considerations in Mortgage Lending

A primary goal of commercial lenders, including mortgage lenders, is to measure, monitor and control the risks of their lending operations and to ensure that the risks being taken are priced to yield a compensatory market return on investors' capital.

Mortgage lending entails the same three major risks as other types of lending: **credit risk**, **market risk** (principally interest rate risk, but also exchange rate risk in the case of emerging markets like Bulgaria and Romania where lenders are predominately foreign banks), and **operations risk** (including risk of loss from legal and political factors, system operations, human error and fraud).

In addition, mortgage lending is also subject to **collateral risk**, as the mortgaged property may be damaged or destroyed through any number of natural disasters. Mortgage-related insurance products include property insurance and disaster insurance, which impact collateral risk (similarly, mortgage life insurance addresses credit risk and avoidance of default). Property insurance should clearly be mandatory and is in the vast majority of markets. In contrast, developing catastrophic insurance in countries prone to natural disasters such as hurricane, flood, and earthquake, has proved to be a very daunting task even in developed markets. A few higher income emerging markets, such as Columbia and Turkey, are paving the way.

Both the magnitudes and the distribution of these risks between lenders, borrowers and investors depend on a number of factors, including:

1. The types of mortgages lenders make, such as:

    - Short, medium, or long term mortgages.

    - Residential or commercial mortgages; single or multifamily mortgages.

    - Fixed or variable interest rate mortgages, or hybrid products that covert from a fixed rate for some initial period of time to a floating rate.

    - Fully amortizing mortgages or balloon payment, interest-only mortgages, or some hybrid product.

    - Prepayment options or restrictions and any related fees.

    - Domestic or foreign currency denominated mortgages.

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[11] See "Romania: Financial System Stability Assessment", IMF Country Report No. 03/389 (December 2003).

2. The underwriting criteria that mortgage lenders use to select the borrowers and properties they are willing to finance, mostly importantly including:

   - Maximum loan-to-value (LTV) ratios and related appraisal requirements.
   - Maximum debt service-to-net income ratios and related documentation.
   - Borrowers' credit and employment histories and credit scores.
   - Requirements for insurance and credit enhancements, including requirements for property, casualty and catastrophic risk insurance; for credit, whole, or term life insurance or disability insurance; for mortgage or financial risk insurance; for third-party financial guarantees, or for additional marketable collateral.

3. The mortgage lender's particular business model and funding strategy, especially:

   - The extent of balance sheet funding via deposits, mortgage bonds, corporate bonds, wholesale funds, and commercial paper lines relative to off-balance sheet funding via securitization.
   - The maturity structure and the fixed or floating rate nature of balance sheet liabilities (e.g. demand deposits v. long-term, fixed rate certificates of deposit or bonds).
   - Hedging strategies and instruments, including interest rate swaps and credit derivatives.
   - Marketing and loan concentrations in certain geographical areas or market segments, such as "prime" or "sub prime" borrowers.
   - Retention or sale of mortgage servicing rights and operations.

The available evidence from this assessment and prior assessments indicates that the risks being taken by mortgage lenders in both Bulgaria and Romania, at their present early stages of market development, are generally quite limited and properly priced. Specifically:

- Mortgage portfolios of the major commercial bank lenders, although rapidly growing in some cases, are still relatively small compared with the size of their total loan portfolios.
- Mortgages are exclusively variable rate products with relatively short tenures. Thus, even though the major commercial bank lenders fund mortgages primarily with short-term, variable rate deposits, they face little maturity mismatch. Borrowers bear the risk of interest rates rising. The few nonbank specialized housing lenders currently in the market anticipate funding by issuing covered bonds.

- Many mortgages are denominated in euros or U.S. dollars, placing the risk of future domestic currency devaluations on borrowers.

- LTV ratios are constrained by lenders' underwriting criteria, or by the central bank regulators, to be no more than 75 percent or 80 percent of appraised market values.

- Borrowers are required to have credit, term or whole life insurance, which some major lenders make available as group borrowers' policies.

- Borrowers are required to have property-casualty insurance covering both general perils and catastrophic loss events such as flood and earthquake.

