

Mortgage Default Insurance for the Russian Federation

Final Report

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Chapter 1

Introduction and Background

Over the past five years, the Russian Federation has emerged from a deep financial crisis to a promising—yet so far brief—period of economic stability, declining inflation, and solid growth. And, in the past dozen years, privatization of economic activity, productive assets, and real property has progressed remarkably, if unevenly, across the country.

As in most countries, housing in the Russian Federation is critically important, not only as a basic need for all people, but as a measure of one's comfort and well-being and an object of one's aspirations. For the government of the Russian Federation, housing presents both a challenge and an opportunity. The core housing problems in Russia—a physical shortage of housing stock, large numbers of deteriorated dwellings, and high housing costs that are unaffordable for most families—are problems shared by many countries.

The Federal Government of the Russian Federation has recently assigned housing—and housing finance in particular—a top priority on its short list of economic goals. As the national economy stabilizes, home mortgage finance has just begun to demonstrate in Russia how it can make housing affordable for those who were unable to buy their own flat.

Among Russia's macroeconomic statistics, home mortgage lending in Russia today barely registers. The entire home mortgage market at present is estimated to be only about 30 to 50 billion RUR (USD\$1 to \$1.7 billion, or a mere 0.1 to 0.2 percent of national GDP. The mortgage market's high annual growth rate of 50 to 100 percent is understandable, given Russia's size and the present low levels of mortgage lending. The longer term potential, moreover, is huge. Growing rapidly as well is the expressed interest in how to make housing finance in Russia work more effectively to meet this great potential.

A number of recent studies on housing finance in the Russian Federation describe current programs and practices, identify many problems and impediments, and suggest possible remedial actions. Partly as an outgrowth of this work, the Institute for Urban Economics commissioned this Report to focus specifically on mortgage default insurance and its possible role in helping to advance home mortgage lending in Russia.

Mortgage default insurance: definition and purpose

Mortgage default insurance (MI) is a specialized form of credit insurance. MI protects mortgage lenders against loss by reason of borrower default when the collateral property value is insufficient to pay off the outstanding debt. Mortgage default insurance covers a unique type of insurance hazard, with an unusually long exposure period. Besides covering “normal” borrower defaults, MI serves as an economic “shock absorber” which

requires the financial capacity to withstand losses from a severe recession or even an economic catastrophe. More than other lines of insurance, MI's claims and losses can be highly influenced by government actions, whether these are national economic policies or the actions of regional or even municipal governments.

By reducing a lender's credit risk, mortgage default insurance encourages lenders to qualify more prospective borrowers for a mortgage loan. Most commonly, availability of MI can expand lending for a home purchase by reducing the amount of cash that a first time buyer is required to accumulate for the down payment. By serving as an "equity substitute", MI can permit more families to own their own home sooner.

Another potential use of MI—again by reducing mortgage credit risk—is to induce institutional investors (the "secondary market") to purchase mortgage-backed investments, thereby increasing the flow of capital into home mortgage lending.

Preparation of this Report

In preparing this Report, the authors held nearly twenty face-to-face interviews in Moscow during November, 2003. These visits included dialogue with about three dozen individuals who have specialized knowledge and experience in the Russian housing finance market, particularly Moscow.

The purpose of these interviews was to gain an understanding of the current status and unique workings of Russia's emerging private sector housing and mortgage market; to hear first hand the perspectives of government and private sector participants and housing market experts regarding the problems presented by current practices and the existing conditions; finally, to solicit ideas on where housing finance in Russia may be headed, and how—or whether—some form of mortgage default insurance could assist in advancing mortgage lending and home ownership in Russia.

Prior to conducting these interviews, the authors reviewed a number of recent and informative reports on the state of housing and mortgage finance in the Russian Federation, as well as a number of other published source materials. A complete listing of individual interviewees and written sources materials appears as *Appendix A* of this Report.

The balance of this Report is organized as follows:

Chapter 2 provides highlights of mortgage default insurance programs, both government and privately sponsored, in ten diverse national markets, including the soon-to-be-launched MI program in neighboring Kazakhstan. This international discussion concludes with some lessons learned elsewhere as a result of severe crises or outright failure. *Chapter 2* provides a more detailed version of the authors' presentation on international MI given at a group forum held at IUE in Moscow on November 19, 2003.

Chapter 3 offers a “MI readiness scorecard” for the Russian Federation, in which we profile many of the individual attributes and prerequisites of a successful mortgage insurance program as they relate to the current mortgage finance environment in Russia. Each area is identified as a relatively supportive or non-supportive element, under today’s conditions, with respect to the near term prospects for a successful introduction of MI into Russia.

Chapter 4 explains mortgage insurance pricing. The discussion begins by placing the pricing function in the broader context of classifying and assessing risk, for underwriting as well as for pricing; then addresses the various individual components (variables) of a MI pricing model; finally, describes briefly how the key variables are defined for input into a working model.

Chapter 5 offers first a series of findings, then followed by recommendations regarding the establishment of MI in Russia. The recommendations cover issues ranging from prerequisite actions needed, to relevant legislative agenda items, potential program sponsorship, broad policy and program design features, and essential elements of an action plan to prepare for mortgage default insurance.

Appendixes B, C, D, and E to this Report summarize the MI readiness scorecard; provide further detail regarding the MI pricing model; and offer a detailed loan level data set that the authors have prepared for consideration by the Central Bank of Russia as a uniform standard for data collection by regulated banks. This uniform data set would provide an empirical foundation for setting proper MI tariff rates, while helping to strengthen bank regulation.

Chapter 2

Mortgage Default Insurance – International Highlights

Introduction

Mortgage default insurance (MI) programs and experience in a number of other countries, both developing and developed, may offer useful insight to policymakers in the Russian Federation as they contemplate how and whether such a program might advance their own goals for housing the Russian people. In addition to presenting country-by-country program highlights, we shall discuss such issues as sponsorship, capital treatment, regulation, social orientation, and “best and worst practices”.

In this chapter, we shall look at a variety of international MI programs, as shown in *Exhibit 2-1* below.

Exhibit 2-1

Country	Inception Year	Sponsorship
United States	1934 and 1956	Government and Private
Canada	1954 and 1963	Government and Private
Australia & New Zealand	1965	Private (formerly gov't)
United Kingdom	Pre-1970	Private
South Africa	1989	NGO/Private Reinsurance
Israel	1998	Private
Hong Kong	1999	GSE/Private Reinsurance
The Philippines	1950	Government
Lithuania	1999	Government
Kazakhstan	2004 projected	Government
India, Mexico, Taiwan	Under development	Government & Private

These programs range from those with over half a century of experience (U.S., The Philippines) to those only recently begun (Lithuania, Hong Kong, Israel) and one in neighboring Kazakhstan that is not yet writing coverage, but which appears to be nearing a launch date. These MI programs include notably different types of sponsorship, including direct government, GSE/government-sponsored enterprise, NGO/nonprofit, and private sector sponsor/owner. It is too soon to tell how effectively reinsurance will serve the different types of sponsors through risk sharing.

Country overview

Exhibit 2-2 summarizes for each country's MI programs key highlights including number of companies/providers, total capital, insurance written, number of lenders served, and share of total origination market. This information has been gathered from a combination of published sources and direct inquiries of MI providers.

Exhibit 2-2

Country	No. of Providers	Total Capital	Insurance Written	No. lenders Served	Ins. Share of Orig. Mkt
U.S. – private MI	7	\$16 bb	\$337 bb	thousands	13.4%
U.S. – gov't MI	2	\$23 bb	\$187 bb	thousands	7.5% (FHA)
Canada	2	\$1.4 bb	\$42 bb	140	50% approx.
Australia/NZ	2	\$367 mm	\$60 bb	200	40% approx.
United Kingdom	n.a.	n.a.	n.a.	n.a.	n.a.
S. Africa	1	\$25 mm	\$205 mm	n.a.	n.a.
Israel	1	\$11 mm	\$450 mm	8	11%
Hong Kong	5	n.a.	\$15 bb	40+	15% approx.
Philippines	1	\$109 mm	\$280 mm	n.a.	n.a.
Lithuania	1	\$4.25 mm	\$30 mm	8	33% approx.
Kazakhstan	1	\$3.3 mm	n.a.	8 to 12 est.	n.a.

Notes to Exhibit 2-2:

- All dollar amounts shown are U.S.
- U.S. government-sponsored program data is FHA only. Other national MI program is VA (military veterans). Six individual states also sponsor small MI programs.
- Data shown is most recent available, typically 2002.
- Canada: Data for government program only. No information provided on private program.

Among the countries surveyed, both government and privately sponsored MI programs in the United States show the longest history, highest volume and greatest number of competitive providers. However, as the remainder of this chapter will show, each of these countries programs and experience offers potentially useful guidance for the Russian Federation as it contemplates the introduction of an MI program.

Program highlights

Exhibit 2-3 summarizes key MI program features for each of the countries surveyed. These features reflect a combination of public and private decisions relating to indicated risks, market preferences and requirements, and general policy objectives. What is shown are features currently offered, although the sequence of steps taken to arrive at current program offerings may also be noteworthy.

This observation is especially germane regarding maximum insurable loan-to-value ratio. Many, if not most, countries with successfully seasoned MI programs, arrived at their current LTV ratio limits over a period of time, typically following the development of some underwriting comfort and risk experience at lower LTV limits.

Examples abound. In the U.S. the main government sponsored program, the Federal Housing Administration's (FHA's) Mutual Mortgage Insurance Fund began during the Great Depression of the 1930's with an 80 percent LTV limit—this at a time when the “benchmark” LTV in the private market was a conservative 66 2/3 percent. Over the ensuing years, FHA's maximum LTV was lifted from 80 to 90, 90 to 95 and 95 to 97 percent, and recently to as high as 100 percent.

Exhibit 2-3

Country	Maximum Loan-to-Value Ratio	Typical Coverage Percentage	Maximum Loan Term	Premium Payment Options	Typical Premium Rates
U.S. – Gov't-sponsored MI	97 – 100%	100% FHA 25-50% VA	30 years	Annual	1.5% initial 0.5% annual renewal
U.S – Privately sponsored MI	97 – 100%+	17 to 25%	30 years	Monthly, Annual, Prepaid	0.3% to 1.0% per year
Canada – Gov't	95%	100%	30 years	Prepaid	1% to 3.75%
Australia & NZ	95%	100% Austr. 20 to 30% NZ	30 years	Annual or Prepaid	\$USD140 to 3.2% prepaid
United Kingdom	100%+	Negotiable	30 years	Prepaid, added to interest rate	Negotiable
South Africa	No limit published	20%	5 years	Prepaid	2.0%
Israel	90%	20 to 30%	20-25 years	Prepaid	3 to 4%
Hong Kong	90%	10 to 25%	25 years	Prepaid	1.4 to 3.35%
The Philippines	70 to 100%	85 to 100%	30 years	Annual	2 to 2.75%
Lithuania	95%	25%+int/costs	25 years	Prepaid	2.8 to 4.3%
Kazakhstan	85%	50%	15 years	Prepaid	2.4%

Likewise, the private MI industry in the U.S. began in the 1950's with a maximum insurable limit of 90 percent at a time when the uninsured LTV benchmark was 75-80%. Only after 15 years' experience was the privately insurable limit raised to 95 percent; another 25 years elapsed before the 95 percent LTV limit was further relaxed to 97 percent, and more recently to as high as 100 percent. Canada and Australia/New Zealand experienced a similar history.

In looking at some more recently launched programs, we see a similar pattern. The Israeli program entered a market where the uninsured benchmark LTV was 60 percent with an initial offering up to 80 percent LTV. After several years underwriting (though not claims) experience, that program's LTV limit recently was raised to 90 percent.

Likewise in Hong Kong, for the first few years following its 1999 launch, the highest LTV insurance loan was 85 percent. That limit, too, has recently been raised to 90 percent.

Initial loan-to-value ratio (typically a direct indicator of the borrower's equity investment) has proven to be a predominant indicator of subsequent default probability. Accordingly, (with one exception noted below), the setting of premium rates based upon LTV ratio makes compelling sense. Also advisable is exercising patience in allowing a new MI program to develop and season. It is preferable initially to set the maximum insurable LTV ratio above the existing uninsured national benchmark, yet not to be overly aggressive in this regard, even if the market seems to be demanding more.

Another significant decision regarding program design that must be made at the outset is the percent of total loan amount to insure against loss. While at first it may seem natural and desirable to provide a 100 percent cover (and surely most lenders and investors would welcome full coverage), there are compelling reasons to adopt a MI program having less—considerably less—than 100 percent coverage. The central reason for offering less than 100 percent risk protection is the need for the originating lender to share directly in the credit risk exposure. For it is the originating lender that has the greatest control over the risk being created, both in terms of its initial underwriting and its subsequent servicing and collections for that insured loan. *Exhibit 2-3* above shows that most, though not all MI sponsors in various countries—both government and private—have chosen to offer less than a 100 percent MI cover. Of special note is the Lithuanian MI program, launched in 1999 with 100 percent coverage and revised in 2002 with coverage reduced to 25 percent, plus four months' interest and certain allowable costs.

A third program design consideration that is highlighted in *Exhibit 2-3* concerns the method of MI insurance premium (tariff) payment. What particular MI premium payment mechanism, or what choice of mechanisms best suits a particular national mortgage market such as that of the Russian Federation? While it's generally preferable to allow the market to adapt to buyer and seller preferences over time, some decision must be made at the outset on how MI premiums are to be paid—in addition, of course, to what the appropriate premium rate will be.

Exhibit 2-3 reveals a mix of prepaid (lump sum), annual, and monthly payment schemes (with the monthly option—a rather recent development—prevalent only in the U.S.). For reasons of administrative simplicity, likely affordability and consumer acceptance, and optimal insurance fund management, a prepaid premium scheme generally appears most attractive. This option becomes even more attractive when the entire premium payment can be 'financed' by incorporating it into the initial loan balance, thereby enabling the

borrower to absorb the cost of the insurance over the loan term, while at the same time strengthening the new insurance fund with an early revenue infusion.

Annual MI premium payments, whether paid separately or incorporated into the mortgage interest rate, also are widespread and quite feasible. In the Russian Federation, there are several legal issues that may bear upon the question of what premium payment scheme would work best subject to changes in the current law on mortgage lending. MI premium rates typically are calculated against the total loan amount, irrespective of the percent of the loan actually covered. Premium rates vary widely, both within and among the countries shown in *Exhibit 2-3*. Reasons for these variations are discussed further in Chapter 4 (Pricing).

