CHAPTER -2
RISK MANAGEMENT & REGULATORY FRAMEWORK FOR HOUSING FINANCE
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2.1 INTRODUCTION

All lending involves a variety of risks that must be allocated, managed, and priced, but the 10- to 30-year maturities and the legal aspects of mortgage lending pose unique risks. Risk taking by lenders and investors should be regulated and supervised—by both regulatory authorities and market participants. The principal risks associated with financial intermediation are well known: credit, market, liquidity, foreign currency, operations (or business), and political. Mortgage value depends on a host of factors, including house prices, interest rates, and the legal environment for enforcing the mortgage lien. Mortgage lenders establish risk measures and methods for mitigating risk that reflect these characteristics. In many cases, measures appropriate for mortgage lenders differ from risk measures and tolerances for shorter-term and unsecured lending.

In addition to product-specific issues, real estate lending can be a source of systemic risk, as banking and real estate crises are frequently correlated. The fact that inappropriate lending, pricing, and risk management can create problems for the broader financial system and macro economy presents special challenges for regulators.

By definition, emerging markets suffer from a lack of public, detailed financial information, and they lack liquidity in both the financial and real estate markets. The lack of information and liquidity, along with the cyclical nature of the property markets, can lead lenders and regulators to restrict the flow of credit to housing, to the detriment of the market and economy—in particular, to moderate- and lower-income borrowers. Yet effective risk management techniques and enlightened regulatory policies can create a climate for safe lending.

In this chapter, we review the major risks present in mortgage lending, review how they are managed in an emerging-markets context, and highlight the way regulations shape the market. We end the chapter with a concise summary of the factors that led
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to the subprime crisis in the United States as a case study in risk management and regulatory issues.

2.2 THE RISKS OF HOUSING FINANCE

Like all lending, housing finance is exposed to a number of risks. These risks can be classified into seven categories:

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<th>Sr. No.</th>
<th>Name of Risk Category</th>
<th>Meaning of Risk Category</th>
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<tr>
<td>1</td>
<td>Credit Risk</td>
<td>The risk that the money will not be returned, with whatever interest or other charges are due, in a timely manner</td>
</tr>
<tr>
<td>2</td>
<td>Liquidity Risk</td>
<td>The risk that the money will be needed before it is due</td>
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<td>3</td>
<td>Market Risk</td>
<td>The risk that changes in market conditions will alter the scheduled cash flows (real or nominal) among the parties involved in intermediation. This includes interest rate risk, prepayment risk, inflation risk, and exchange rate risk</td>
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<tr>
<td>4</td>
<td>Agency Risk</td>
<td>The risk that a divergence of interests will cause an intermediary to behave in a manner other than that expected</td>
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<td>5</td>
<td>Operations OR Business Risk</td>
<td>The risk that the organization, controls, information systems and technologies are inadequate for safeguarding the institution</td>
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<tr>
<td>6</td>
<td>Systemic Risk</td>
<td>The risk that a crisis at one institution or in one part of the system will spread to the rest of the system</td>
</tr>
<tr>
<td>7</td>
<td>Political Risk</td>
<td>The risk that the legal and political framework within which the lending takes place will change</td>
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The ability to manage and price these risks is a major determinant of the availability and cost of housing finance, as well as the provision of credit for affordable housing. The ability to do so in turn depends on the soundness of the economic, primary market, and regulatory infrastructure. The two most important prerequisites for managing risk in housing lending are macroeconomic stability and an effective legal framework for property ownership and mortgage lending.

Macroeconomic stability is very important for several reasons. First, it has a major effect on the demand for mortgages. High rates of inflation and nominal interest rates are typical features of many emerging economies. These features have the effect of reducing mortgage affordability. A volatile economy also affects the supply of funds and the characteristics of mortgages offered by lenders. In a volatile environment,
lenders are concerned about liquidity risk and reluctant to offer long-term loans. This may lead them to not offer mortgages or only offer short maturity loans that in turn are less affordable for consumers. Lenders and investors may prefer short-term assets, in part because of the difficulties of forecasting inflation and interest rates and thus the cash flows of their portfolios. FRMs create substantial cash-flow risk for lenders in volatile environments. Variable rate mortgages are riskier for borrowers in a volatile environment, as interest rate change causes payment shock. In turn, this increases the credit risk of mortgage lending (for example, Colombia, Mexico from the early 1990s).