- Borrowers may be required to post acceptable collateral in addition to the dwelling being purchased, or to provide co-signers or third party financial guarantees. One major Bulgarian lender even reported requiring its borrowers to have indefinite period employment contracts.

- Net interest margins on mortgages (e.g. 8.5 percent in Romania) and reported rates of return on capital are high.

Mortgage lenders operating in these emerging markets, however, also face certain risks that appear to be heightened, including:

- Operational risks stemming from still developing legal and institutional frameworks, inconsistent or unreliable appraisals of property values, and incomplete or unreliable credit and employment histories of borrowers.

- Catastrophic risk from earthquakes that is not adequately diversified through international reinsurers.

- Political and macroeconomic risks.

Mortgage Lending: Regulatory Objectives and Approaches

A primary role of regulators responsible for the safety and soundness of banks and other types of financial intermediaries should be to ensure that lenders have sufficient capital to support the risks that are being taken, and the risk management systems, controls and capabilities that are necessary to measure, monitor and manage those risks adequately.

Risk-Based Capital Requirements

Both the BNB and the NBR follow the 1988 Basel Capital Accord guidelines, under which loans fully secured by mortgages on residential property are in the 50 percent risk weight category and commercial mortgages are included with other loans, both secured and unsecured, in the 100 percent risk weight category.

The Basel I risk weights were designed almost entirely to address perceived differences in the credit risk of various classes of assets. Because mortgages are secured by liens on real estate, the risk of loss from borrowers' defaulting on their payment obligations can be substantially less than for unsecured loans. In developed markets, the default risk on mortgages on owner-occupied residences is generally lower than on other types of secured loans, such as auto loans, because borrowers are often very willing to reprioritize their debt obligations or find additional means of payment in order to avoid losing their homes to foreclosure. Residential mortgages can also have lower default risk than commercial mortgages or construction loans because the funds necessary for repayment come from borrowers' incomes, and not from the expected incomes streams of the commercial properties or investments that are being financed. Only time will tell, however, what the default rates will be in most emerging markets, as well as the loss given default.

Since BNB and NBR both apply a higher 12 percent minimum capital adequacy ratio, rather than the 8 percent minimum specified by Basel, residential mortgages made by commercial bank lenders in Bulgaria and Romania are currently required to have at least a 6 percent capital backing and commercial mortgages at least a 12 percent capital backing. Under the standardized approach of the new Basel II Capital Accord, the risk weight on owner-occupied or rented residential mortgages could be reduced to 35 percent. If BNB and NBR maintain a 12 percent minimum capital adequacy ratio, but apply the new 35 percent risk weight following the standardized approach of Basel II, the capital backing of residential mortgages will fall to 4.2 percent.

Because of the brief history of mortgage lending in Bulgaria and Romania, no data yet exist to empirically assess the reasonableness of these capital requirements. The short-term, variable-rate nature of the available mortgage products in these countries, and the apparent stringency of lenders' underwriting standards, however, certainly present no compelling reason to question their adequacy at this time.

For mortgage finance to become more affordable and available to a wider spectrum of Bulgarian and Romanian borrowers requires, at some point, (1) lenders who are willing to offer products – e.g. 20-year, fixed-rate, prepayable mortgages -- that embody more credit and market risk than the limited products currently available and (2) lenders who are capable of employing the risk management systems and funding strategies needed to manage or hedge these increased risks successfully.

Examples of Risk Control Models

The increased risks of financing, and particularly of holding in portfolio, a wider array of mortgage products made available across a broader segment of the borrower creditworthiness spectrum, may also require prudential regulators of large mortgage, and mortgage-related, lenders to use more sophisticated approaches to measure and control those risks and determine risk-based capital adequacy. In the United States, for example, a number of risk control models are utilized:

- The Office of Thrift Supervision, which regulates U.S. savings institutions that have traditionally concentrated their lending in long-term, fixed-rate residential mortgages, developed and uses a model to estimate, on a quarterly basis, the impact of seven different interest rate scenarios on the net present value (NPV) of their institutions' loan portfolios. Larger savings institutions have the choice of either using the OTS model or developing and using their own internal NPV models to assess their exposures to interest rate risk and the adequacy of their capital positions.