Orientation toward ‘social’ housing varies among countries with regard to their MI programs. Privately sponsored MI companies generally do not restrict or skew their programs or tariffs to favor lower income, or other special needs of borrowers. Government sponsored MI programs vary in this regard. In the U.S., the predominant FHA program is, by law, unsubsidized. But this program does have insurable loan limits that effectively favor middle-class, rather than luxury housing. Historically, though not at present, a uniform premium rate was applied to all FHA insured loans, regardless of LTV ratio or other documented risk factors. This feature created a cross-subsidy, whereby excess premium income from lower-risk, middle-income borrowers served to subsidize the cost of insuring higher-risk lower income borrowers.

Some smaller, separate “special risk” FHA programs have been targeted toward lower income, subsidized housing. Actuarially sound premiums have not been required under these more socially oriented programs. Their history, however, has included adverse claims experience and calls upon the U.S. Treasury for additional capital.

Government-sponsored MI programs in other countries have been more directly targeted toward social housing. The Philippines’ MI program, for example, charges lower premium rates for its “socialized” and “low cost” housing loans and higher premiums for its “medium cost” and full market rate housing. In addition, more generous guaranty terms and higher LTV’s are insurable for social and low-cost housing, than for mid-to-higher- priced housing. Finally, a larger fixed percentage of total capital (guaranty writing capacity) is allocated to insuring social and low-cost housing.

South Africa’s MI program also places a high priority on social goals. Eligible borrowers must fall within rather modest income limits. The program’s premium rates are set at levels below what is needed to cover all operating expenses in addition to claims.

A third type of social orientation is found in Lithuania. Here, the government-sponsored MI program serves a wide range of borrowers, and established premium rates appear to be high enough to be self-sustaining. However, about half of all borrowers under this program are classified as having special needs (e.g., currently living in inadequate or overcrowded housing) and, as a result, their MI premiums are substantially subsidized.

Regulatory highlights

Several aspects of MI regulation cut across international lines and help to highlight key differences between mortgage default insurance from other more widely understood lines of insurance. We shall look briefly at the following topics associated either with the direct regulation of mortgage default insurance, or regulation relating to users of mortgage default insurance:

- ? Monoline insurance
- ? Risk-based capital
- ? Contingency reserves
- ? Conflict of interest
- ? Government-mandated use of MI
- ? Bank risk-based capital credit for use of MI
- ? Secondary market mandate for use of MI
- ? Investment grade rating standards applied to MI

Monoline insurance refers to an insurance charter or franchise that limits a company or program to the writing of a single line of insurance (as opposed to “multiline” carriers that are authorized to write many lines of coverage under a single charter). Critical to a monoline insurance program is the segregation of capital and loss reserves to cover only those risks arising from a single designated line of insurance.

Exhibit 2-4 below shows which of the countries surveyed apply a monoline restriction to their government and private MI programs.

Exhibit 2-4

Country	Monoline MI?
United States – Government MI	Yes
United States – Private MI	Yes
Canada	Yes
Australia/New Zealand	Yes
United Kingdom	No
South Africa	No
Israel	Yes
Hong Kong	Yes
The Philippines	Yes
Lithuania	Unknown
Kazakhstan	Yes

For a mortgage default insurance fund, be it government or privately capitalized, a monoline restriction is highly desirable. The essential nature of the risk insured is that of an economic catastrophe. Pricing, reserving, underwriting, and analytical methods applicable to mortgage default insurance are quite distinct from those, which apply to

other lines of insurance. So, too, is the overall skill set required of MI program management.

A segregated (monoline) reserve fund for MI also enables outside regulators and rating agencies to properly evaluate—and model, as applicable—the long-term adequacy of capital reserves in the event of severe economic depression.

Conversely, insurance regulators need to be vigilant regarding the long-term solvency of non-mortgage insurance carriers under their jurisdiction. This responsibility is more reliably fulfilled if other multi-line carriers (e.g., property & casualty) maintain reserve funds that are insulated from the type of massive claims that a mortgage default insurer would face in the event of economic depression. This consideration is aptly illustrated in the U.S. where state-sponsored “guaranty funds, which pay claims to policyholders of insolvent carriers, exclude mortgage default insurers from participation in these backup funds. The risks of MI are simply too great and too different for them to be included.

Risk-based capital is a type of regulatory rule especially applicable (though not unique) to mortgage default insurance. Under such a rule, the total aggregate amount of insurance risk outstanding (i.e., the total amount of claims liability if all policies in force went to claim) cannot exceed a certain ratio, or multiple; relative to the programs total capital reserves. This is quite a different type of minimum capital rule than applies to most property & casualty and life insurance carriers and, in practice, one which imposes a far higher burden of required capital relative to insurance written than is typically found under a country’s general (nonlife) insurance regulations.

Exhibit 2-5 below shows which of the countries surveyed apply a risk-based capital rule to their government and private MI programs.

Exhibit 2-5

Country	Risk-based capital required for MI?
United States – Government MI	Yes
United States – Private MI	Yes
Canada	Yes
Australia/New Zealand	Yes
United Kingdom	No
South Africa	No
Israel	Yes
Hong Kong	No
The Philippines	Yes
Lithuania	Unknown
Kazakhstan	Decision pending

A risk-based capital rule allows for a higher monoline capital requirement to be applied, one which will be maintained in proportion to the catastrophic risk exposure inherent to

MI. Monoline risk-based capital also rationalizes the task of gauging the claims-paying capacity of the MI fund under simulated conditions of severe economic distress.

Contingency reserve is a special regulatory concept that historically has been applied to privately capitalized mortgage default insurance in a number of developed economies, as shown in *Exhibit 2-6* below. Most insurers (including regulated mortgage default insurers) are required to maintain loss reserves against policies where the insurer is on notice that an ‘event of loss’ has occurred where a claim is likely to follow within a foreseeable period of time. These ‘case basis’ loss reserves, or loss provisioning, cover normal losses that occur over the life of any portfolio or ‘book of business’. Mortgage default insurance experiences such ‘normal’ claims arising from unemployment, divorce, or other destabilizing events that impact borrower households.

Exhibit 2-6

Country	Contingency reserve required for MI?
United States – Government MI	n.a.
United States – Private MI	Yes
Canada	Yes
Australia/New Zealand	Yes
United Kingdom	No
South Africa	No
Israel	Yes
Hong Kong	Yes
The Philippines	n.a.
Lithuania	n.a.
Kazakhstan	Yes, in modified form

A Contingency Reserve, by contrast, is defined as a requirement that the MI carrier allocate a specified percentage of all premium earnings to a special segregated reserve account, where it must remain for an extended number of years, during which time it can be used only to pay claims that are attributable to economic recession or depression. Payments from the Contingency Reserve can be made only when normal claim payments exceed some pre-designated percentage of premiums earned in any given year. Special tax provisions may also apply.

In today’s insurance and financial markets, a contingency reserve, while helpful in assuring the long-term financial strength and solvency of a MI program, is no longer as important as it once was. Today, economic and financial modeling, including so-called ‘economic stress-testing’ of MI portfolios, has become quite sophisticated, especially when applied by the major investment rating agencies such as Standard & Poor’s, Moody’s and FitchIBCA. These stress models—including detailed analyses of risk

classification, concentration and pricing, and accompanied by financial, operating, and management reviews—have reduced the importance of requiring a contingency reserve. For a startup MI program, in an undeveloped market, some level of increased capital or reserve allocation that can provide additional claims-paying capability under a catastrophic economic scenario may be advisable. And, as noted, for a government-sponsored program, where a government guaranty is provided, a contingency reserve is not as relevant.

Special conflict of interest regulations apply to private MI firms operating in several developed markets, including the U.S., Canada and Australia. These include—unusual for the insurance business—prohibitions against the paying of commissions for the placement of business by the insured (lender) or its agent with a particular insurance firm. Restrictions apply to the payment of any kind of financial incentives, rebates, kickbacks, etc., all of which are viewed as antithetical to the interests of the borrower-homebuyer who, while not the beneficiary of the insurance policy, ultimately pays the cost of MI.

Likewise, most notably in the U.S., private MI firms are not permitted to be owned or controlled by lenders who use their services. This restriction is needed to help assure both underwriting and financial independence between lender and insurer, and also to protect the consumer—the mortgage borrower who is not a direct party to the insurance contract—from being required to pay for MI coverage when it may not be needed, or from being charged more than is needed.

As discussed later in this Report, the Russian Federation may need to modify some of its laws that currently restrict how insurance may be written and who pays, when third parties are involved, as is the case with MI and several other lines commonly associated with home mortgage financing. To the extent these laws were designed to protect the consumer, any reforms that may be needed to make MI work well may need to be accompanied by specific new conflict of interest laws to assure that MI helps homebuyers without adding needlessly to their costs.

Regulatory capital incentives or a direct mandate to use MI on high LTV loans is quite common, as shown in *Exhibit 2-7*. There are several good reasons for such regulatory incentives or a mandate to be established by a country's bank regulator for lenders that make and/or invest in high LTV ratio home loans, including:

- ? To protect against “adverse selection of risk” by lenders against insurers, whereby the lender selects, loan by loan, to place only the inferior risks with the insurer, a practice that can threaten the viability of any MI program;
- ? To assure that the highest risk segment of home loans, when made in great volume, does not imperil regulated banks' solvency during periods of economic adversity; and
- ? To tap an independent source of capital and underwriting expertise (insurance sector) for systemic risk management purposes.

Exhibit 2-7

Country	Risk-based capital incentive to use MI?	Regulatory mandate to use MI?
United States – Government MI	n.a.	n.a.
United States – Private MI	Yes	No
Canada	Yes	Yes
Australia/New Zealand	Yes-Australia	No
United Kingdom	No	No
South Africa	No	No
Israel	Yes	No
Hong Kong	Yes	No
The Philippines	n.a.	No
Lithuania	No	No
Kazakhstan	Decision pending	No

While most countries that use one of these bank regulatory tools today lean toward the risk-based capital incentive option, Canada is a notable exception in its longstanding—and apparently successful—mandate that all regulated banks purchase either government or qualified private mortgage default insurance on all loans made that exceed a benchmark 75 percent LTV ratio.

The risk-based capital incentive, by all accounts effective, rests upon the broad risk-based capital guidelines for banks established under the international Basle Accords, which guidelines may be modified by a nation’s central bank to fit its own particular needs and circumstances. In many countries, the residential mortgage is considered to be a relatively high quality, low risk bank asset that warrants favorable risk-based capital treatment, i.e., a lower-than-100-percent risk weighting that is applied to most commercial and construction loans, including mortgage loans on income-producing real estate. Most often, the assigned risk weight for home mortgages has been reduced by one half, from 100 to 50 percent for loans held in portfolio.

Home loans carrying a full government guaranty in developed markets, such as that provided by the Federal Housing Administration (FHA) in the U.S. or the Canada Mortgage and Housing Corporation (CMHC) generally receive 100 percent risk-based capital relief. Of particular interest in Canada in this regard is that a risk-based capital reduction of 95 percent is given to lenders that use that country’s only private MI firm. This attractive financial incentive reflects the fact that the Canadian government provides the private MI carrier a catastrophic reinsurance backup in the event that it were to become insolvent in the face of economic catastrophe.

Risk experience with home mortgage loans across a number of countries and over many decades’ reveals that, as loan-to-value ratio increases and borrower equity decreases, the risk of default and loss rises dramatically. Even in markets where the generic residential loan is demonstrably low-risk, high LTV loans are not considered to be low risk and,

therefore, may not warrant the same favorable risk-based capital treatment. Bank regulators can align lender risk exposure on high LTV loans with those that are below a country's accepted LTV benchmark by granting capital relief on high LTV loans—up to some high-end limit—*conditional upon their being covered by qualified mortgage default insurance*. Currently the laws relative to mortgage lending in Russia create a condition whereby all mortgage loans are considered high risk without regard to their LTV ratio.

A secondary market mandate to use MI, while differing from a regulatory mandate, can have a comparable beneficial effect. MI requirements relating to secondary market/MBS investments may also be linked, when the MI is privately capitalized, to a minimum investment grade rating assigned to the claims-paying capacity of the qualified mortgage insurer. In the U.S. and Hong Kong, the use of qualified MI is mandated by government-sponsored enterprises (GSEs), i.e., Fannie Mae, Freddie Mac and the Hong Kong Mortgage Corporation. *Exhibit 2-8* shows how countries surveyed have positioned their MI programs in this regard.

Exhibit 2-8

Country	Secondary market/GSE mandate to use MI?	Standard investment grade rating for MI
United States – Government MI	Yes	n.a.
United States – Private MI	Yes	AA
Canada	No	n.a.
Australia/New Zealand	No	AA
United Kingdom	No	No
South Africa	No	AA+
Israel	No	AAA
Hong Kong	Yes	A - AA
The Philippines	n.a	n.a.
Lithuania	n.a	n.a.
Kazakhstan	Yes	No

Failures and other crises experienced by MI providers in other countries can offer valuable guidance for those in the Russian Federation who certainly will want to avoid suffering similar crises. A number of such experiences are recounted briefly below.

- ? In the United States in the early 1930's, eighteen previously thriving mortgage default insurance firms went bankrupt and failed to pay their claim obligations at the onset of the Great Depression. Major causes of this disaster included: (1) incompetent and inadequate regulation; (2) conflicts of interest with insured lenders, including interlocking ownership and control; (3) grossly inadequate reserves; (4) insurance of real estate other than homes, including vacant land and uncompleted construction; (5) unsupported property valuations. The outcome: Much hardship suffered by individual investors in 'mortgage participation

certificates, and the creation of the Federal Housing Administration (FHA) Mutual Mortgage Insurance Fund in 1934.

- ? In the United States in the 1980's a dozen private mortgage insurance firms suffered massive losses, including over USD\$1 billion in a single year, resulting from a combination of regional recession and plummeting energy prices; overzealous lending and weak insurers underwriting; introduction of new and volatile mortgage instruments; under-pricing of MI, insuring of loans on non-owner-occupied (investor-owned) properties; and widespread fraud. One leading MI firm, previously rated 'AA' by national rating agencies, became insolvent and had to be liquidated. The resolution: Much tighter underwriting; curtailment of the highest risk programs; substantial premium rate increases; consolidation of the weaker companies; and fresh capital infusions by some parent companies.
- ? In the United States in the late 1980's, the FHA's flagship mortgage insurance program, successful for over 50 years, became technically insolvent for much the same set of reasons enumerated just above. The resolution: Federal legislation mandating major reforms, including minimum risk-based capital; a substantial premium rate increase; a statutory requirement for an annual actuarial audit and report by a private outside accounting firm.
- ? In Canada, following the 1980's energy crisis and massive regional foreclosures and claims, Canada's only remaining private MI firm was financially weakened to the point where it ceased writing new business. A costly and unworkable foreclosure law in the depressed energy-producing province (subject state) contributed to this firm's demise.
- ? In the United Kingdom, economic weakness and the bursting of a home price 'bubble' in the London area and several other markets caused MI carriers to face massive claims and losses, resulting in the failure of one leading insurer and nonpayment of many claims by others. Poorly written insurance contracts resulted in widespread misunderstandings and disputes between insurers and lenders. The outcome: Program reforms, including reduced coverages, greater risk sharing and higher prices, yet a continuation of multi-line programs and no more rigorous regulation.
- ? In South Africa, after a decade of modest growth and success, the non-profit/NGO carrier has recently encountered unsustainably high claims/loss ratios and operating costs and the possibility that an essential international reinsurance agreement may not be renewed. An NGO may have fewer options than either the government or a rated insurance firm in securing a fresh infusion of capital to sustain it's rating and expand its writing capacity.
- ? In The Philippines, after 50 years of ongoing operations, the government-sponsored MI experienced heavy claims and losses and a depleted balance sheet. Unable to continue writing, it temporarily suspended writing new coverage,

pending the receipt of a substantial new capital infusion from the government and the elimination of that portion of the program causing the heaviest concentration of claims. These unprecedented problems were attributable in part to economic instability, but more specifically to the insurance of large development-related loans. Despite the program's full government guaranty, large volumes of claims went unpaid during the program's suspension and are only now gradually being paid—partly in cash and partly with government credits and paper.