The distinguishing characteristic of mortgage finance is the use of the mortgage lien to secure the loan. As a result, credit risk depends on (1) the borrower’s ability to pay the loan from income or other resources; (2) the risk that, in case of default, the collateral sale price will be less than the outstanding balance on the loan plus costs of foreclosure; and (3) the risk that the collateral cannot be seized in a reasonably rapid manner.

The inability to foreclose and repossess the collateral in the event of default is a major source of risk in many emerging markets. The time and expense in foreclosure deter lending, particularly for lower-income households, and raise the cost of borrowing. Extensive research shows that banks provide a greater supply of larger mortgages at lower rates of interest in regions and countries that have shorter and more dependable foreclosure processes (Pence 2006; Jappelli, Pagano, and Bianco 2002; Clauret and Herzog 1990).

Many of the same factors that restrain the growth of mortgage finance also create challenges for regulators: legislatures may not fund regulators at adequate levels, and courts may not support regulatory actions. Difficulties in enforcing the mortgage pledge increase the cost of resolving failed institutions when public authorities are forced to take them over. Special foreclosure powers for public authorities may
reduce the cost of resolving crises, but in the long run serve to enforce market distortions.

In many developing countries, issues related to land title remain a major barrier to housing finance. An accurate and comprehensive land registration system is a necessary condition for effective property rights. The lack of an effective title registration system is a major barrier to the development of markets in used housing, which are often more affordable than new construction. It is also a barrier to lending, as borrowers that cannot establish clear title to their property cannot pledge it as collateral for a loan.

(a) Credit Risk

The two primary measures of credit risk are

1) Probability of default

Probability of default measures the likelihood that the borrower will fail to make payments over the life of the loan.

2) Loss given default.

Loss given default measures the net cost that the lender will suffer in the event of default and foreclosure. Loss given default is termed as a loss because lenders usually lose when they have to foreclose and sell a property. Losses from foreclosures arise primarily when house prices overall have declined, but they may also stem from the costs of maintaining the house if it remains vacant for a period after foreclosure, and from the legal fees and other costs of foreclosure.

Mortgage lenders underwrite credit risk in three broad areas:
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1) The ability and willingness of the borrower to repay the loan;
2) The value of the collateral relative to the loan amount; and
3) The lender’s ability to efficiently enforce the mortgage lien in case of default.

Each of these is assessed at the time the loan is originated, and periodically throughout the life of the loan. Lenders gauge the borrower’s ability to pay by comparing monthly debt payments to income, and by assessing the presence of liquid reserves, savings, and investments. The most common measure for ability to pay is the ratio of the monthly debt service or the mortgage payment to monthly income, also known as the effort ratio. The debt service-to-income ratio is calculated by dividing total monthly debt (including mortgage loan payment, monthly instalment payments, and minimum payments on all revolving debt) by gross monthly income. The higher the ratio, the greater the stress that debt payment places on the household. In the past, average acceptable debt service-to-income ratios ranged between 25 and 35 percent. In recent years, there has been an upward drift in maximum (and average) ratios. This reflects the generally benign conditions associated with relative macro stability in many countries. It also reflects the frequent underreporting of income in emerging economies. Thus, in Egypt lenders are by law permitted to lend up to 40 percent for normal loans and 25 percent for social housing loans. The same maximum applies in Thailand (despite the fact there was a major market downturn in the mid-1990s); however, in Indonesia and Argentina, two countries with recent bouts of instability, the maximums are only 30 percent, and in Romania the maximum is 35 percent. Lenders may vary permissible debt service-to-income ratios to take into account compensating factors, such as the presence of liquid reserves after closing of the purchase transaction, low LTV, or the presence of mortgage insurance.

Lenders generally assess willingness to pay by collecting information on the borrower’s historical record of payment of other debts, such as consumer loans and auto loans. Increasingly, the technology of credit scoring is spreading as a way to collect a range of information to predict the performance of a given borrower and express in a single number their willingness to pay the mortgage. Credit scores reflect
the borrower’s payment history on all debt over a given period of history. Although
credit scoring has been introduced in some emerging markets (Brazil, Mexico) a lack
of data (particularly through a complete cycle), and the unwillingness of many lenders
to share proprietary performance data, limits its usefulness as an underwriting tool.