- The Office of Federal Housing Enterprise Oversight (OFHEO), the safety and soundness regulator of Fannie Mae and Freddie Mac, uses a stress test proscribed in statute to measure the potential impact on capital of a historically severe credit and interest rate scenario and to determined its risk-based capital requirement. An explicit add-on charge of 2 percent for operations risk is also included.

- The Federal Housing Finance Board, the safety and soundness regulator of the 12 Federal Home Loan Banks, imposes duration of equity limits under two interest rate scenarios to measure and control interest rate risk. The Finance Board also developed and applies a unique set of risk-based capital requirements. One component uses a historically based stress test, applied monthly, to set an explicit capital charge for interest rate risk. Another component uses current credit ratings of various instruments to establish a credit risk charge based on the actual credit performance of similarly rated instruments over a long period of time. A third component is an explicit add-on capital charge for operations risk of 2 percent.

Ultimately, emerging markets such as Romania and Bulgaria should begin risk modeling efforts. We are cognizant of the fact, however, that the complexities of modeling in emerging markets exceed those in the US or some other developed markets. Only banks in the US (and possibly the UK) offer long-term, fixed-rate mortgages. As many emerging markets offer adjustable rate mortgages in foreign currencies, they are shifting interest rate risk and foreign exchange risk to the borrower. This risk transfer could manifest in higher credit risk. Co-variance of various risks is very difficult to model. US regulators have indicated that modeling interest rate risk in the banking book, on a system-wide basis, may not be possible in any meaningful way.[12]

Supervisory Loan-to-Value Limits and Credit Enhancements

Based on a substantial amount of empirical evidence linking loan-to-value (LTV) ratios both to the probability of default in residential loans and the extent of loss given default, banking regulators in the United States also impose maximum supervisory LTV ratio limits designed to reflect differences in the relative credit risk of different types of real estate loans. Regulated financial institutions, however, are still allowed to originate or purchase loans with LTV ratios above these limits if they have adequate sources of credit enhancement and the aggregate amount of such loans does not exceed 100 percent of total capital.

[12] The authors wish to thank Bryan Stirewalt, BearingPoint for helping emphasize the complexity of risk modeling in general and in emerging markets in particular.

Loan category	Loan-to-value limit (percent)
Raw land	65
Land development	75
Construction:	
Commercial, multifamily,[1] and other non residential	80
1- to 4-family residential	85
Improved property	85

No explicit supervisory LTV limit exists for residential mortgages on owner-occupied 1-to-4 family residential properties or home equity lines of credit. However, residential mortgages with LTV ratios that equal or exceed 90 percent must have appropriate credit enhancements in the form of mortgage insurance or readily marketable collateral. Moreover, mortgages purchased by Fannie Mae and Freddie Mac, the two large government-sponsored secondary market agencies in the United States, are required to have mortgage insurance or guarantees if LTV ratios equal or exceed 80 percent.

In contrast, the 75 percent LTV limit on Romanian residential mortgages imposed by NBR appears relatively inflexible. One Romanian lender reported having NBR reject a proposed mortgage product with an 85 percent LTV together with a 10 percent “top slice” mortgage insurance guarantee on the basis that even a mortgage guarantee from an independent, licensed and regulated insurance company was not an acceptable credit enhancement substitute for a higher LTV ratio.

Appraisal Standards

An accurate assessment of the value of residential real estate may be the most crucial support function in mortgage lending.[13] First, without consistent and accurate appraisal to guide LTV decisions, lenders cannot achieve their desired distribution of risk and portfolio size. The level of LTV has been shown to be the single most important predictor of default, and of loss given default. Thus, the accuracy of the valuation is key to knowing “true” LTV levels. Second, secondary market development, especially if international funding is sought, will be impossible without acceptable appraisal practice being among the underwriting standards. Finally, the valuation is again linked to collateral risk as it may form the basis for the level of homeowner’s property/hazard insurance coverage.