Some useful inferences for the Russian Federation can be drawn from this international experience with mortgage default insurance, including:

- ? The success or failure of a mortgage default insurance program cannot be established until it has faced and survived a major economic downturn.
- ? The closer that an MI program adheres to its main mission of supporting homeownership (that is, insuring loans secured by individual owner-occupied dwelling units), the more stable it will remain in times of adversity.
- ? While empowering lenders to make high LTV home loans is the historic and continuing justification for MI, determining what is the maximum prudent LTV ratio to be offering and insuring is best approached in a progressive, experience-based manner, rather than over-reaching and assuming excessive risks at the outset.
- ? MI pricing must be actuarially based and maintained at levels that will be self-sustaining over the long term. A false sense of well being that prevails in upward trending markets should not be the basis for reducing MI tariffs.
- ? Government should establish a supportive regulatory environment—both in banking and insurance—to guard against adverse selection of risk and to create a proper match between high risk-high LTV loans and the use of MI to offset this risk.
- ? Government insurance regulations need to recognize the unique nature of mortgage insurance risk and as such, establish laws and regulations that will apply equally to all participants in order to assure that an MI's claim paying capability is not compromised over time.
- ? A government guaranty alone gives no absolute assurance that when adversity strikes, all claims will be paid as anticipated and agreed.
- ? Default risks covered by MI need to be shared with originating lenders in such a way that lenders face some contingent risk exposure on loans not properly underwritten or serviced.

Chapter 3

Mortgage Insurance Readiness – Scorecard for the Russian Federation

This Chapter assesses a number of functional areas relating to housing finance that will impact the feasibility, implementation, and ultimately, the success of a mortgage insurance provider in the Russian Federation. This assessment is based upon current conditions as we understand them—conditions that could change fairly quickly—and presumably improve—over time. Some current conditions are less than ideal for MI. While certain of these issues may be worked around to some extent, there are others that we believe need corrective action prior to introducing mortgage insurance.

Based upon a review of recent studies of housing finance in Russia, combined with the results of our own recent personal visit and interviews in Moscow, we have assigned ratings ranging from '1' to '5' that are designed to depict the state of readiness for MI in the Russian Federation. These ratings are defined as follows:

- ? A '5' rating signifies 'fully ready'
- ? A '4' rating signifies 'mostly ready'
- ? A '3' rating signifies 'somewhat ready'
- ? A '2' rating signifies 'mostly not ready'
- ? A '1' rating signifies 'not ready at all'.

As detailed below (and as summarized in *Appendix B*) we have applied the above rating scheme to a wide range of topics that, in our opinion, will be germane to the successful development and operation of a MI program. (Note: the paragraph numbering scheme in this Chapter matches the sequence and content of functional areas summarized in *Appendix B*.)

1.0 Information

1.1 Market information. Little mortgage market information was available at the time of our review. The Realtors Association did provide some information regarding Moscow housing market activity, primarily related to the resale of existing units. Countrywide market information, including data on the new and existing housing markets, is not available. We understand that there is a concerted effort under way to quantify past and current mortgage lending volume and activity, as well as to provide an ongoing collection of this information.

Readiness Assessment: 2

1.2 Mortgage lending performance. Practically no information was available at the time of our review. The government task force, under the direction of the Center for Strategic Development, plans to begin the regular collection of residential mortgage lending volume and activity from the banks. We understand also that the Central Bank has recently begun to collect mortgage lending

information from banks. *Appendix C* contains a list of loan level mortgage data elements that we believe should be reported to achieve the results the Central Bank expects, and to provide the necessary data to price mortgage insurance.

Readiness Assessment: 2

1.3 Definitions – Residential Lending. Little standardized terminology or lending definitions exists for the industry. Efforts underway by the Central Bank to collect loan level data and require the banks to provide mortgage activity reporting will be a critical step in resolving the lack of consistent industry terms. Industry associations—especially the Russian Banks Association—should encourage their members to work toward standardization. At this time, loan level mortgage data has not been collected or reported to the Central Bank. In order for the Central Bank to require reporting of loan level mortgage data, common industry definitions will first have to be agreed upon.

Readiness Assessment: 1

1.4 Pricing Model data requirements. No market information was available at the time of our review. The effort that is currently underway to quantify and report mortgage lending volume and activity may help to some degree. The mortgage lending market in the Russian Federation is new (not seasoned) and, therefore, lacks the requisite historical experience to be able to develop any long-term market trends and patterns necessary to design useful pricing models. As noted above, *Appendix C* contains recommendations for CBR loan level mortgage reporting. Some of these data items, including origination data and subsequent loan performance histories, should start being collected as soon as possible in order that a prospective mortgage insurer can analyze annual development of defaults and losses for each loan origination year (“book of business”).

Readiness Assessment: 1

2.0 Political and Social

2.1 Political initiatives and attitudes. President Putin and the DUMA recently have given housing finance a high priority. Over the past decade a number of far-reaching federal enabling laws have been passed to create a foundation for private sector-driven housing and mortgage markets. At present, considerable activity is under way by various government departments and the banking industry. Public and private officials are seeking to identify and address impediments that are interfering with mortgage lending growth and development. Task Force efforts to obtain relevant market information and identify legislative actions needed to facilitate mortgage-lending growth are positive steps.

Readiness Assessment: 4

2.2 Government housing policy. The Federal Government of Russia clearly understands how a viable residential housing market can stimulate the economy and improve its citizens' lives. The Center for Strategic Development is leading the policy development efforts for the Government and has actively involved the private sector in its initiatives. The Government seems generally supportive of initiatives to improve upon current laws, bureaucratic processes and costs that are impeding the growth of mortgage finance. Less clear, however, is whether regional and local governments are as willing to undertake needed reforms.

Readiness Assessment: 3

2.3 Social environment. The social environment needs significant improvement, particularly with respect to gaining the public's trust in financial institutions. Additionally, the consensus belief (apparently enshrined in the law at present) that all citizens have a right to housing creates a significant problem for lenders seeking to secure loans made for the purpose of home purchase. The apparent inability to foreclose and recover the collateral property severely limits the value of that collateral in helping to reduce the lender's risk. In turn, lenders' higher risks are ultimately passed along to all borrowers in the form of higher financing costs.

Readiness Assessment: 2

3.0 Regulation and Legal

3.1 Regulation of banks by the Central Bank of Russia. The Central Bank generally employs the Basle Accords in its regulatory process, under which bank capital adequacy standards are nominally being met in Russia. Periodic financial audits reportedly are reasonably effective. The frequency and efficacy of on-site examinations, however, are reportedly less than fully effective. Many banks are part of industrial conglomerates in which their financial and operating status can be not fully transparent. Bank accounting standards at present also are reportedly inconsistent. Regarding residential mortgage loans, both the Central Bank and Standard & Poor's agree that this asset—even at 70 percent LTV—at present is no less risky for the banks than are business and commercial loans.

Readiness Assessment: 3

3.2 Regulation of insurance. The insurance industry is substantially smaller and less developed than the banking industry. Regulation of the insurance industry is currently performed under the direction of the Minister of Finance. Insurance law is only applicable for defining acceptable types of insurance. The Minister of Finance promulgates, as it deems necessary, rules and regulations as part of the process of granting a charter.

Readiness Assessment: 2

3.3 Regulation for mortgage insurance. No specific mortgage insurance law or regulation exists. Mortgage insurance regulation, under ideal circumstances, would have its own separate set of rules, as does life insurance, due to the unique nature of the risk. Minimum capital, required reserves, case basis loss reserves, risk-to-capital ratio, investment restrictions and audit requirements should be codified by legislation. Currently, by direction of the Minister of Finance, special mortgage insurance rules could be implemented fairly quickly. The disadvantage with this method of regulation, however, is that the rules could also be changed after a mortgage insurer had agreed to commit risk capital and do business under more stringent rules than those that might be imposed upon a subsequent market entrant. Absent the assurance of a “level playing field”, it will be difficult to attract any foreign capital, because of the unusually long term financial commitment required of a mortgage insurer. Foreign investors will need assurance that any future entrants will be subjected to the same rules.

Readiness Assessment: 1

3.4 Laws. A number of existing laws will need to be changed in order to improve the prospects for mortgage lending growth—and the advent of MI—in the Russian Federation. Among the areas most in need of legislative attention:

- ? Changes in existing laws to specify that the property is the banks’ collateral, recoverable in the event of a default by the borrower.
- ? The current law allows the borrower discretionary access to escrow account funds. The borrower also has the personal choice whether or not to make required annual tax or insurance payments. If the bank holding the mortgage contract requires an escrow account and any shortfall occurs, the bank is required to post a reserve provision in an amount equal to 20 percent of the loan balance.
- ? The non-transferability of insurance coverages when the loan is sold (in the system of insurance, so-called “entrepreneurial risk”).
- ? A change in the “right to housing” philosophy imbedded in most of the current laws.

Readiness Assessment: 1

3.5 Court system. Basically, the courts’ ability to enforce mortgage contracts is untested to date. A judicial review has been requested by at least one mortgage lender in all three jurisdictions to ascertain the probability of achieving a successful foreclosure or other method of collateral recovery. The courts’ response has been generally positive, provided, however, that the lender would agree to provide the borrower with alternative housing as a condition of the eviction and recovering the collateral property. In a number of regions and

localities, the local authorities apparently control a supply of municipal housing that could be used for this purpose. Private banks, however, may be less able to adopt this alternative remedy without the agreement of the municipal governments.

Readiness Assessment: 1

4.0 Primary Mortgage Market

4.1 Bank lending practices. Some banks appear to have functioning home mortgage lending programs, although most of Russia's 1300 banks do not. Lending requirements are somewhat conservative, which is understandable given the current legal environment. The banks could help themselves by sharing information more freely, particularly credit information. Standardization of loan origination documents would assist in the sale and servicing (and eventually the insuring) of mortgage loans. Market activity reporting would assist banks in determining their relative success in their local markets.

Readiness Assessment: 3

4.2 Insurance product acceptance. The domestic insurance industry reportedly is undercapitalized, particularly when compared to the banking sector. The monoline structure of mortgage insurance and the high initial capital requirements may make it difficult for a domestic private insurer to enter the MI business, even if it were willing to take on the added risks relating to lack of experience data. However, at least one domestic insurer does appear willing to assume risks relating to the builder's non-completion of a project by offering the bank borrower payment guaranty coverage on the borrower's loan during the period that the building is under construction. Regarding mortgage default insurance in particular, we received a mixed, but on balance positive, response from banks regarding its need and likely usefulness. We received a generally positive response to this same question when asked of government officials and secondary market people.

Readiness Assessment: 3

4.3 Property title (ownership) evidence. A form of title insurance is available, but normally it is offered as part of a three-coverage residential financing package that also includes life and disability insurance and property hazard insurance. Although title insurance is not generally offered as a stand-alone product, some insurers have priced title insurance separately and will provide it when requested by the banks. Ability to provide evidence of ownership appears to be more of a timeliness issue than a legal problem, due to the slow registration process. One problem, however, is that ownership rights to the land underlying most housing does not seem to be free and clear (e.g., "fee simple") but, rather, is subject to a mixed bundle of rights shared with the municipal government, and may even be

subject to reversion back to the local government.

Readiness Assessment: 2

4.4 Property title and lien registration (transaction costs). Registration of ownership and lien transfers generally are difficult, slow and, in some jurisdictions—most notably Moscow City—rather expensive. The municipal registration office in Moscow is reported to be particularly understaffed and inefficient. In Moscow, the cost for a builder to register a newly constructed flat can run two percent of the recorded purchase cost. Registration-related expense items for the purchaser include the municipal registration fee, notary fee (1 to 2.5 percent), seller/buyer agreement registration and loan assignment fees. In Moscow City, the municipal registration fee is about USD\$200, but this and other transaction fees generally are much lower in other areas. While there are some high cost exceptions, we find that direct transaction costs in the Russian Federation are high, but not unreasonable overall for a developing market. They would not present a serious impediment to the conduct of a MI program. Process delays and uncertainties, however, would create difficulties.

Readiness Assessment: 2

4.5 Credit reporting bureau. There is no credit bureau in the Russian Federation and no apparent sharing of credit information amongst the banks. Each bank evaluates credit applications in accordance with its own underwriting procedures and rules and gathers information directly on each borrower applicant. Generally, the banks' credit underwriting appears to be conservative, which is understandable. One impediment to improved mortgage lending practices, apparently, is an existing law that prohibits the sharing of personal credit information between banks without the borrower's written consent.

Readiness Assessment: 1

4.6 Real estate appraisals. We were unable to meet directly with a real estate appraiser during our visit to Moscow. The banks, realtors and the secondary loan purchasers did not express any appraisal-related issues. The banks pre-approve outside appraisal firms that do an independent valuation for each home loan application. Progress has been made in setting professional and analytical standards for appraisers, including a professional certification process. However, lack of access to a reliable database of comparable sales transactions makes reliable valuations problematic, except on standardized new construction.

Readiness Assessment: 3

4.7 Real estate brokers. Real estate sales agent fees, reportedly ranging widely from two to ten percent, are generally in line with other countries. Many sales agents appear to be providing extra services to buyers by guiding them through

the purchasing and documentation process and directing them to an appropriate lender when necessary. Brokers may be less involved with new construction builders and/or the project investors take a more direct role in the sale of their units. Broker practices that are adverse to the buyers' interests are apparently rather commonplace.