The amount of equity the borrower has in the property is a major factor underlying
willingness to pay. Thus, one of the simplest means to manage mortgage credit risk is
to set a maximum acceptable LTV. The less certain lenders are regarding future
house-price trends or the legal support for enforcing the mortgage lien, the less likely
that high-LTV lending will emerge. In emerging markets, with limited experience in
lending, relatively volatile property markets, and less certain legal environments,
regulators tend to establish a ceiling on LTV. In Korea, the limit is 60 percent for no
speculative and 40 percent for speculative areas. In China and Russia, the limit is
currently 70 percent; in Romania, 75 percent; whereas in Egypt and Mexico it is 90
percent. There is a 100 percent limit in Thailand and no maximum LTV in Poland. In
other countries, limits are imposed by covered bond legislation (Hungary, 70 percent;
Chile, 75 percent).

Mortgage lenders set thresholds for the credit risk of loans that they will originate
based on their risk tolerance as lenders and on the financial return that is available in
their market if they bear different levels of credit risk. To estimate probability of
default and loss given default at origination, lenders require information on the
property, primarily an appraisal of its market value and information on the borrower,
such as the amount and stability of monthly income, other assets the borrower may
hold, the source of the down payment, and the borrower’s credit history.

The lack of credit information is a significant barrier in most emerging markets, as
borrowers often do not have a credit history or ability to prove their income. Many
emerging-market borrowers are employed in the informal sector, so their income is
often more volatile and difficult to substantiate. Still other borrowers systematically
underreport income to avoid taxes. Lenders have begun using nonstandard ways to underwrite or qualify borrowers. The experience of Thailand is instructive.

Credit risk management takes place through servicing as well as the original underwriting of a loan. Effective servicing involves more than payment collection but also active monitoring of repayment performance and corrective actions once delinquency begins.

Lenders can reduce the credit risk of mortgage lending by securing the repayment stream; for example, through payroll deduction (as does Mexico’s Institute of the National Housing Fund for Workers, known by its Spanish acronym INFONAVIT), or direct debits of borrower’s current bank accounts (as do South African banks). Collections are a challenge for borrowers with informal incomes. Mexico’s SOFOLs place repayment offices in the developments they finance to allow the borrowers to repay the loans in cash near their homes. This is more effective than asking them to come into a lending or bank branch, which may be inconvenient or time consuming, and works in a country in which the mail services are not reliable.

Lending to lower-income households generally involves greater risks for lenders than higher-income loans. The income of poorer households is less stable and more difficult to document. Such households typically have short or negative credit histories and fewer resources to withstand shocks. In addition, the transaction costs of making housing loans—particularly smaller, affordable loans—often make them unattractive for lenders. Relatively small loans to low- or moderate-income households require more work (that is, higher transaction costs) and usually result in less revenue than larger loans to middle- and upper-income households.
(b) **Liquidity Risk**

Liquidity risk refers to the risk that money will be needed before it is due. A lender faced with short-term and unstable sources of funds (for example, sight deposits, short-term bank loans) may not make mortgages because of the risk that it cannot meet its cash outflow needs. Assets that cannot be pledged as collateral for short-term borrowing also increase liquidity risk.

Liquidity risk is not unique to housing finance but is rather a broader financial sector stability issue. In modern financial markets, central banks provide the ultimate backstop for liquidity. In addition, deposit insurance reduces the likelihood of massive withdrawals from depository institutions; however, the long-term nature of mortgages creates greater liquidity risk than other types of lending. This is frequently cited as a reason why banks will not provide housing finance in emerging markets. Lenders manage liquidity risk through funding diversification and planning.

Liquidity risk is subject to regulatory constraints such as ratios of long term assets to long-term liabilities or liquid-to-total assets. Such regulations can be deleterious to the mortgage market, however. The West African Economic and Monetary Union sets a minimum of 70 percent for the ratio of long-term assets to long-term liabilities and does not include core deposits in its long-term liability definition. In countries with no bond markets and little long-term finance, the inability to provide long-term mortgage loans out of core deposits effectively precludes lending.