To be meaningful, supervisory limits on LTV ratios must be based on reliable appraisals of property value at the time of loan origination. For example, as a result of extensive problems with faulty or fraudulent appraisals during the Savings and Loan Crisis in the 1980s, legislation was enacted in the United States in 1989 that requires federally regulated banks, thrifts and credit unions to use appraisers that are certified or licensed by each of the 50 states. The legislation also authorized a private sector organization – the Appraisal Foundation—to establish uniform minimum appraiser qualification standards and uniform standards of professional practice that are applied by the 50

[13] For a discussion of the importance of the support functions to the primary mortgage market, see Sally Merrill, “Support Functions for Development of the Primary Mortgage Market”, in the World Bank Flagship Report for Mortgage Finance, forthcoming 2005.

states. The five primary federal banking regulators were also given explicit rule-making authority with regard to lenders' appraisal practices, including the authority to specify when appraisals are required, who must perform the appraisals, and the manner in which appraisals are performed.

For the last two decades, appraisal methodologies and valuer qualifications have become more standardized and codified, providing an important benefit to development of appraisal competency in emerging markets Several major groups have played important roles: the International Valuation Standards Committee (IVSC), the Royal Institute of Chartered Surveyors (RICS), the U.S. Appraisal Institute, the U.S. Appraisal Foundation, and the European Group of Valuers Associations (TEGOVA), together with the European Mortgage Federation. Founded in 1981, IVSC, was the result of discussions among the U.S. and Europe, beginning in the 1970s, the key motivation being the globalization of investment markets. IVSC now has 36 full member states, 11 observer state and 3 correspondent states.

Appraisal associations exist in both Bulgaria and Romania. The National Association of Romanian Valuers, for example, is a private sector independent organization that offers training, establishes valuation standards that are compatible with those established by the International Valuation Standard Committee (IVSC) and the European Group of Valuers (TEGoVA), and provides accreditation for its members who pass an examination and fulfill continuing professional training requirements. Although these organizations can serve to improve the training of appraisers and the quality of appraisals, none of them, however, is empowered by the governments to set uniform minimum qualification standards, uniform concepts (e.g. fair market value or mortgage lending value), or uniform standards of professional practice and reporting. Lenders reported that this lack of uniformity and consistency in standards, forms, and approaches could lead to multiple appraisals on the same property yielding substantially different valuations. Furthermore, mortgage lenders in these two countries appear to establish their own policies requiring the use of certified appraisers and appraisal methods and forms in the absence of any underlying regulatory appraisal principles.[14]

Building a credible appraisal industry, however, is demanding and takes time. The development of effective appraisal methodology in emerging markets faces numerous challenges. For example, broad-based databases generally do not exist, making it difficult to utilize a comparable values methodology. Also, actual sales prices are often not recorded in order to reduce sales taxes. Emerging markets generally lack a sufficient number of adequately trained inspectors, especially those with all-important on-the-job experience. Appraisers are often engineers, trained in the cost replacement methodology. Especially in countries where state-run housing systems were prominent, estimation of market value for residential properties using the "comparables" methodology must be introduced. Appraisal Associations must be established which create effective governance conventions, including rules for independence from lenders and buyers. A fee structure must be established which is "flat", that is, does not represent a proportion of the valuation. The issue of independence from lenders, or from the banks' lending officers, needs more attention. We note that corruption in the appraisal process is a universal problem.

[14] Differing valuation standards is one of the issues addressed in The Integration of the EU Mortgage Credit Markets: Report by the Forum on Mortgage Credit established by the Internal Market Directorate General (December 2004).

Regulators are thus faced with a difficult situation. For example, In addition to requiring certain standards for appraisal methodology and certification, regulators might consider "mandating" that mortgages (at least those over a certain threshold) be supported by an "independent" appraisal.

5.0 Economic Conditions and Regulatory Policies

Underlying economic conditions can critically affect the regulation and supervision of financial institutions and markets in any country. Stressful economic conditions inevitably present more regulatory challenges, and can often produce pressures for regulatory forbearance as well. Favorable economic conditions, on the other hand, can mask weaknesses and problems in both financial institutions and financial regulators. As one colorful commentator observed about the U. S. Savings and Loan crisis in the late 1980s: You never know who has a bathing suit on until the tide goes out.

While there are distinct and important differences between the two countries, the economic environments in both Bulgaria and Romania appear quite favorable to the continued growth and development of mortgage finance. Inflation and interest rates have fallen substantially since 2001, reported economic growth rates are strong, per capita real incomes – although comparatively low – are rising, and government budget deficits are being constrained as both countries prepare to join the EU in 2007.