Readiness Assessment: 3

4.8 Builders and developers. This is a problem area. Some builder practices employed in the selling of new units can put the unwary buyer in considerable jeopardy. Buyers are being required to deposit nearly half of the cost of the unit, but only as an investment in the builder's project. When (if) the unit is completed, then the buyer may be able to obtain an ownership right, if he/she comes up with the full balance, generally due in 30 to 60 days. The final purchase cost may be higher than originally stated, based on the builder's subsequent completion costs. Additionally, the price for the unit does not include interior improvements such as cabinets, utilities, flooring treatments or other fixtures. These additional costs to the buyer reportedly can run up to 20 percent or more of the contract purchase price. Builders are forced to devise methods of financing their construction, in part because most banks are reluctant to extend them construction loans. Also, developers are granted the land to build on by the municipal governments under 49 year leases. Since the builder does not own the land outright, it cannot be used as good collateral for financing the building's construction. The current building boom, at least in the Moscow area, may be headed for a bust, in the view of several bankers whom we interviewed.

Readiness Assessment: 1

4.9 Property maintenance services. Most existing apartment owners rely upon the municipal governments to provide common area maintenance services for their buildings. The exceptions are the newer buildings where the municipal government either has required the owners to provide their own maintenance or the owners have organized themselves to do so. Standardized covenants, conditions and restrictions (CC&R's)—a legal framework for building and common area management, such as exists in the U.S. and other more developed housing markets—have not been widely adopted in Russia. Also, individual flat owners in many buildings do not appear to have a strong sense of pride in ownership relative to the common areas of their buildings. While the current system works, more or less, clear definition of responsibilities and owner control is lacking.

Readiness Assessment: 3

5.0 Secondary Support Systems

5.1 Industry associations. Banking, realtor and appraiser associations exist, but their primary purpose is aligned toward how to conduct business and some political initiatives. There does not yet appear to be any real sharing of information or efforts toward standardization of documents and standards.

Readiness Assessment: 3

5.2 Secondary market. There is an active, though limited, secondary market. Loans are being originated and sold by several banks to various regional (government-sponsored) mortgage agencies and the Agency for Home Mortgage Lending (AHML). Underwriting guidelines determining the loan's' eligibility for purchase are conservative, with the maximum LTV typically being 70 percent. With most secondary investment being limited to annual government budgetary allocations, growth potential will be constricted, pending changes that will induce private market capital to invest at competitive rates of return.

Readiness Assessment: 3

5.3 Foreign investor interest. Several foreign banks and insurers currently are active in Russia but are still subject to significant restrictions. Private foreign capital for a mortgage insurance operation will not be forthcoming until special regulations have been adopted specifically for mortgage insurance and foreclosure-related issues are addressed. Furthermore, banks need to be motivated to avoid adverse selection of the risks submitted to mortgage insurers. The lack of mortgage lending data is an impediment, but it is far less important than the need to change laws and regulations, establish predictable judicial practices, and reform how local government releases land for development.

Readiness Assessment: 2.

Chapter 4

Mortgage Insurance Pricing

Introduction.

The pricing of mortgage insurance risks cannot be done independently of the mortgage insurer's adherence to its stated underwriting standards and compliance with its insured lender approval criteria. The Premium Model, in essence, is a component part of an operating framework that works in conjunction with these standards.

- ? **Insured guidelines.** Financial institutions (Insured Lenders) that are approved by the mortgage insurer are initially issued a Master Policy. The Master Policy defines the terms and conditions of coverage governing all individual certificates of insurance that are issued by the mortgage insurer for the benefit of the Insured Lender. In order for the Insured Lender to obtain a Master Policy, it must meet the financial and operating performance criteria established by the MI provider.

- ? **Underwriting guidelines.** Implementation of prudent underwriting risk acceptance criteria by the mortgage insurer with respect to the insurer's loan approval or rejection process will have a major impact on the quality of the insured loan portfolio and its ultimate performance over time. A mortgage insurer's failure to adhere to its own mortgage insurer's underwriting rules and guidelines, by approving an excessive number of exceptions, will produce a higher risk insured portfolio than was assumed in the pricing model.

Methodology

The performance of several bank residential loan portfolios by individual year of origination ("Book Year") should be analyzed to determine the following three trends that are necessary to calculate the mortgage insurance premium rates for that residential lending market:

- ? Insured loan persistency
- ? Default frequency
- ? Loss severity

A Book Year of total business typically would be analyzed for pricing purposes by classifying that total "book of business" into groups of loans having similar characteristics. These groupings, for example, typically would include loans originated in the same calendar year, and having the same loan-to-value ratio (LTV), loan term, type of mortgage instrument (e.g. fixed or variable) and occupancy status. Individual loans having distinctly different characteristics (e.g., property types, loan amounts) that are outside of the normal range may need to be excluded before proceeding with the analysis. Depending on any unique market characteristics, additional criteria may be required to segregate accurately the loans in each Book Year in order to project expected future loan performance.

Insured loan persistency (“runoff rate”) The Book Year data is analyzed to determine the persistency pattern of the original book of insured loans. Persistency is defined as the number of insured loans remaining in force at each future anniversary date—or end of each future calendar quarter--expressed as a percentage of the total loans originated for the respective Book Year. The Book Year’s number (and value) of pre-payments, payoffs plus defaults, and other terminations of insurance coverage are determined for each year or quarter as the book of loans ages. Analysis of several Book Years with similar characteristics should reveal a consistent pattern, after being adjusted for any abnormal market behavior during the analysis period. Based on this data, the modeler should be able to calculate the expected number and value of the original book year of loans that will be in force (persist) at the end of each calendar quarter or year over the full life of that portfolio segment.

Persistency patterns are needed to determine both the amount and timing of future premium revenues, as well as the amount and timing of future losses. (Note that insurance coverage on a loan may not persist as long as the loan itself in the event that coverage is terminated by the lender while the loan itself remains outstanding.)

Default frequency. Once the respective Book Years are segregated, the number and value of loans that defaulted are analyzed by their age (e.g., number of months or quarters), both at the initial point of the first missed payment (delinquency) and the age at which the loan was terminated from the lender’s books (default). This default age may correspond to the point in time when the collateral was acquired by the lender or was resold to a third party, either via foreclosure proceedings, or by some other negotiated means. Delinquent loans that become current (“cured”) should be tracked separately as a subset of current loans. Technically speaking, these loans are current. However, experience in other countries shows that up to 25 percent of the currently delinquent loans over the life of each Book Year will be repeat delinquencies.

Default frequency is important in projecting the number of expected claims, but also in allocating an appropriate “case basis” loss reserve for delinquent loans outstanding. The process used to project the age of the delinquency and the age at which the loan is removed from the lender’s books can also be used to project the claim settlement date. The loan termination date is the date at which the lender no longer has an outstanding loan on its books.

Loss severity. The severity of the loss (expressed as the average amount of loss per claim paid) is determined by adding:

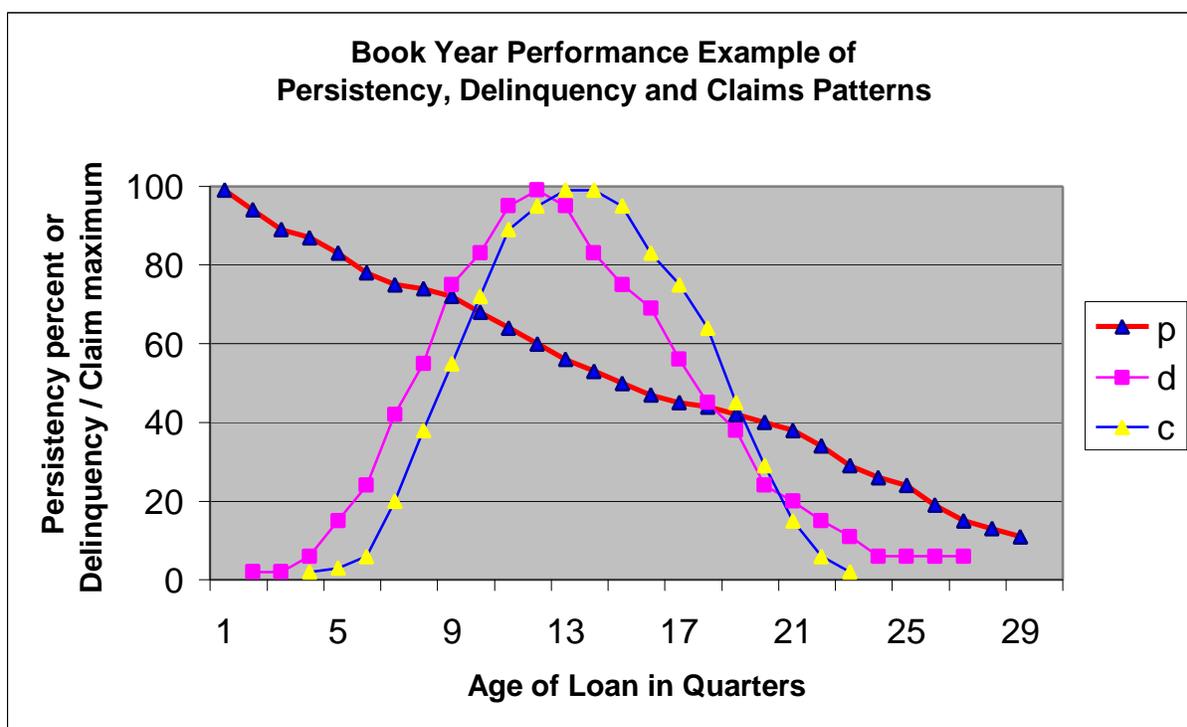
- ? The lender’s total unpaid principal balance
- ? Legal expenses
- ? All other costs (except penalty charges)
- ? Delinquent interest accrued by from the time of the initial delinquency through loan termination (by foreclosure or other means)

From this sum, which is the total amount owed to the lender, is then subtracted any net proceeds

realized from reselling the property (or, alternatively, the expected sale value based upon an appraisal). Estimated costs relating to the foreclosure process and other legal proceedings that are required to obtain a clear and unencumbered title are needed to establish an adequate mortgage insurance loss provision. Typical costs for each Book Year portfolio segment having similar characteristics can be averaged to project the average loss severity. As noted above, however, it is critical that each Book Year's loan classifications exclude anomalies such as:

- ? Extremely high or low loan-to-value ratios
- ? Abnormal mortgage instrument or loan terms
- ? Non-occupancy of the insured property
- ? Unusually large small loan amounts
- ? Extreme geographic concentrations

Exhibit 4-1 below illustrates Book Year patterns for Insured Loan Persistency (as a percent of the original book) and the maximum points at which Default and Claim Frequency may occur, hypothetically. In later years the claim frequency will diminish as a result of equity buildup in the property. However; borrowers may still become delinquent due to income interruptions.



Additional Pricing Considerations

Financing terms. Different types of financing instrument –that is, mortgage loan products— will produce default results that can be drastically different, even for similar borrowers under similar economic conditions. For example, loans with negative amortization can increase,

rather than reduce, the outstanding loan balance over time and, therefore, erode the borrowers' equity. A lack of property appreciation to offset this equity erosion can further increase the probability of default. The amount of borrower equity at any point in time has proven to be a strong determinant of willingness to repay.

Likewise, financing instruments that contain a “balloon” repayment provision without providing for refinancing present borrowers with a payment due amounts that will likely exceed their ability to pay, thereby resulting in default.

Adjustable rate loans without reasonable caps or limits on interest rate and payment increases can, in a rising interest rate environment, increase the borrowers; payments to levels beyond their ability to meet the scheduled repayments (“payment shock”).

Owner occupancy. Pricing in the context of this study only considers mortgage insurance pricing for owner occupied property. Non-owner occupied, or investor-owned, property presents a significantly greater default risk and would require higher premium rates than for owner occupied properties, as well as more stringent underwriting guidelines. Investor-owned residential dwellings (defined in the U.S. as one-to-four family buildings) have a historical default rate about three times that of owner occupied dwellings. These higher default rates occur in spite of the imposition of more restrictive underwriting guidelines, lower LTV requirements, and the use of an income-based underwriting approach. Retail and commercial properties, as well as construction loans, fall beyond the scope of residential mortgage insurance and should not be insured by a monoline residential mortgage insurer.

Regional pricing. Pricing for this analysis does not contemplate any regional pricing variation. Based on the vastly different geographic areas of the Russian Federation, it may be plausible to consider development of MI prices determined by additional regional economic factors. Some areas may exhibit a consistently higher or lower frequency of default than others due their economic situation, industry concentrations, building materials, or even climate considerations. Before regional pricing variations are considered, however, there should be compelling evidence that the risk variances are enduring over a long time period and, also, that the primary and secondary market users of MI both want and need regional pricing differences. (In the U.S., for example, it has long been the public policy of the FHA to offer a uniform nationwide mortgage insurance premium.)

Premium Model – Description for the Russian Federation

Caveats. Mortgage insurance pricing calculations in this Report have been made, recognizing that there is practically no experience regarding foreclosure frequency or loss severity in Russia. Additionally, current laws exist in the Russian Federation that would render the claim payment assumptions used in most standard mortgage insurance pricing models to be invalid without a change to the current foreclosure laws, and most likely, a less costly and expedited process for transferring property titles and mortgage loans.

Alternatively, a mortgage insurance default pricing scheme based on the premise that no collateral recovery is possible could be produced, but as a practical matter, such a scheme would have to be

considered “credit insurance” rather than “mortgage default insurance” which, in turn, would raise questions regarding the credit analysis process and credit information availability. Our pricing model assumptions are presented in *Appendix D* with the understanding that the reliability of data is extremely low.

“Standard loan”. Mortgage insurance pricing assumptions in this report are based upon a “standard” Russian Federation loan, defined as

- ? First lien, residential property
- ? Loan term, 10 years
- ? Fixed interest rate, fixed payment schedule
- ? Insured LTV Ratio 85% (Benchmark uninsured LTV ratio = 70%)
- ? 30% (top tier) mortgage insurance coverage.

Market scenarios. Calculated premium rates are weighted by market scenarios. The Model employs three market scenarios, each with a different risk profile are defined for the country:

- ? A positive economic environment, denoted as “low risk”
- ? A moderate risk environment, denoted as “expected risk” and
- ? A negative economic environment, denoted as “severe risk”

These three scenarios, each yielding a separate premium value, are utilized in a weighted manner to determine the premium actually displayed in the Model output. The Pricing Model assigns the positive and negative risk scenarios at 25 percent weight each, and the expected market risk scenario at 50 percent weight. The resultant mortgage insurance premium calculation shown reflects this weighted average.

The logic for the weighted pricing calculation approach stems from the required long-term commitment to the quoted price, i.e., for the full term of the loan. Unlike insurance premiums for auto or property insurance, MI premiums do not change over the life of the loan. At the same time, the mortgage insurer must anticipate what future mortgage market conditions are likely to be. Thus, over the life of any given cohort of loans insured, market conditions are likely to vary from good to poor in accordance with business cycles and/or economic downturns and recoveries, including possibly severe economic stress and plummeting home values. In this sense, the premium rate must represent an “average” price that can maintain the mortgage insurer’s financial strength over time.