One way for government to improve the liquidity of mortgage assets is to accept mortgage securities as collateral at the discount window—a solution massively used by the central banks of countries affected by the subprime crisis to maintain some liquidity in the mortgage backed securities market. Nevertheless, independent central banks may not wish to provide specific sector support or may be uncomfortable with the credit quality of the securities.
Government can take a limited and targeted role in reducing liquidity risk for primary lenders by backing a liquidity facility. Liquidity risk is especially apparent for non-depository lenders, as shown in the U.S. subprime mortgage crisis. Many such lenders funded their inventory held for sale with commercial paper or warehouse loans from banks. When investors became nervous about the credit risk of the lender and collateral, the lenders found themselves without access to short-term funding, leading to forced asset sales into a depressed market and bankruptcy.

(c) Market Risk

Market risk stems from uncertainty with respect to expected inflation, actual inflation, real interest rates, and exchange rates. Lending for a longer term, as for housing, greatly increases these risks. The macroeconomic environment and the characteristics of the mortgage instrument are the principal determinants of cash flow risk. For example, a low-cost prepayment option may be a desirable feature of the mortgage instrument for the consumer, but it significantly increases the cash-flow risk to the lender. Environments that are more volatile generate greater risk, which reduces the affordability and availability of funds. FX-Denominated mortgages may have attractive rates at a particular point in time but exchange-rate fluctuation can lead to significant cash-flow risk for mismatched lenders and borrowers. In Mexico, the government has created an innovative risk management program to cushion the risk of macroeconomic shock for borrowers and investors.

There are a wide range of metrics and methods to understand and mitigate market risk by both lenders and investors. Well-run institutions employ a range of tools to understand their market-risk position and manage risk within the tolerances set by management and the board.

Managers of deposit-funded lenders have to trade off stability of net income with stability or growth in the estimated market value of equity. Net income measures the periodic income available as a result of the lender’s operations. Changes in the market value of equity reflect the value that management creates for shareholders. While it is
management’s primary task to maximize the value of shareholder’s equity, that overall goal has to be balanced with the need to maintain relatively stable net income and the capacity to pay dividends.

The financial terms of a mortgage loan (that is, fixed or floating rate, constant or price-level-adjusting principal) allocate market risk between borrowers, lenders, and, in many markets, investors. FRMs place market risk in the hands of the lender, and require matched funding and protection from prepayment risk. Floating rate and inflation indexed loans place at least some market risk in the hands of the borrower, and require attention to payment shock (treated above under credit risk), and to any mismatch between the nature and timing of the indices to which the loans and the liabilities that fund them are linked (basis risk). Economies that have less liquid fixed-income markets may have difficulty in establishing a reliable index for floating rate mortgages.

An increasing source of market risk in Central and Eastern European countries arises from the heavy use of mortgages denominated in or indexed to foreign currencies. In Poland, 62 percent of the outstanding loans were FX linked at the end of 2005, with even higher percentages of 80 percent in Ukraine and 82 percent in Romania. The regulators in these countries have expressed concern about the borrower credit risk associated with currency devaluation, as well as the lender market risk stemming from non-hedged positions.

The National Bank of Romania has adopted a basic capital adequacy ratio of 6 percent for mortgage loans, instead of the 4 percent rate applied in most European countries under Basel- I. As part of the effort to encourage lending in local currency, the National Bank of Romania raised the basic capital required for FX-denominated assets to 130 percent of the basic ratio. Additionally, banks are restricted to an absolute lending ceiling for FX loans of 300 percent of their capital. The National Bank of Poland has recently adopted tough disclosure and risk management guidelines for FX lending.
(d) Agency Risk

Agency risk occurs when there is a separation in the functions of lending. Agency risk occurs at the primary-market level, where lenders may depend on brokers to market and process loans and appraisers to value the collateral. In secondary markets, investors depend on third-party originators and servicers to underwrite, collect, and remit payments. It is also a major concern in government guarantee programs, as the government is exposed to a moral hazard (use of guarantees leading to more risky behaviour). The presence of agency risk increases the cost of lending and securitization.

Lenders and investors manage agency risk with contract terms, quality controls, and technology. Nevertheless, this risk materialized at various levels of the lending chain in the United States, from unscrupulous bankers and appraisers to moral hazard in securitized portfolios, and was a driver for the subprime crisis.