Much of the recent, strong economic growth in these two countries results from increases in domestic demand fueled by rapid expansions of bank credit extended to households and businesses. In Romania, for instance, banking credit to the private sector, led principally by consumer and mortgage loans, increased by almost 50 percent in real terms in 2003. Despite these increases, mortgage credit outstanding, however, still represents only a small fraction of GDP and total credit in both Romania and Bulgaria.

Concerned about the potential for overheating and for widening current account deficits, both the Bulgarian and Romanian central banks have recently taken policy measures, as part of ongoing IMF staff discussions and conditionality agreements, to moderate the growth in bank credit to the private sector, especially to households[15]. Rapidly growing mortgage lending can be an important issue in this context in countries where much of the material for home construction or renovation is imported. As discussed below, however, some of these measures employed to limit credit growth have directly affected the regulation and supervision of mortgage lending and constrained its availability and growth to some degree.

6.0 Regulatory Institutional Structure: Examples Worldwide.

In developed countries, prudential regulation and supervision of commercial banks, and particularly of any specialized mortgage lenders, is often conducted outside of the

[15] In Bulgaria, the current account deficit increased from 5.6 percent of GDP in 2002 to 8.5 percent of GDP in 2003, and the credit to GDP ratio increased from 19.0 percent in 2002 to 26.4 percent in 2003. In Romania, the current account deficit increased from 3.4 percent of GDP in 2002 to 5.9 percent of GDP in 2003, and the domestic credit to GDP ratio increased from 33.1 percent in 2002 to 55.4 percent in 2003.

central banks by regulatory bodies whose primary mission is safety and soundness. Such a framework helps ensure that prudential rules affecting lenders are developed for prudential reasons only – e.g. to control excessive risk-taking that might threaten depositors – and will not be subject to episodic tightening or weakening to achieve other policy objectives. Central banks in these countries rely on the traditional tools of monetary policy to affect macroeconomic credit conditions, by adjusting the demand for credit and the amount of liquidity in their banking systems, and generally retain responsibility for maintaining financial system stability through "lender of last resort" and other authorities. Having independent, singularly-focused prudential regulators also allows for rules to be tailored more directly at any specific risks involved in certain types of lending activities, such as mortgage lending.

The United Kingdom is notable in this regard for transferring the responsibility for the prudential soundness of banks and building societies from the Bank of England to the Financial Services Authority (FSA), an independent nongovernmental body established by the Financial Services and Markets Act of 2000. Effective October 31, 2004, the FSA also assumed responsibility for regulating certain market conduct and borrower protection aspects of the U.K. mortgage business. Among other developed countries, Germany, Japan, Canada, Sweden, and Switzerland also have independent national bodies with formal responsibility for developing and conducting prudential bank supervision. The central banks in some of these countries, however, still continue to maintain important roles in the bank regulatory oversight process.[16]

The complex regulatory structure in the United States is certainly not one to emulate. Five different federal agencies – the Comptroller of the Currency, the Office of Thrift Supervision, the Federal Deposit Insurance Corporation, the National Credit Union Administration, and the Federal Reserve -- exercise prudential regulation over the different types of depository institutions – state and federally chartered commercial banks, credit unions and thrifts – that can originate, service and hold mortgages in their portfolios. However, one saving feature is that the examination principles, standards and reporting forms of these five "primary banking regulators" are coordinated through the operations of the Federal Financial Institutions Examination Council (FFIEC), which was established in 1979 to bring some uniformity and consistency to bank regulatory standards, processes, and procedures, at least at the federal level of government.

Two other federal regulators -- the Office of Federal Housing Enterprise Oversight and the Federal Housing Finance Board -- are responsible for ensuring the safety and soundness of the three large housing finance government-sponsored enterprises (GSEs) in the United States: Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System. Although these three housing GSEs compete against each other by buying mortgages in the secondary mortgage market, no analogous body or mechanism exists to coordinate the regulatory requirements and policies of these two regulatory agencies, and their respective approaches and standards, including their basic leverage and risk-based capital requirements, are quite different.[17]

[16] For more discussion on different regulatory structures and the roles of central banks in financial supervision, see Bothwell "Financial Services Modernization: Principles Based on U.S. and Foreign Experience" in Modernizing Financial Systems (Jerome Levy Economics Institute Series, 2000).