Pricing Model Cost Components.

The pricing model cost components can be divided into three general categories:

- ? Underwriting and acquisition costs
- ? Claim costs
- ? Financial costs

Underwriting and acquisition cost assumptions. These are the costs to obtain and maintain the mortgage insurance policies on the mortgage insurer’s books. Premium and or income taxes, if

applicable, are included as an acquisition expense.

- ? **Underwriting expenses** to obtain and put the MI policies on the books. This portion of premium is expressed in basis points and is based on an expected insurance volume level for an ongoing mortgage insurance provider. (Note that the basis point costs are not sufficient to cover expenses that will be incurred by a mortgage insurer during the first several years of its operation, due to the lack of insurance volume—therefore premium revenue--during its startup phase.
- ? **Renewal expenses** to maintain the policies on the books. This portion of the premium is an allocation for administrative expenses. (This amount also is not adequate for a startup company.)
- ? **Taxes.** The current corporate tax rate for Russian insurance companies is 20 percent of net income. The Pricing Model assumes 4 percent of premium written as the tax rate. Assuming that a 20 percent profit target is achieved, then a 20 percent income tax rate, based on net income (profit before tax), would be 4 percent of the gross premium income written.

Pricing model claim cost assumptions. These input variables attempt to quantify the “severity” of an average mortgage insurance loss, taking account of the mortgage insurance coverage percentage. These costs include: delinquent interest (number of months); legal and foreclosure costs (expressed as a percent of the loan amount); property taxes and property insurance (also as a percent of the loan amount); and the maintenance costs for the property while in the foreclosure process (expressed as a percent of the property value).

- ? **Delinquent interest** rate is based on the current market interest rate ranges. The time in months from first default to completion of the foreclosure sale is unknown. The laws and regulations in Russia appear to lack sufficient clarity such that the expectation of a timely and efficient foreclosure sale is highly doubtful at this time. No actual experience is available to determine either the time required or the likely amount of legal expenses and court costs.
- ? **Delinquent taxes and insurance payments** made by the Insured Lender during the period of borrower delinquency. These amounts are based on the number of months from the initial delinquency to the date of the foreclosure sale, or other means of property conveyance by the borrower.
- ? **Expenses** incurred by the Insured Lender for maintenance and security of the property during the period of delinquency and foreclosure. This is based on the number of months from initial default to the date of the foreclosure sale or other means of property conveyance by the borrower.
- ? **Property salvage value.** This is a critical component for the mitigation of a mortgage insurer’s loss. The projected net realizable value of 70 percent of original sales price is based on an estimate of the sale price that could be realized in the event of a distressed

property sale. Net realizable value is the proceeds received from the sale of the property, less any real estate sales commissions, property transfer taxes, property registration fees and any other items that are customarily paid by the seller of the property to effect the transfer of ownership. The actual factor for Russia is unknown.

Financial cost assumptions. The mortgage insurer's cost for the use of funds, the expected return on the insurer's invested capital (if a private firm), projected premium cash flows, timing of losses and operating profit targets all are financial cost components of the mortgage insurance premium.

- ? **Discount rate.** The interest rate at which banks are charged to obtain funds from the Central Bank
- ? **Investment income rate of return.** The expected rate of return on the mortgage insurer's risk capital. The estimated rate of return is based on the current lending rates of the Central Bank.
- ? **Risk-to-capital ratio.** The amount of capital required to support the mortgage insurer's risk.¹
- ? **Return on required capital.** The indicated profit margin was selected to reflect a private mortgage insurer's target. If the proposed MI provider is a government-sponsored insurer, then the target return may be lower. But the objective of being a self-sustaining entity would necessitate the establishment of some rate of return on portfolio investment to remain viable for the long term.

Default Probabilities and Adjustment Factors in the Premium Model.

Default curve assumptions. The frequency of defaults in the Premium Model is a function of the factors indicated above. As noted previously, there is virtually no experience with mortgage defaults in Russia. Similarly, there are not yet any long-term data, or even very long-term loans. Nor are the data yet available on a "book year" basis, which is the actuarial format underlying the principal types of mortgage insurance premium models. Thus, the ability to actuarially develop MI premiums based on existing data in Russia – at least with any amount of confidence – simply does not exist today.

Under these circumstances, a "second best" alternative has been employed in calculating the preliminary premium rates for this Report. United States data on the default behavior of loans with different terms and different LTV levels has been utilized as a beginning point in the model. The U.S. databases containing this information are the largest and most complete worldwide. Default probabilities are calculated on the basis of aggregating many "book years" of experience over many varied economic conditions. Typically, default curves for long-term mortgage loans are in the shape of an upside down U-curve, or "bell curve", with a longer right hand "tail". That is, default probabilities are quite low during the earlier years of most loans, then increase to a high point after a

¹. The minimum requirement for U.S. mortgage insurers is 25-to-1, which is the value used in this Pricing Model.

few years into the loan term, and then gradually decline to very low default rates as the loan term ages significantly—reflecting both equity buildup and extended borrower repayment experience.

Default curve adjustment - Loss scaling factor. The U.S. default probability curves in the Premium Model can be adjusted across-the-board, using a “loss scaling factor” to reflect differing default rate expectations for Russia. This type of international loss curve adjusting, while far from ideal, can be used to accelerate the introduction of MI until such time as a database of domestic mortgage performance experience becomes available.

The Premium Model book year loss ratio has been set, for the purposes of this exercise, such that the default rate for Russia is 4 ½ times greater (loss scaling factor) than the expected US default rate frequency curve indicates for similar loans. This is the equivalent of a 6.0 percent book year default rate. The mortgage and foreclosure laws for Russia are considerably less favorable for both loss mitigation and the introduction of MI and, as such, justify a significantly higher loss frequency projection. Additionally; this adjustment also establishes the low risk default rate for the Russia pricing as being equal to the moderate default rate (expected) in Kazakhstan. The mortgage and foreclosure laws for Kazakhstan are considerably more favorable toward the introduction of MI. However, Kazakhstan also lacks any significant amount of default experience. The “reference values” used as the data inputs for the Premium Model pricing calculations are shown in *Appendix D*. Note also that book year default rates generally are higher than “portfolio” default rates. The portfolio default rate, which is the usual statistic cited by banks, is an “average” value calculated using all loans in the portfolio for the period, regardless of the book year in which they were originated. When portfolios are growing, the disproportionate amount of newer “unseasoned” loans will tend to understate the average default rate relative to true Book Year default rates.

Reference values used in the Premium Model. As discussed, there are a fairly large number of user input variables in the Premium Model. In order to make consistent comparisons using the Model, an initial set of values has been selected for each of the three above-described market scenarios. These values reflect current market conditions, as we understand them, as well as input values provided through our recent on-site interviews. The majority of input variables are in reality a “best guess” at this point in time, based on our knowledge about how a mortgage insurer should operate and our expectations as a result of our findings. Any of these values can be changed as the modeler desires, but comparative pricing analyses will be more instructive when a single set of reference values can be established initially. The set of reference values used by the modeler is shown in *Appendix D*.

Russia’s own loan level data. It must be stressed that the default curves and the resulting default probabilities for each year of a book year of loans of a given LTV, as well as loan term and other characteristics, will need to be developed specifically for Russia. This is clearly a long-term endeavor, but an important one. Thus, this Report also includes detailed recommendations regarding the type of data and loan information that needs to be collected over time, so that future premium rate decisions reflect more precisely the actual experience of the market (see *Appendix C*). The Central Bank, in its capacity as bank regulator, will need to play the key role in this process if a robust loan level database is to become a reality in Russia.

Indicated Premium Rates.

The Premium Model can generate numerous alternative prices based on the loan term, loan-to-value ratio, and coverage percent for each set of input variables. We recommend, however, that insured lenders not be offered a large number of tariff options, particularly at the outset. Rather, we would advise that the MI tariff structure be kept simple during introductory phase.

The premium rates that have been calculated for this Report, based upon another country's distinct laws and market environment, are only illustrative as to what such rates might look like in the Russian Federation. Indicated MI rates for the Russian Federation are based on the foregoing assumptions and caveats, as applied to a "standard" insured loan defined as:

- ? Loan-to-value ratio up to 85%
- ? MI coverage of first 30% of loan amount
- ? Loan Term 10 years.
- ? Fixed interest rate and fixed payment
- ? Owner occupied residential dwelling unit

*The indicted **annual** premium payment would be .93% of the outstanding loan balance.*

*The indicated **equivalent prepaid** single premium rate would be 3.60% of the initial loan balance.*

An extensive listing of single and annual mortgage insurance premium rates, defined by their respective loan-to-value and coverage guaranty percentages, appears in *Appendix E*.

Chapter 5

Findings and Recommendations

Findings

The following findings, each relevant to the near term prospects and need for mortgage default insurance in Russia, are based upon interviews we conducted with knowledgeable persons during our recent visit to Moscow, combined with our review of recent reports on the state of housing and mortgage finance in the Russian Federation.

1. The Russian Federation is a very large and diverse country that would provide an MI program with an opportunity to achieve excellent geographic and market risk dispersion. Current lending activity, however, is quite concentrated geographically in a few major cities.
2. The current mortgage origination market is negligible when measured both in relative and absolute terms (estimated at 30 to 50 billion rubles / USD \$1.0 to \$1.7 billion, or about 0.1 to 0.2 percent of GDP). From this small base, however, the prospective growth rates for both home sales and mortgage lending volume are exceedingly high.
3. Growth in lending volume is restrained by a combination of attitudes and customs, high risks and financing costs, restrictive and poorly working laws, physical production constraints, minimal incentives to lend, and lack of competition.
4. The national homeownership rate is high—higher, in fact, than that of the U.S. at 67 percent. Most owned dwelling units, however, are apartments that were given by the government to their then-resident occupants. Over 75 percent of Russian households say that they want better housing.
5. A large share of the existing national housing stock is physically deteriorated or dilapidated; much in urgent need of repair and much even beyond repair.
6. Some high LTV lending (nominally up to 95 percent LTV) already is being done without benefit of MI. Although the true borrower equity for most of these loans probably is well over 5 percent (perhaps as high as 20 to 25 percent), this lending could be risky if the economy, along with home prices, were to soften.
7. Builders and real estate sales agents currently control a strong “seller’s market” that is not especially good for homebuyers. The banks’ ability to offer cost-competitive mortgage financing would improve the consumer’s standing and greatly expand home affordability. Even the current 70 percent LTV benchmark, if offered at affordable rates, would require far less cash from buyers than the prevailing builders’ investment participation schemes.

8. There is a large gap between the supply and demand for housing in Russia. Too rapid expansion of mortgage financing availability (i.e., housing demand), however, could be counterproductive and inflationary unless accompanied by near-term improvements on the housing supply side. Supply side problems include restrictive, monopolistic and non-transparent processes for municipalities' release of land to private developers. Issues with the supply side of the market, however, are beyond the scope of this Report.
9. There is an overall lack of market information and data, including home sale transactions, mortgage lending and loan performance. In Moscow, significant efforts are apparent to develop useful housing market information, including sales activity and prices by geographic sector and other relevant characteristics.
10. A lack of trust among market participants seems prevalent, especially lack of buyers' trust in banks and financial institutions generally.
11. A straight government credit guaranty in the Russian Federation, especially when given at the regional or municipal level, may over time exhibit the same political and financial vulnerability as in some other developing countries.
12. The process of transferring and registering real estate ownership and mortgage liens is slow and, in some local jurisdictions, expensive. Transaction costs overall, while high, are not excessive.
13. No specialized insurance regulations exist for any form of credit insurance, including MI, although this matter is being given serious attention by the Ministry of Trade and Economic Development. Also, insurance regulation today is directed ad hoc by the Ministry of Finance, rather than being extensively codified.
14. The ability to foreclose and/or evict to recover pledged collateral on a home loan in the event of borrower default is quite restricted and unpredictable. Whether there is the political will to enact and enforce major reforms near term is questionable, despite the priority being given by policymakers to the larger subject of housing finance.
15. Basic mortgage-related laws are nominally in place, but questions and gaps remain (e.g., restrictions on sharing borrower credit information, mortgages not freely transferable, "entrepreneurial risk" restrictions, escrow/trustee accounts not authorized, condominium common area ownership and governance inadequately defined).
16. Banks and their regulators do not view home mortgage lending as a favorable risk relative to business and commercial real estate loans.

17. Lenders face difficulties in acquiring reliable financial and credit information on prospective borrowers, including, but not limited to, the absence of a credit reporting bureau.
18. Future prospects seem uncertain for the regional housing and mortgage agencies that play such a role in today's limited volume mortgage market. Their budgets are limited and their property management and land disposition activities seem more transitional than permanent.
19. Home price trends are strong in Russia's few largest urban areas, but the rapid run-ups are not sustainable, and future home price trends are uncertain. There may be some correlation between the housing price movements (up or down) and the price of a barrel of petroleum.
20. Current risk-sharing arrangements between the Agency for Home Mortgage Lending (AHML), the regional agencies and private banks could be made more efficient, with more positive incentives for the respective participants.
21. The ability to properly price many mortgage-related financial services (e.g. based upon supply, demand, true cost, competition, and risk) appear to be limited. A true secondary market will not evolve until its real costs become sustainable at levels below primary (bank) lending costs.
22. The AHML, in its mission to develop a secondary mortgage market, is addressing many of the same mortgage market improvements that are needed to create a favorable climate for mortgage default insurance, including: standardized mortgage documents and underwriting practices; strong loan servicing standards; good quality property valuations and credit reporting; better housing and mortgage market data; further legislative and judicial reforms.
23. When compared to the banking sector in Russia, the domestic insurance sector is weak, with respect to capitalization and strength of laws and regulation.
24. There are a small number of capable, leading edge home mortgage lenders (banks) in Russia, mostly concentrated in Moscow and St. Petersburg, but with plans and actions under way to build national mortgage lending branch networks. The pool of capable managers and support staff, however, is small, considering the size of the country and potential growth of lending volume.
25. The Moscow-based investment rating agency's capability and performance, with respect to its limited number of ratings of banks and other financial institutions to date, seems remarkable, given the short length of time in operation.
26. Recent passage of deposit insurance for Russian banks signifies a major advance toward stronger and more liquid banks, greater ability to provide funds for primary mortgage lending volume through deposit-based lending.