(e) Operational Risk

Operational risk is a broad, catch-all topic, including risk of loss from incomplete documentation, automated system failures, data entry errors, rogue traders, and computer security breaches. The transaction intensity of the mortgage business makes mortgage lenders particularly subject to operational risk. The documents that establish the mortgage lien are usually long and complex. The long term to maturity of mortgages increases the likelihood of error. Mortgage originators need effective controls, systems, and business processes to manage the credit underwriting process and all of the associated paperwork. Mortgage servicers need robust automated systems and controls to efficiently process the monthly payments on the thousands of relatively small, long-term loans that they make. Banks that issue mortgage bonds or mortgage-backed securities need robust and sophisticated systems to administer the monthly cash flows to investors for maturities of 10 years or more.
While it may seem obvious that mortgage lenders should employ effective operational systems and internal controls, the lack of such systems has magnified losses in most mortgage-related financial crises. In credit booms, lenders have often loosened control of processing legal requirements in the press to compete for loan volume. This was the case in Mexico, Indonesia, Thailand, and Colombia in the 1990s and in the United States in the 1980s and in the recent subprime lending boom. In the wake of each of these crises, it was found that many banks lacked the basic documentation to enforce mortgage liens.

Operational risk can become more important as the mortgage value chain is “unbundled” through securitization. As separate participants specialize in elements of the process (for example, origination, servicing, securitization), there are more actors involved and additional chances for operational error, as control over separate steps moves from one organization to another. Traditional bank regulators may not have authority or responsibility for regulating servicers. In the United States, Europe, and Mexico, the industry has come to rely at least in part on rating-agency evaluations of the capacity of servicers. In Colombia, the mortgage securitization firm Titularizadora Colombiana sets the industry standards for servicer capability, and rates the separate servicers as a way of indicating the firms eligible for servicing loans it will purchase.

(f) Systemic Credit Risk

Systemic credit risk can arise if there is a sudden and sharp decline in property values. The decline may be local in nature (for example, a large firm leaves the area or goes bankrupt) or national (for example, because of a large, unanticipated change in the inflation rate). A market failure may exist if lenders cannot diversify mortgage credit risk. For example, U.S. S&L associations were forced by regulation to operate on a narrowly defined geographic basis until the 1980s, and were exposed to significant concentration risk (for example, the oil-producing states in the Southwest). Mortgage insurance can diversify risk and increase the supply of mortgage credit.
Real estate prices move in cycles, sometimes with tremendous volatility, which creates risk for lenders and for the stability of financial systems. Volatile real estate prices make it difficult to value the collateral underlying the mortgage, and to assess the credit risk of mortgage portfolios. During Colombia’s real estate bubble of the 1990s, residential real estate prices rose 28 percent between 1992 and 1994, and then fell 30 percent between 1994 and 1999. Because of this and other factors, including rising unemployment and the structure of the inflation index of the loans, defaults rose to a third of the system-wide mortgage portfolio, and the resulting collapse of several specialized mortgage banks lay at the core of the financial system crisis. Similar stories can be told for real estate lending in Japan in the 1980s, in the oil patch states of the United States in the 1980s, in the East Asian crisis of the 1990s, and in the rise and decline of subprime lending in the United States.

The subprime crisis demonstrates how real estate bubbles can be propagated across the global financial system. A real estate bubble created in part by loose monetary policy in the United States was intensified by a mortgage bubble that became a mortgage and real estate bust affecting all types of lenders in the United States and abroad.

Research shows that real estate bubbles may result from co-movement with the overall economy, from policy choices such as changes to tax law, or from myopia on the part of economic actors. Policy makers in both developed and emerging markets make policy choices that produce or deflate price bubbles. It can be argued, however, that myopia is worse in emerging markets, where information is scarcer and markets are less efficient. Real estate markets in developed economies generally enjoy greater price transparency, more efficient markets for urban land, and better market infrastructure, including efficient property and lien registry systems, lower transaction costs, stronger legal frameworks for ownership and contract enforcement, and more sophisticated financial systems. These features can mute the effects of a bubble and provide for a more rapid adjustment to a collapse in prices.
(g) Political Risk

The political risks of mortgage lending relate to events that reduce earnings from mortgage lending because of political intervention in the selection of borrowers, the rate adjustment process, the mortgage terms and conditions, or the foreclosure and eviction process. For example, the Colombian Supreme Court invalidated the index used on mortgage contracts in the middle of a severe economic downturn, leading to substantial losses for mortgage lenders. A new government in Nicaragua forgave the mortgage loans of the state housing bank upon assuming power in 1979, only to have the bank attempt to reinstate the loans at a later date when the financial implications of this action became clear (Mathey 1990).