[17] Legislation to create a single housing GSE regulator was considered, but not passed, by the U.S. Congress in 2004, and will be reintroduced in 2005.

Regulatory Structure in Romania and Bulgaria and Economic Policy

Having BNB and NBR be the sole prudential regulator for all domestic mortgage-lending institutions in Bulgaria and Romania, respectively, is advantageous in that it avoids any problems involving inconsistent rules, uneven playing fields, and regulatory arbitrage.

Having the central bank as the sole prudential regulator, however, presents potential conflicts and raises the likelihood that prudential rules affecting mortgage lenders could be periodically tightened or relaxed to achieve monetary and macroeconomic policy goals. To the extent possible, prudential rules should be set to achieve long-run safety and soundness objectives. Moreover, central bank regulatory measures affecting mortgage lending can be motivated by, and directed at, meeting broader economic goals rather than strictly ensuring the safety and soundness of mortgage lending and mortgage lenders.

In Romania, for example, it was concern over rapid private sector credit expansion leading to increased current account deficits that compelled the NBR to establish a maximum payment-to-net income ratio of 35 percent for mortgage credit and to introduce a maximum loan-to-value ratio of 75 percent, effective February 1, 2004. The link between the current account deficit and mortgage lending occurs because a large proportion of building materials are imported, as noted above. Also, since much of the mortgage lending in Romania is in foreign currency --U.S. dollars or euros -- the NBR increased the mandatory reserve requirement on banks' foreign exchange liabilities from 25 percent to 30 percent, effective August 24, 2004, to further dampen mortgage lending. Even the NBR's recent decisions, implemented in August 2004, to introduce mandatory reporting by banks and nonbanks (including mortgage finance companies) to a newly established credit information bureau, and to increase the reporting of delinquent loans to include loan amounts below ROL 200 million, are viewed as part of the policy measures taken to constrain the rapid growth in private sector credit. [18]

In 2003, Bulgaria also experienced a sharp expansion in private sector credit leading to a substantial increase in its current account deficit, again because of the strong link between imports and housing materials and fittings. The government's stated policy responses included the BNB taking measures in 2004 to tighten prudential regulation and intensify its supervisory activity. None of these measures, however, affected mortgage lenders' underwriting criteria as directly as in Romania. As one IMF document put it: "The scope for further (prudential) measures is limited by the fact that regulatory and supervisory practices already are at, or exceed, best international practice."[19]

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[18] An IMF staff suggestion that the NBR also increase the weight on foreign currency denominated credit in calculating banks' risk-based capital adequacy was rejected, however, as being incompatible with EU directives. See "Romania: Ex Post Assessment of Longer-Term Program Engagement – Staff Report", IMF Country Report No. 04/113 (April 2004); "Romania: Letter of Intent, Memorandum on Economic and Financial Policies, and Technical Memorandum of Understanding, IMF (June 22, 2004); "Romania: First Review Under the Stand-By Arrangement and Request for Waiver and Modification of Performance Criteria – Staff Report", IMF Country Report No. 04/319 (October 2004); and "Annual Report 2003", National Bank of Romania.

[19] See "Bulgaria: Selected Issues and Statistical Appendix", IMF Country Report No. 04/177 (June 2004), p. 22, and "Bulgaria: Letter of Intent and Memorandum of Economic and Financial Policies", Sofia, Bulgaria (July 21, 2004).

7.0 Concluding Observations and Recommendations.

This assessment yields the following concluding observations and recommendations:

Observations.

- Economic conditions in Bulgaria and Romania are quite favorable for the continued growth and development of their domestic mortgage markets.

- The banking systems in Bulgaria and Romania appear to be in sound condition and well positioned to support additional mortgage lending. With regard to mortgage lending, however, net interest margins on mortgages are high, underwriting standards appear quite conservative, and the only available mortgage products place the interest rate risk, and in many cases, exchange rate risk mostly on the borrowers, not the lenders who are presumably better able to manage or hedge these risks through their access to the capital markets.