27. Current home mortgage lending is predominantly fixed rate, with little innovation in mortgage instrument design apparent. Notable trends are (1) moving from USD denominated to Ruble lending, (2) lengthening of mortgage loan terms and (3) testing of increased LTV ratios above the current 70 percent benchmark.
28. Mortgage and housing-related trade associations (e.g., bankers, realtors, appraisers) seem to be well established. To date, however, no real progress has been made on a critical area needed for MI, namely agreed-upon standards and procedures for collecting loan level data on residential mortgage lending and housing market data. Real estate sales agent practices are still in development.
29. Appraisers have been given training by international consultants and have adopted professional certification standards. But the reliability of many valuations remains in question, due to lack of comparable sales data.
30. Unregulated consumer cooperatives (few of any scale) play a useful, but small and probably transitional role in Russian housing finance.
31. Structured savings schemes are a useful way, absent better credit reporting, to assess and underwrite prospective mortgage borrowers. They can perform this limited function without being subsidized or highly regulated.
32. Regarding justification for mortgage default insurance in the Russian Federation:
 - ? MI is hard to justify in the immediate near term, even if needed laws and data were present. There appears to be adequate mortgage funding to finance current housing production capacity, and at least two years of bank liquidity to fund expected loan demand. This in essence provides the Russian Federation with at least two years to initiate the required legislative changes required to implement mortgage insurance.
 - ? In the intermediate term (two to five years), as housing production outstrips affordability, even in a falling interest rate environment, MI may be required to address the need for lower down payments to qualify more potential homebuyers. The required legislation and regulations and initial charter for the MI fund will need to be in place prior to the actual implementation of mortgage insurance. It may take two years or longer to accomplish this task.
 - ? Longer term (over five years), MI may become an essential credit enhancement for rated mortgage-backed securities used by primary lenders to access secondary sources of capital.

Recommendations

Based upon the research conducted in preparation for this Report and the Findings presented in the preceding section, we offer the following Recommendations for consideration by policymakers in the Russian Federation on mortgage insurance: its purposes, prerequisite actions, timing, sponsorship, and program design features that will be self-sustaining and will best serve the country's housing needs. We have made a concerted effort to link these Russia-specific recommendations to specific aspects of international MI experience wherever there appears to be a useful connection.

Recommendations 1 through 4 should be addressed immediately in order to make mortgage insurance available in the Russian Federation within the next two years. Recommendations 5 through 8 will need to be addressed in the near future, shortly after action on Recommendations 1 through 4, in order to offer mortgage default insurance at the earliest possible date.

1. Mortgage default insurance should not be offered in the Russian Federation until the banks' ability to foreclose is clarified. Recovery and sale of the asset that has been pledged as mortgage collateral should be established in law and must be reliable in practice.

Views on this issue--both within and outside Russia--vary markedly. The alternative to this recommendation is that mortgage default insurance should be offered for the very reason that foreclosure laws and practices in the Russian market are not functional, i.e., that MI should be viewed as a substitute, or a sort of palliative and hopefully temporary method to bypass the problems caused by dysfunctional collateral recovery practices. Avoidance of the political and very real social consternation that could occur if foreclosure and eviction were to be made a predictable consequence of mortgage default is not a viable long-term option.

In our view mortgage insurance should not be used to delay and/or avoid collateral recovery reform issues in either the legal or social arenas. Circumvention of appropriate real estate and mortgage lending laws has never been considered as one of the benefits of mortgage default insurance. In fact, if MI is launched in the face of such problems, the end result can be counterproductive: needed reforms might be delayed and the cost of mortgage insurance without real collateral security will be excessive.

2. Before launching a MI program, the Russian Federal Government should pursue a multifaceted legislative agenda to improve the environment in which a mortgage insurance program would operate. Enacting these legislative actions would increase chances for success and enable a MI to operate more efficiently and manage its risks.

The following subject areas, some of which have already received legislative attention, will require definitive legislative action to facilitate a mortgage insurance operation as well as to encourage growth in the residential mortgage market:

Collateral recovery. Although a federal law governing foreclosures has been enacted, concerns remain widespread that it may not work in practice where it comes in conflict with the Civil Law. Collateral for mortgages taken by existing homeowners, i.e., for home renovation or improvement, should have equal status to collateral for mortgages used to purchase a dwelling. A secured lender's ability to evict, following foreclosure, appears to be very problematic at present.

Municipal Housing Stock. Banks that are in the process of eviction and foreclosure need to be given access to the municipal housing stock as an alternative housing option. This may require some legislative action or agreement between the municipal governments and the federal government for an effective implementation.

Successors and assigns rights. All rights under a mortgage agreement should be made assignable to qualified third parties (including investors and securities holders) without requiring the prior written approval of the borrower. Similar transfer rights should apply to the loan servicing and collections functions.

Legalize the transfer of mortgage default insurance protection, specifically, and all other insurance requirements, once issued for a home mortgage loan, or group of such loans, in order that the protection afforded is readily assignable to any third party investor that may purchase an insured loan or pool of loans.

Escrow accounts need to be authorized by federal law. Escrow accounts are needed to hold various payments in a form of trust account to assure their proper and timely payment on behalf of a third party—in this instance, the mortgage borrower. Proposed amendments to the Law on Collateral need to be enacted in order that various services ancillary to residential lending—including mortgage default insurance—can be paid by the borrower in a more cost effective manner. Escrow accounts need to be lawfully attached to the respective mortgage loan. Banks should not be penalized, by having to post a reserve, for any escrow account shortages that occur due to a borrower's actions.

A special law authorizing credit insurance generally, and mortgage default insurance in particular, to be chartered and regulated as a line separate and distinct from other forms of insurance. Comparable legislation is needed with regard to mortgage default reinsurance.

Making a decision on the need to receive a policy of civil liability insurance under the mortgage contract.

Municipal Land Lease. The current practice of municipal governments, whereby they lease the land for 49 years to developers, should be changed to an outright, competitive sale of the land. This would allow for title to ownership to be free and clear for the developer, which could relieve the current developer financing difficulties as well as the long-term homeowner concerns. The rules and practices need to be established—by law if necessary—in order that developers can finance housing construction and owners can

pledge their property as good collateral. Clear and unencumbered title is important, not just for financing home construction and purchase, but also for home renovation, home improvement and home resale financing. Clarity of title is a key building block for a soundly conceived MI program.

Credit reporting agency. A bill has been drafted, with broad support, and resolution is considered likely. However, different versions are still being promoted. The final program should include consumer reporting of both negative and positive personal credit histories. Mandatory participation would be desirable, but perhaps not essential.

Deposit insurance legislation has been approved. This type of government-sponsored insurance is needed to enable the banks to grow their deposit-based lending programs, which in turn, can help to grow mortgage lending volume. Changing consumer attitudes, which includes mistrust in financial institutions, should be helped by the federal government's deposit insurance. Also, to the extent that deposit insurance may be accompanied by strengthened bank oversight and supervision, conditions will become more conducive for introducing MI.

3. The Central Bank of Russia should continue to pursue its efforts to have banks report loan level mortgage data to a central repository under the Central Bank's control.

Among the several benefits of such a central data bank will be that data collected over a period of years will provide the ability to price mortgage default insurance properly in a Russian context. However, unlike the foreclosure-related problems and the need for legislative steps, as noted above, a lack of mortgage experience data for MI pricing purposes need not be viewed as a pre-requisite step for the government to proceed with sponsoring a MI program. Availability of mortgage experience data would be an impediment more so for a private, than for a government MI sponsor. (See *Appendix C* for recommendations on loan level data reporting.)

4. Design a mortgage default insurance law. Regarding the creation of a special law authorizing mortgage default insurance, the Ministry of Trade and Economic Development should continue its investigation into what specific provisions would be advisable to include.

Among those features that we recommend are:

- ? Monoline charter
- ? Stringent risk-based capital requirements
- ? Prohibit rebates or commissions to insured lenders
- ? Regulation of rates and contract forms
- ? No interlocking controls between insured lenders and MI providers
- ? Appropriate parallel provisions for MI reinsurance
- ? Limits on geographic concentrations of insured risk exposure

- ? Reserve requirements that address the adequacy for both case basis and catastrophic losses.

Passing such legislation could occur prior to the advent of serious interest by private firms and, in fact, may expedite their interest if the legislation were structured properly. On the other hand, international experience suggests that an increased impetus to act on such legislation may arise when a strong and willing firm seeking to enter the market approaches the government and assists in design of the laws needed for a special MI charter to be granted. In any event, we recommend that the initial priority should be toward establishing a sound government-sponsored MI in a manner that would closely replicate an effectively regulated private MI venture (see Recommendation No.5 below).

5. The initial MI program sponsor should be the Federal Government, in the form of either a new Development Institution or new Government-owned special-purpose insurance fund. Private capital should be encouraged to enter whenever feasible.

In most respects, private MI sponsorship supported by private MI risk capital would be preferable. However, given the current risks and uncertainties identified in this report, we believe it unlikely that private MI risk capital will find the Russian market attractive in the immediate future, given the type of substantial, long-term, exclusive commitment that will be needed. The alternative of a NGO/nonprofit sponsorship offers no valid reasons to pursue. This, in essence, leaves some form of government sponsorship as the one broad remaining option. In turn, this option also leaves open many possibilities.

As to which level of government should sponsor MI, we recommend that the Russian Federal Government be the initial sponsor of a startup national MI program. Regional authorities across the Russian Federation certainly play a central role today in housing finance. Their potential role relative to a mortgage default insurance program—as an insured, sponsor, co-insurer, or beneficiary—needs to be considered. We’ve noted, for example, the presence of state-sponsored MI programs in the U.S. Regional entities, however, inherently lack a critical advantage of any federally-sponsored MI in a large country, be it the Russian Federation or the U.S. That inherent advantage is the ability to achieve great geographic and market dispersion of risk, as well as independence in establishing risk acceptance criteria.

What type of MI entity should the Federal Government create? For the dual reasons of (1) effectively managing its own credit risk exposure, and (2) expediting a future transition to privately capitalized sponsorship and/or public-private partnership, we recommend that the government-sponsored MI entity be formed to resemble a private insurance fund as much as possible. Under existing federal law, we believe that there are at least two possible vehicles to establish such an entity:

- ? A new special-purpose Development Institution, comparable to the Agency for Home Mortgage Lending (AHML) or the Russian Development Bank; or
- ? A new, wholly government-owned, special purpose insurance corporation.

Key operating parameters a publicly chartered entity should adhere to in order to function as if it were a private insurance enterprise include:

- ? Maintain actuarially-based pricing.
- ? Maintain risk-based capital reserves sufficient to pay all claims, including those that could be expected during a period of severe economic adversity.
- ? Establish independent standards for approving individual lenders as program participants; also, standards for prudent underwriting of individual loans—both to be free of political influence.
- ? Hire management and professional staff at competitive market salaries.
- ? Invest in information and communications technology that enable operating efficiencies, risk management and client service standards on a par with a competitive private business.
- ? Mandate annual financial and operational audits that are conducted by non-government (private) auditors in addition to the normative audits and examinations performed by insurance regulators.
- ? Secure and maintain a minimum investment grade rating for claims-paying capacity (independent of any contingent government guaranty that may be provided).
- ? Segregate from the MI program any form of subsidized/social housing initiatives, including all types of public subsidies or other forms of special assistance to social housing or special need designated categories of borrowers.

6. The government-sponsored MI entity should be structured to allow for a variety of possible public-private partnerships and either partial or full privatization in time.

In addition to being run as much ‘like a business’ as possible, the charter should expressly provide for a full range of potential risk-sharing arrangements, including:

- ? Reinsurance (with either the public or the private party being able to serve as direct insurer or reinsurer);
- ? Coinsurance, i.e., a sharing of the primary risk; and
- ? Catastrophic ‘insurer of last resort’—a role only the government can realistically fulfill.

7. The initial MI provider inside Russia should adopt proven risk management practices and program features, drawing upon MI experience gained outside the Russian Federation—and adapt these features to the unique characteristics of the Russian market.

Among the time-proven program characteristics that should be adopted in some form are the following:

- ? Risk-sharing with the originating lender. Avoid 100 percent coverage of individual loans. It is not needed and should not be adopted. This decision will leave many choices on how to structure risk sharing that will meet lender's need and achieve basic program goals, while avoiding the 'moral hazard' of eliminating all risk to the lender. Eliminating the risk of any loss weakens the lender's motivation to underwrite and service its insured loans as if they were uninsured.
- ? Establish a loan level coverage amount (first loss percentage) that assures the bank that it will be in an equivalent or slightly better position, in terms of remaining risk exposure, than it would have been on an uninsured loan made at the benchmark (70 percent) LTV. For example, an 85 percent LTV should have minimum MI coverage of least 20 percent, while coverage up to 30 percent would be a reasonable maximum limit.
- ? Limit Insurable loans to: (1) residential dwelling units; (2) first liens; (3) legal persons as borrowers (no corporate entities); (4) borrowers who will be owner-occupants; and (5) properties where construction has been completed.
- ? A conservative insurable loan-to-value ceiling should be applied initially—higher than the existing uninsured benchmark LTV, but lower than the expected eventual goal. One possible 'rule-of-thumb' might be to use MI initially to cut in half the minimum cash required of the borrower. For example move from the uninsured 70 percent LTV benchmark in Russia to an insured 85 percent LTV. After some experience unfolds at this new limit, experiment with further modest increases.
- ? Establish maximum MI insurable loan amounts. The upper limit needs to be set at a level that allows upper-middle class housing to be insured, but which excludes the acceptance of excessive risk on large loans for luxury housing.
- ? Accept underwriting risks based upon the MI review of individual loan information but only after the loan has been underwritten and found acceptable to the Insured Lender.
- ? Exclude coverage of losses caused by fraud, whether committed by the originating lender, the borrower, the builder, or any combination of interested parties. (Note: As the secondary market develops, coverage for these risks may

need to be extended to third party investors, but under conditions of full recourse to the primary lender.)

- ? Consumer protections: The owner-occupant borrower should not be held liable to the MI provider to repay his/her defaulted loan balance following the MI's payment of a claim to the insured lender.
- ? Minimum property standards for insured loans in Russia could provide a dual benefit of risk management for the MI fund *and* better housing for the Russian people. The Russian housing stock reportedly suffers from widespread serious deterioration, and in many areas is overwhelmingly aging wood frame construction. Though not widely recognized today, the U.S. Federal Housing Administration (FHA) mortgage insurance program's Minimum Property Standards historically helped to improve the physical quality of working class housing throughout the country. In any case the MI will need to specify the types of properties that it will insure.

8. A new government-sponsored MI provider should be a freestanding, independent agency. Despite the extensive commonality of mission between a MI provider and the AHML, these two functions—and the agencies that perform them—should be separate.