2.3 THE ROLE AND TOOLS OF REGULATION

Effective regulation can foster the creation of more stable and resilient lenders and financial markets. These can support the extension of housing finance, contributing to economic growth and individual welfare. The long history of financial bubbles and panics shows that financial market participants have not always been willing to hold adequate capital, to disclose fully the risks they engage in, or to manage risk effectively. The challenge for authorities is to balance the faster economic growth that can follow from lighter regulation against the costs that may result from the failure of lenders. In general, regulation should provide positive incentives for a variety of competitive institutions to deliver financial services to those who demand them. On specific technical issues, such as financial reporting, disclosure of risk, and appropriate levels of risk-based capital, authorities can look to international standards for guidance.

Research shows that incentives for prudent banking through transparency and market discipline are more effective than regulations based primarily on rules and checklists. Emerging market financial-disclosure rules are often below international standards for best practice, security trading tends to be infrequent and illiquid, and audit rules
are often weak. In such an environment, regulators can contribute significantly to economic growth by improving disclosure regimes and by instilling greater market discipline.

Effective supervisors in any market depend on a variety of tools, including risk-based examinations, off-site monitoring using reports, statistics, analytical models, monitoring of housing and financial markets, and dialogue with management. As financial institutions in sophisticated markets have engaged in increasingly complex businesses, some of the largest and most costly bank failures have resulted from a lack of understanding of risk on the part of management, investors, and regulators. As a result, in all markets, it is essential that regulators examine financial institutions, verify the accuracy of their disclosures, assess their financial health, assess the quality of their financial risk management, and monitor the effectiveness of external auditors and credit rating agencies.

2.4 INTERNATIONAL STANDARDS FOR REPORTING AND CAPITAL

Globalization of financial markets has brought with it the promulgation of international standards for safety and soundness regulation and for financial disclosures that seek to better address the risks of new technologies. The Basel Committee on Banking Supervision of the Bank for International Settlements (BIS) has set standards for bank safety and soundness regulation (the Basel Core Principles) and for risk-based capital requirements (the Basel I, II and Basel III accords). The International Accounting Standards Board has promulgated International Accounting Standards (IAS). All of these efforts have involved extensive consultations between regulatory and other authorities in developed countries, and to a lesser extent, emerging markets.

Although its terms and shortcomings pose challenges, more than 50 emerging markets are moving to adopt Basel II, albeit on country-specific schedules that are slower than that established for internationally active banks from G-10 countries. The weakness of
Financial regulation in many emerging markets is a source of ongoing concern. Financial regulators in many emerging markets have yet to implement many of the central tenets of the Basel Core Principles, potentially leading to material weaknesses in the implementation of Basel II.

Some aspects of Basel II are inappropriate for emerging markets that lack well-developed capital markets. Basel II fails to directly address market risk in the banking book, an omission that is particularly important for the regulation of mortgage lenders. There is a risk that implementing Basel II in the absence of an adequate infrastructure would lead to results that would at best be misleading, and at worst could lead to regulatory arbitrage and a material misunderstanding of the risks that banks face.

Finance companies, mortgage bankers, and securitization companies often fall outside of the purview of prudential bank regulation because they are not thought to affect the integrity of the payments system, and because they do not capture deposits. So long as they are supposed not to pose a systemic risk to the financial system, it has been widely considered in most countries that non-depository lenders should enjoy lighter regulation. This consensus was challenged in the case of Thailand, where bank lending to lightly regulated finance companies help precipitate the 1997 crisis. The approach has been challenged again in the subprime crisis, where the vast majority of the riskier subprime lending was carried out by lightly regulated subsidiaries of depository institutions or effectively unregulated non-bank lenders. The issue is to determine whether the greater economic growth that may result from lighter regulation outweighs the risks to the system that may result from institutional failure or from having unregulated entities create assets that are traded in the broader system.

(a) Provisions

A provision is a reserve that the lender establishes against expected losses on its portfolio of residential mortgage loans. As part of managing risk, banks should
regularly review the quality of their loan portfolios. The supervisor should assess the bank’s ability to identify, classify, monitor, and address loans with credit quality problems in a timely manner.