Recommendations

Regulation and Supervision of Mortgage Lenders

- At present, neither Bulgaria nor Romania has any specialized regulatory or supervisory regime that is particular to mortgage lending or to the specific risks inherent in originating, underwriting, servicing and holding mortgage portfolios. Mortgage lending is viewed as one component of commercial banks' consumer lending business and is treated as such by the central bank regulators. ***Our primary recommendation is that, as mortgage portfolios grow and mortgage products become more complex and longer-term, that consideration be given to the special requirements of this type of lending.***

- The central banks appear to be using supervisory parameters for mortgage lending to control credit expansion and current account deficits. However, we recommend instead that BNB and NBR should ensure that supervisory-imposed underwriting requirements – such as maximum LTV ratios and maximum debt service limits – are empirically based, longstanding ones designed to control excessive risk taking and protect depositors, and not to meet other short-term economic or monetary policy objectives.

- Supervisory assessments of lenders' underwriting policies should give consideration to other types of available credit enhancements, such as the presence of mortgage guarantee insurance and additional acceptable collateral, rather than relying strictly on hard and fast limits on LTV and debt service ratios.

- For mortgage finance in these countries to develop and become more affordable and widely available to a broader spectrum of borrowers, requires competition among lenders who have the systems, the funding and hedging strategies, and the skills to assume and successfully manage more credit, market and operations risk.

- As a fundamental prerequisite, however, the BNB and NBR must first address and correct the weaknesses in bank risk management systems, loan enforcement and foreclosure procedures that were identified in the recent FSSA Reports.

- As mortgage portfolios grow and mortgage products proliferate, BNB and NBR should consider establishing specific duration limits and requiring the use of stress tests to more precisely measure and set specific capital requirements for market risk.

- BNB and NBR should also consider adding an additional element to their respective bank rating systems that explicitly rates the degree of market risk taken by a bank, the bank's ability to identify, measure, monitor and control that risk, and the financial support provided by that bank's earnings and capital.

- BNB and NBR bank examiners should receive specialized training in the risks posed by large mortgage operations and in holding large mortgage portfolios.

Mortgage Market Development and Support Functions: Appraisal, Credit Bureaus, Mortgage-Related Insurance Products, and Databases

- First and foremost, consideration should be given to establishing regulatory principles, and minimum qualification standards, to improve the quality and consistency of real estate appraisals and to establishing comprehensive, readily available databases of real estate sales information to facilitate appraisals of market value based on comparable sales.

- On-going efforts to improve mortgage lenders' access to creditor information and to capital market funding through mortgage bonds and securitization should be encouraged.

- Mortgage lenders in Romania and Bulgaria already require borrowers to obtain property-casualty insurance, and disaster insurance is now emerging. Because some large cities in Bulgaria and Romania are in earthquake prone areas, prudential insurance regulators should ensure that large, well-capitalized and geographically diversified insurers adequately reinsure domestic companies providing catastrophic property insurance on mortgaged properties.

- For mortgage finance to develop and become more affordable and widely available to a broader spectrum of borrowers, lenders in emerging markets should develop the risk management systems, the funding and hedging strategies, and the skills to assume and successfully manage more credit, collateral, market and operations risk.

- Ultimately, comprehensive databases on the size, composition, and performance characteristics of residential and commercial mortgage loan portfolios should be developed. In the future, such data could be used for supervisory purposes in better assessing the adequacy of bank reserving and underwriting. In addition, it would facilitate the pricing and sale of loan pools to a secondary market.

Future Consideration on the Institutional Structure of Regulation and Supervision.

- Having BNB and NBR be the sole prudential regulator for all domestic mortgage-lending institutions in Bulgaria and Romania, respectively, is advantageous in that it avoids any problems involving inconsistent rules, uneven playing fields, and regulatory arbitrage.

- Having the central bank as the sole prudential regulator, however, presents potential conflicts and raises the likelihood that prudential rules affecting mortgage lenders could be periodically tightened or relaxed to achieve monetary and macroeconomic policy goals. To the extent possible, prudential rules should be set to achieve long-run safety and soundness objectives. In the longer-term, the type of independent regulatory structures now established in Europe and elsewhere might be considered.