Among the reasons for separation: A central part of the MI provider's mission, especially at the outset, will be oriented toward the primary mortgage market, in contrast to the secondary market mission of AHML. Also, future partnering with private sector insurers and reinsurers, and even eventual privatization, should be more expeditious if the MI entity has a single, clear-cut mission. Of course, regarding the ongoing development of Russia's secondary mortgage market, AHML and the MI provider should enjoy a significant strategic alignment.

9. Some work should be undertaken, both before and after the launching of MI, to design and market adjustable rate/payment mortgage instruments that better fit the economic and market conditions of the Russian Federation.

Today, most home loans made in Russia are: (a) USD denominated and (b) fixed rate/fixed payment. While there is some movement away from USD toward Ruble lending, fixed rate/fixed payment loans seem to be the continuing norm. A domestically sponsored MI program should be able to encourage not only more Ruble lending, but an extension of the loan terms and even a transition to indexed, adjustable payment loan instruments that can better balance the inevitable mix between credit, liquidity and interest rate risks faced by lenders.

While a detailed inquiry into the risk-related characteristics of alternative mortgage instruments is beyond the scope of this Report, we offer several brief comments about MI and mortgage instrument design:

- ? In a volatile economy, USD denominated loans are risky for borrowers, and fixed rate loans are risky for lenders.
- ? An improvement, with the support of MI, would be standardized loan instruments with adjustable rates tied to a transparent index.
- ? Insurable adjustable loans would have reasonable limits on rate and payment adjustments and any potential negative amortization.
- ? The MI provider should be especially well positioned to set these instrument standards.
- ? The ideal adjustable mortgage instrument will reduce borrower financing costs and improve the lenders overall credit, interest rate and liquidity risk exposure.
- ? Adjustable rate loans and especially those with negative amortization represent significantly greater risk for default frequency and ultimately a MI's losses. Tariffs would necessarily be increased for these types of insured loans.

10. The process for developing a detailed MI program and operational plan for the Russian Federation would benefit from the formation of an expert inter-disciplinary MI Working Committee. A suitable lead agency for advancing the MI plan, following passage of authorizing legislation, may be the Ministry of Trade and Economic Development.

The MI Working Committee should include both public and private sector officials and experts. Committee members should represent mortgage lending (private banking), the insurance industry, institutional mortgage investors, the insurance regulator, the Ministries of Finance, the Ministry of Construction and Housing, the Ministry of Trade and Economic Development, the Central Bank, and AHML. Regional housing agencies' input will need to be incorporated directly or through their review and comment on the Working Group's proposals prior to their adoption.

An agenda for reaching consensus on a multitude of decisions, ranging from broad policy matters to specific policy terms and eventual staffing and budgeting can be managed by designating small working groups of experts focused on resolution of issues within their respective areas of expertise. This type of process appears to be working slowly, but successfully in Kazakhstan. Russia has sufficient time to pursue a similarly deliberate approach.

The sponsor will need to determine early on: What are to be the priorities and objectives of the MI program? This decision will drive both program design and the overall business plan and provide direction for the working groups. The critical question in this regard likely will be: Will the initial MI program be directed mainly toward expanding home financing by primary lenders via relaxed underwriting/lower LTV requirements?

Or, will the primary reason for offering MI be to expedite the safe, growing flow of capital to primary lenders from secondary market sources?

Based upon our limited recent research, we believe that a primary (direct lending) market orientation for MI should be, and will be, the focus of initial planning and activity. However, the primary market planning process needs to consider the necessary components, requirements and rules to ensure that a useful role will also emerge for MI in the secondary market, as well as the possible MBS market to follow (for example, setting minimum investment grade ratings for mortgage-backed paper bought by pension funds and other institutional investors).

11. Even though private MI risk capital is unlikely to emerge at the outset, outside expertise might be engaged to help guide the initial government-sponsored MI venture during the early phases of its activity.

In particular, foreign expertise in the areas of technology and risk management might be engaged to participate in the startup management of a new Russian Federation MI program. This process could be initiated by preparing a detailed Request for Proposals (RFP) that could be provided to a number of pre-qualified potential respondents having direct experience in MI management. Selecting the most qualified finalists among competing respondents could, itself, be done by a panel of designated experts in a public forum and according to criteria established by the MI Working Committee.

12. The Central Bank should begin to give consideration to special risk-based capital treatment for residential mortgage loans made by banks, including recognition of MI.

Such a plan could serve to accomplish two worthy objectives:

- ? Favorable risk-based capital rules for home loans, *vis-à-vis* business and commercial real estate and construction loans, would increase the profitability for banks making home loans, thereby providing an impetus for banks to pursue an activity that has been assigned top priority by government policymakers; and
- ? Favorable risk-based capital treatment including high-risk, high LTV ratio loans only if protected by qualified mortgage default insurance would encourage the robust development of a Russian MI program that would require prudent loan underwriting by banks using the program, while also averting adverse selection of risks for MI coverage by lenders.

Proper timing, however, is a critical component of this recommendation. At present the Central Bank holds a view, shared by some other market participants, that the residential mortgage loan in Russia today inherently lacks the superior credit quality needed to justify favorable capital treatment. This view is held, not because banks that are making such loans are choosing to do so irresponsibly. Rather, there is concern—which we share—that the current lending environment regarding title and other legal uncertainties,

inability to recover collateral, lack of market data, distrust among buyers, sellers and banks, and the ‘gray economy’, detracts from what should be the inherently high credit quality of home mortgage loans.

Therefore, the Central Bank does not need to rush into issuing capital rules favoring home loans, but should consider what evidence of reduced risk will need to accrue before taking such a step. Only when the needed reforms have been implemented should the Central Bank confer favorable risk-based capital treatment to home loans. In any event, the Central Bank should avoid conferring favorable capital treatment to all home loans without first analyzing the relative risks of higher LTV, lower borrower equity home loans.

13. Investment rating agencies should be invited to participate in the development and broad market acceptance of a financially credible MI provider, including one that is initially government-sponsored.

Moscow-based rating agencies with global affiliation (e.g., Standard & Poor’s, FitchIBCA, Moody’s) should have the technical capability, the resources and the incentives to perform the following important functions:

- ? Analyze and certify the MI fund’s long-term claims-paying capacity, including under economic stress; based upon the fund’s freestanding financial strength and liquidity, independent of any backup government guaranty, i.e., assign a “shadow rating”;
- ? Help government regulators in adopting minimum market-based standards for eligible mortgage-related investments by government or regulated private pension funds, insurance companies, investment companies and mutual funds; and
- ? In rating banks, provide an ancillary standard that will help the MI provider identify weaknesses among banks that are seeking mortgage insurance coverage.

14. While recognizing the social objectives of any government-sponsored MI program, support for social housing and special needs borrower—whether by means of direct subsidy or other program attributes—should be kept transparent, separate and distinct from the of the MI fund itself.

If carefully conceived, the startup MI program can address both its inherent social objectives and the need to operate as a financially sound and sustainable insurance fund. The essence of doing so is twofold:

- ? Assuring that the MI’s capital reserve fund be credited with premium revenues that fully correspond to the attributable risks, properly underwritten; and
- ? To the extent that a decision is made to subsidize any risk, or class of risk assumed, disclose and fund such subsidies in full at the time the risk is assumed.

Apart from the MI program, social goals that support affordable homeownership can take the form of direct borrower subsidies other than lowering the MI tariff itself. For example, some types of lump sum down payment assistance can work in tandem with MI for borrowers that lack the requisite down payment. This separate, but complementary, assistance could take the form of outright grants, or interest-free loans with a lien, repayable only if the borrower sells, transfers or fails to owner-occupy the property for a certain number of years after receiving the one-time subsidy.

A temporary, or short term “buy-down” of the market interest rate, though less desirable than a one-time assistance payment at closing, can also work in conjunction with MI under certain circumstances, e.g., for upwardly mobile borrowers.

Any long-term (multiple year) interest rate subsidies, or any type of construction-related (“supply side”) subsidy should not be considered and is unsuitable for the insurance of mortgage default risk.

In summary, the Russian Federation has made great strides in only a few years to build the foundations for rapid future growth in its private sector housing and mortgage markets. If economic stability can be maintained, Russian citizens can anticipate a steady, perhaps even breathtaking at times, improvement in their housing and home ownership opportunities.

Mortgage default insurance is but one component of housing finance—potentially an important contributor, if implemented properly at the right time. Housing finance, of course, is one of several forces that can fuel increased demand, but it must be accompanied by a matching supply in order to avoid mere inflation of home prices.

This Report’s recommendations suggest a substantive agenda of positive actions that should be undertaken in preparation for launching a successful mortgage default insurance program. These advance actions will all serve a broader purpose of strengthening housing finance generally.

After these actions have been taken, this Report offers recommendations on how best to sponsor, structure and manage an effective MI program. Finally, this Report offers suggestions on who should participate in shaping a MI program for Russia that fits Russia’s own needs and circumstances, and how such a work effort might be organized.

Appendix A

List of Interviewees and References

Interviewees (all Moscow, except as otherwise indicated):

1. Konstantin Nikolaevich Aprelev, Vice President, Russian Guild of Realtors
2. Vera Balakireva, Head of Insurance Supervision Department, The Ministry of Finance
3. Dmitry Urievich Budakov, General Director and Chairman, Moscow Mortgage Agency
4. Canada Housing and Mortgage Corporation, Ottawa, Canada
5. Ezer Mortgage Guaranty, Ltd., Tel Aviv Israel
6. Vladimir Gasyak, Advisor to the President, Troika Dialogue
7. Oleg Ivanov, Secretary of the Expert Council of the Committee on Credit Organizations and Financial Markets, The State Duma, The Federal Assembly of Russia
8. Elena Klepikova, President, National Reserve Mortgage Company (National Reserve Bank)
9. Alexander Korobov, President, Votec Insurance Company
10. Alexander B. Kopeikin, Real Estate Reforms Legal Advisor, The Institute for Urban Economics
11. Nadezhda B. Kosareva, President, The Institute for Urban Economics
12. Ilya Lomakin-Rumyantsev, Deputy Head of Council of Federation Budgetary Committee
13. Vadim Malikh, Head of New Building Projects Department, Miel Real Estate
14. Svetlana Melnikova, Deputy Chief of Mortgage Department, European Trust Bank
15. Andrew N. Milyutin, Head of Methodology Department, Agency for Housing Mortgage Lending

16. Anna S. Menshikova, Department of Finances, Subdivision of Financial Market and Institutions Development, Ministry of Economic Development and Trade of the Russian Federation
17. Victor Mints, Lead Economist, Alpha-Bank
18. Sergey Ogorodnikov, Director of Discount and Internal Audit Department, Agency for Housing Mortgage Lending
19. Natalia Pastoukhova, Vice President, European Trust Bank
20. Alexander Pavlovich Lebedinov, Deputy Director, Rosno Company
21. Irina Penkina, Associate, Financial Institutions, Standard & Poor's
22. Vitalyi Pereslavskiy, Advisor to the Chairman of the Management Board, European Trust Bank
23. PMI Mortgage Insurance Company/The PMI Group, San Francisco CA, USA, and Sydney Australia.
24. Vladimir Nickolaevich Ponomarev, State Secretary, Deputy Minister, Ministry of the Russian Federation for Construction and Housing Complex
25. Bertrand Renaud, The World Bank (retired), MacLean, VA, USA
26. Natalia N. Rogozhina, Real Estate Reforms Project Manager, The Institute for Urban Economics
27. Irina Yu. Sedova, Deputy Director, Banking Regulation and Supervision Department, Central Bank of the Russian Federation (Bank of Russia)
28. Yulia A. Shataokhina, Chief Economist, Central Bank of Russian Federation, Banking Regulation and Supervision Department
29. Andrey Yu. Suchkov, Vice President, Vneshtorgbank
30. Len Sweeney, Senior Vice President, Credit Policy and Operations, AIG/United Guaranty Corporation, Greensboro NC, USA. Also, AIG/United Guaranty Corp., Ltd., Hong Kong.
31. Alexander Semenyaka, General Director, Agency for Housing Mortgage Lending

32. Boris Shentsis, Finance Department, The Ministry of Trade and Economic Development of the Russian Federation
33. Raymond J. Struyk, The Urban Institute; also, Representative Office Director, The Institute for Urban Economics
34. Andre Tumanov, Expert, The Institute for Urban Economics
35. Darya Zueva – Candidate of Economic Sciences, Ingosstrakh Insurance Company

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4. Home Guaranty Corporation (The Philippines), *2001 Annual Report* and various program materials.
5. Home Loan Guarantee Company (South Africa), *2002 Annual Report* and various rating agency reports.
6. “*Mortgage Industry in Housing Finance—The Way to Go for Countries in Transition*” by Andrejus Trofimovas, Housing Finance International, March 2002.
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9. *Russia—Development Policy Review*, The World Bank, June 2003
10. *Russian Economic Report, August 2003*”, The World Bank.
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Appendix B

Scorecard for MI Readiness – The Russian Federation

December 2003

Function / Area Description	Level of Importance	Readiness Assessment	Issues
1 Information			
1.1 Market information	M	2	Minimal information is available
1.2 Mortgage lending performance	M	2	Non-existent
1.3 Definitions - residential lending	L	1	Non-existent
1.4 Pricing model data requirements	M	1	Non-existent
2 Political and Social			
2.1 Political initiatives and attitudes	H	4	
2.2 Government housing policy	H	3	
2.3 Social environment	M	2	Lack of trust in financial institutions
3 Regulation and Legal			
3.1 Regulation of banks	M	3	
3.2 Regulation of insurance	M	2	Regulation not sufficiently codified
3.3 Regulation for mortgage insurance	M	1	Non-existent
3.4 Laws	H	1	Several laws changes to facilitate MI
3.5 Court system	M	1	Not tested
4 Primary Mortgage Market			
4.1 Banks lending practices	H	3	
4.2 Insurance product acceptance	H	3	
4.3 Property title (ownership) evidence	H	2	Right to housing needs to be resolved
4.4 Registration transaction costs	M	2	Expensive, slow, bureaucratic process
4.5 Credit reporting (credit bureau)	L	1	Non-existent
4.6 Real estate appraisals	M	3	
4.7 Real estate sales agents	M	3	
4.8 Builders and developers	M	1	Excessive risk for purchasers/borrower's
4.9 Property maintenance services	L	3	
5 Secondary Support Systems			
5.1 Industry associations	L	3	
5.2 Secondary market	L	3	
5.3 Foreign Investor Interest	L	2	Inadequate protection of investment

Scorecard for MI Readiness – The Russian Federation

December 2003

Two Scorecard Ratings

1. Importance Level relative to mortgage insurer's successful implementation:

The following levels of importance are based on the consultants' experience in direct management of mortgage insurance companies and observation of the optimal situations that exist in developed markets.

- | | | |
|----------|--------|--|
| H | High | Success is not possible unless adequate data, action, or support is forthcoming. |
| M | Medium | Success in time should be attainable. However, work must continue on adequate action, support or implementation. |
| L | Low | Success can be achieved without appropriate action or support, but it would tend to increase cost reduce efficiency of MI. |

2. Readiness Assessment Rating

We have assigned the following subjective ratings, ranging from 5 (most ready) to 1 (least ready), that are designed to depict the state of readiness for each functional area noted with respect to the potential introduction of mortgage default insurance in the Russian Federation.

- 5** No significant improvements are required; existing status supports MI.
- 4** Status is acceptable, but one or several aspects are less than fully supportive of MI.
- 3** Marginal level of readiness; critical components exist, but significant improvement needed.
- 2** Status is questionable or inadequate to support MI implementation.
- 1** Critical components either are non-existent or are detrimental to MI.

Appendix C

Loan Level Reporting – Recommended Data

Central Bank Mortgage Loan Reporting Data Requirements

Loan level data to be supplied to CBR by Commercial Banks on residential mortgage loans.

Field Number	Description of Data Item	Needed for MI Pricing	Needed for MI Risk Evaluation	Not Needed for MI
A Borrower Information				
1a	Borrower Name(s) - Last			x
1b	Borrower Name(s) - First			x
2	National Identification Number		yes	
3	Citizenship			x
4	Total Liquid Assets		yes	
5	Occupancy	yes		
6	Income - monthly		yes	
7	Payment to income ratio		yes	
8	Debt to income ratio		yes	
9	Type of Occupation	<<<< yes		
10	Self-employed	<<<< yes		
11	Years with Firm (Time on Job)		yes	
12	Marital Status			<<<< x
13	Age of Borrower		yes	
14	Title Held in one or both Names		yes	
15	First time home mortgage		yes	
16	Credit Report		yes	
17	Negative Credit History		yes	
B Loan Information				
1	Originating Lender Name	yes		
1a	Originating Lender Loan Number	yes		
2	Originated by Third Party - Name	yes		
3	Servicer Name		yes	
4	Investor's Name - if applicable			x
5	LTV Ratio	yes		
6	Loan Amount	yes		
7	Loan Purpose	yes		
8	Type of Loan	yes		

Appendix C (cont'd)

Loan Level Reporting – Recommended Data

Field Number	Description of Data Item	Needed for MI Pricing	Needed for MI Risk Evaluation	Not Needed for MI
B Loan Information				
9	Presence of Guaranty's (co-signors)		yes	
10	Origination date of loan	yes		
11	Seasoned number of years (age)	yes		
12	Lien Position of this loan	yes		
13	Number of Liens on Property ?		yes	
14	Total Amount (\$, rubles) of all Liens on property		yes	
C Mortgage Default Insurance				
1	Presence of Default insurance		yes	
2	Effective date of MI	yes		
3	Percentage of Coverage	yes		
4	MI term of coverage - years	yes		
5	Method of MI premium payment - M, A, S	yes		
6	MI premium paid by - Lender, borrower, other			x
7	Provider of Default Insurance - Name		yes	
D Monthly Mortgage Components				
1	Monthly principal and interest payment amount for this loan		yes	
2	Loan Term (in months)	yes		
3	Interest Rate		<<<< yes	
4	Negative Amortization Possible	yes		
5a	Index value at loan origination date	yes		
5b	Index used	yes		
6	Margin at loan origination date	yes		
7a	First interest rate adjustment period - months	yes		
7b	Periodic interest rate adjustment Cap	yes		
8	Lifetime interest rate Cap	yes		
9a	First payment adjustment period - months	yes		
9b	Periodic payment adjustment Cap	yes		
10	Monthly property (hazard) insurance	yes	yes	
11	Monthly taxes and other municipal assessments	yes	yes	
12	Common area maintenance property management fees	yes	yes	
13	Monthly - other property related expenses	yes	yes	

Appendix C (cont'd)

Loan Level Reporting – Recommended Data

Field Number	Description of Data Item	Needed for MI Pricing	Needed for MI Risk Evaluation	Not Needed for MI
E Property Characteristics				
1	Purchase Price of Property	yes		
2	Appraised Value of Property	yes		
3	Property Type		yes	
4	Square Meters Living Area		yes	
5	Unit under Construction at Time of this Loan ?	<<<< yes		
6	New or Existing unit		yes	
7	Year Constructed		yes	
8a	Street Address and Number of Property			x
8b	City		yes	
8c	Oblast (State)		yes	
8d	Postal Zone - Russia		yes	
F Monthly Information During Life of the Loan				
1	Mortgage Loan Payment Status	yes		
2	Unpaid Loan Balance	yes		
3	Amount of Any Loan Prepayment	yes		
G Information on a Loan in Default				
1	Due Date for First Unpaid Monthly Mortgage Payment	yes		
2	Reason for Default		yes	
3a	Property Maintenance and Repair costs	yes		
3b	Taxes and Property Insurance	yes		
3c	Unpaid Balance at Foreclosure	yes		
3d	Accrued Interest through End of Foreclosure	yes		
3e	Other Foreclosure Costs	yes		
4	Escrow Account Funds Available	yes		
5	Revised Property Valuation - if available	yes		
6	Gain or (Loss) to Bank after Sale of Property	yes		
7	Date upon which Foreclosure was Completed	yes		
8	Date of Sale of Collateral / REO	yes		
H Information on All Loans upon termination:				
1	Reason for Loan Termination	yes		
2	Date of Loan Payoff	yes		

Appendix D

Pricing Model Reference Values

**Mortgage Insurance Residential Guaranty Fund
Pricing Criteria Proposed for Russia
December 2003**

MIP Model Data Input Assumptions

Market Risk Conditions		
Low	Moderate	Severe

LOAN CHARACTERISTICS:

Loan Interest Rate(s)	14.00%	18.00%	25.00%
Payoff Rate for Book Year (Constant Prepayment Rate)	15.00%	15.00%	15.00%
Underwriting And Acquisition Costs			
UW Expenses - bps of new insurance written	75.00	75.00	75.00
Renewal Expenses - bps of insurance in force	15.00	15.00	15.00
Tax - % of collected premium	4.00%	4.00%	4.00%
Mortgage Insurance Claim Costs			
Delinquent Interest in months	9	15	30
Legal / Foreclosure (as % of Loan Amount)	3.00%	5.00%	6.00%
Taxes and Insurance (% of Value)	1.00%	1.65%	3.30%
Maintenance / Holding Costs (% of Value)	4.00%	5.00%	6.00%
Salvage Value at Foreclosure Sale (% of Property Value)	70.00%	60.00%	50.00%
Financial Assumptions:			
Discount Rate	12.00%	12.00%	12.00%
Investment Income Rate of Return	6.00%	6.00%	6.00%
Risk-to-Capital Ratio	25	25	25
Return on Required Capital	12.00%	12.00%	12.00%

Appendix D (cont'd)

Pricing Model Reference Values

Default Curve Adjustment – Loss Scaling Factor

A Loss Scaling Factor of 4.444 was used to adjust the Model's default curve frequency.

This default curve frequency adjustment reflects an expected book year default rate of 6.0%.

- ? For loans with 10 year loan terms;
- ? LTV Ratios of 85.0% or less; and
- ? Moderate Market Risk environment

This adjustment is approximately 4 ½ times the default curve frequency experience in the U.S. market for

fixed-rate loans.

Weighting Notes:

The premium rate is computed by calculating a weighted average of the price determined for each of the three market risk conditions. The weighting is 25% for the Low and Severe conditions and 50% for the Moderate condition.

Appendix E

Tariffs – a Preliminary Analysis

<i>LTV Ratio</i>	<i>Coverage Percent</i>	Loan Term 7 Years		Loan Term 10 Years		Loan Term 15 Years	
		<i>Single Rate</i>	<i>Annual Rate</i>	<i>Single Rate</i>	<i>Annual Rate</i>	<i>Single Rate</i>	<i>Annual Rate</i>
90%	50%	4.21%	1.19%	6.16%	1.58%	8.09%	1.98%
90%	40%	3.72%	1.05%	5.35%	1.38%	6.91%	1.69%
90%	35%	3.46%	0.97%	4.89%	1.26%	6.25%	1.53%
90%	30%	3.16%	0.89%	4.41%	1.14%	5.57%	1.37%
90%	25%	2.84%	0.80%	3.91%	1.01%	4.88%	1.20%
90%	20%	2.52%	0.71%	3.39%	0.87%	4.17%	1.02%
90%	15%	2.19%	0.62%	2.85%	0.73%	3.44%	0.84%
85%	50%	3.41%	0.96%	4.88%	1.26%	6.34%	1.55%
85%	40%	3.05%	0.86%	4.30%	1.11%	5.51%	1.35%
85%	35%	2.85%	0.80%	3.96%	1.02%	5.01%	1.23%
85%	30%	2.65%	0.75%	3.60%	0.93%	4.51%	1.10%
85%	25%	2.41%	0.68%	3.23%	0.83%	3.99%	0.98%
85%	20%	2.16%	0.61%	2.84%	0.73%	3.46%	0.85%
85%	15%	1.92%	0.54%	2.45%	0.63%	2.92%	0.71%
80%	50%	2.66%	0.75%	3.66%	0.94%	4.65%	1.14%
80%	40%	2.42%	0.68%	3.27%	0.84%	4.12%	1.01%
80%	35%	2.28%	0.64%	3.05%	0.78%	3.79%	0.93%
80%	30%	2.14%	0.60%	2.81%	0.72%	3.45%	0.85%
80%	25%	2.00%	0.56%	2.56%	0.66%	3.10%	0.76%
80%	20%	1.83%	0.52%	2.31%	0.59%	2.75%	0.67%
80%	15%	1.66%	0.47%	2.04%	0.52%	2.39%	0.58%
75%	50%	2.46%	0.69%	3.36%	0.86%	4.26%	1.04%
75%	40%	2.26%	0.64%	3.01%	0.78%	3.79%	0.93%
75%	35%	2.14%	0.60%	2.83%	0.73%	3.52%	0.86%
75%	30%	2.02%	0.57%	2.63%	0.68%	3.22%	0.79%
75%	25%	1.89%	0.53%	2.41%	0.62%	2.91%	0.71%
75%	20%	1.75%	0.49%	2.18%	0.56%	2.60%	0.64%
75%	15%	1.60%	0.45%	1.95%	0.50%	2.27%	0.56%
70%	50%	2.28%	0.64%	3.07%	0.79%	3.88%	0.95%
70%	40%	2.11%	0.60%	2.77%	0.71%	3.45%	0.85%
70%	35%	2.01%	0.57%	2.61%	0.67%	3.24%	0.79%
70%	30%	1.90%	0.54%	2.44%	0.63%	2.99%	0.73%
70%	25%	1.79%	0.50%	2.25%	0.58%	2.72%	0.67%
70%	20%	1.67%	0.47%	2.06%	0.53%	2.44%	0.60%
70%	15%	1.55%	0.44%	1.85%	0.48%	2.15%	0.53%

Appendix F

Authors' Resumes

Roger Blood

Douglas E. Whiteley

Roger Blood

Mr. Blood specializes in the area of housing finance. He provides consulting services mainly relating to mortgage default insurance, both in the U.S. and internationally, including:

- ? Assisting in the development of databases and management information systems that effectively address mortgage insurance risk management and marketing requirements.
- ? Providing expert witness advice and court testimony on residential mortgage risk, including insurance underwriting and claims practices, secondary marketing, regulatory issues, credit and property risk evaluation, policy terms, loss reserving, and loan servicing standards.
- ? Advising private firms and public agencies outside the United States regarding prospects and requirements for establishing mortgage default insurance programs.

Mr. Blood served for ten years as Senior Vice President—Risk Management for a national mortgage insurance firm in the U.S. His responsibilities included product development, pricing, underwriting, quality control, claims, and reserve development.

Mr. Blood has been active with MICA, the U.S. mortgage insurance industry trade association, since its formation 30 years ago. He has worked with or led MICA committees on risk management, appraisal standards, adjustable mortgages, Fannie Mae/Freddie Mac and mortgage banker liaisons, and EDI data standards for home mortgage loans. He also served on the Fannie Mae Advisory Board for the Southeast Region.

From 1990 to 2003, Mr. Blood has performed mortgage default insurance consulting assignments for government and private clients in Argentina, Canada, India, Israel, Mexico, New Zealand, Poland, Thailand, Russia, the U.K. and the U.S.

Mr. Blood has published several articles on mortgage risk and insurance and has co-authored a book entitled *The Private Insurance of Home Mortgages*.

Since 1991, Mr. Blood has served as Chairman of the Housing Advisory Board for Brookline, Massachusetts where he has worked on issues relating to affordable housing, inclusionary zoning and rent control. He is also a Director of the Boston Chapter of Lambda Alpha International, an honorary land economics society.

Mr. Blood received his B.A. in economics from Clark University and M.B.A. in real estate finance from the Wharton Graduate Division of the University of Pennsylvania.

Douglas E. Whiteley

Mr. Whiteley specializes in the area of residential mortgage risk management and mortgage default insurance. He provides consulting services relating to mortgage default insurance and mortgage insurer operations both in the U.S. and internationally. He has performed the following types of assignments:

- ? Recommending financing alternatives for replacing interest rate subsidy programs in developing countries.
- ? Providing on-site training and education on mortgage insurance and housing finance.
- ? Developing customer support and response plans for e-commerce mortgage lending business.
- ? Providing expert witness testimony regarding acceptable practices and procedures for the U.S. residential mortgage lending market.
- ? Developing business and operational plans for the implementation of startup mortgage default insurance companies.
- ? Developing mortgage default insurance premium rate models and analyses.

Mr. Whiteley has held the position of Senior Vice President–Risk Management for two U.S. Mortgage Insurance companies and for the Federal Home Loan Mortgage Corporation (Freddie Mac). He has over 25 years experience in the mortgage finance and mortgage default insurance businesses. His responsibilities have included:

- ? Strategic planning,
- ? General responsibility for the policy and procedures utilized to determine the risk acceptance for mortgage default insurance and the residential secondary market.
- ? Operations management for underwriting, policy servicing claims and quality control
- ? Management of information technology and data processing
- ? Customer performance and quality analysis systems
- ? Pricing
- ? Reinsurance
- ? New product development
- ? Key client negotiations

Since 2000 Mr. Whiteley has undertaken business operations engineering and mortgage default insurance consulting assignments in the U.S, Indonesia, Russia and Kazakhstan.

Mr. Whiteley has co-authored several papers on mortgage default insurance.

Mr. Whiteley has served on the board of directors of the Policyholders Benefit Corporation and as Chairman of the MICA Underwriting Committee.

Mr. Whiteley received his B.A. in mathematics from Ripon College. He attended Marquette University and the University of Wisconsin for postgraduate course work in applied linear systems and accounting.