Supervisors generally set provision requirements for lending institutions, and the content of these regulations varies widely among countries. Where data is available and loans are standardized enough to calculate expected loss, lenders should base the general provision on the estimated expected losses of the portfolio. For instance, in Canada, the United States, Hong Kong, and Mexico, for portfolios of homogenous loans, such as residential mortgages of a given cohort, interest rate, and loan maturity, the general reserve reflects the statistically expected lifetime loss on the portfolio. Thus, the general reserve will be equal to the average default and loss rates experienced for loans of the type that make up the portfolio. Distinct from the general provision, specific provisions represent likely losses on individually identified loans, and are created as loans actually default, generally as a growing percentage of the outstanding balance as time in default passes.

IAS 39, “Financial Instruments: Recognition and Measurement,” determines provisioning requirements for loans held on balance sheet. From an accounting perspective, a loan should be fully provisioned (that is, 100 percent) once the lender believes it will not be able to collect. In practice, the definitions and thresholds for provisioning vary widely among countries.

Provisions can be used to manipulate earnings. In good times, since provisions are tax deductible, banks have an incentive to excessively provision in order to reduce taxes and reserve income for later periods. In a time of crisis, lenders may preserve earnings by failing to provision against rising defaults, postponing the harm to profits and shareholders’ dividends. Alternatively, provisions have been a source of regulatory forbearance in times of crisis.
As defaults grow during a crisis, regulators may allow lenders to postpone the recognition of loss, as they did during the S&L crisis in the United States during the 1980s.

Provisions are a matter of judgment informed by available information. Supervisors should develop regulations for general and specific provisions that reflect the best estimate of the quality of the loan. In mortgage lending, it is possible to generate such estimates in markets that have an adequate data history. Where data is inadequate, supervisors should prescribe provisioning rules that reflect what is known of local performance, and of performance in other countries with similar characteristics but better data.

For instance, Argentine banks are required to hold a 1 percent provision against all current loans, with escalating percentages as delinquencies advance. The required provision for delinquent or doubtful collateralized loans is roughly that of uncollateralized loans at each stage. Therefore, a collateralized loan that suffers from “inadequate compliance” requires a 3 percent provision, while an uncollateralized loan in a similar condition requires a 5 percent provision. Interest accruals for loans in excess of 90 days of delinquency must be completely provisioned against. Loans considered unrecoverable must be completely provisioned, whether collateralized or not. Mortgage loans in default may benefit from a provision of less than 100 percent if the bank obtains a letter from a lawyer attesting to the value of the collateral. In terms of international standards, the Basel Committee has issued a consultative paper that provides principles that are in line with IAS 39. Neither the consultative paper nor IAS 39, however, provide uniform loan classification techniques, nor a standard procedure to assess loan risk. Thus, regulators have to balance prudential considerations against somewhat vague accounting requirements.
(b) Capital Requirements for Primary Lenders

Capital is the reserve held against any kind of unexpected or extreme financial risk. The capital requirement should reflect risk—it should change as the risk level of the institution changes, and so reward better risk management.

Capital should represent a bright line for the regulator and for the regulated. Capital requirements should provide a signal to the markets of the risk that the institution bears.

Over the past 20 years, many lenders and regulators have revolutionized their approach to managing capital, moving from a static, historic approach to one that is risk-based and forward-looking. Large, internationally active banks have moved the farthest, adopting sophisticated, quantitative approaches to risk management and capital allocation.

Mortgage lenders in the United States and Europe have led the development of quantitative models for credit and interest rate risk, involving options-based approaches to address issues particular to mortgage lending.

Mortgages present specific credit-risk issues for managing capital: dependence on local real estate market dynamics; dependence on the appraised value of the collateral; and dependence on the ability to execute the mortgage pledge in case of default. The long term to maturity of mortgages can add volatility to the value of capital. It is management's responsibility to measure, monitor, and mitigate risk in its business. Minimum capital requirements exist as reserves against extreme events. They are created under the assumption that management does its job correctly. Supervisors can use examinations and disclosures to prove that management is sound, and when they reveal problem circumstances, supervisors can take action, such as requiring additional capital.
Each lender’s management and board should have a plan for managing capital in terms of the risk appetite and risk profile of the institution. Supervisors should review the adequacy of the bank’s risk assessment and the capital requirement that follows. There should be active dialogue between the lender and supervisor on the risks the lender takes and the means that it employs to mitigate those risks.

(c) Basel II Capital Standards and Mortgage Lending

Basel I created a preference for mortgage lending, according a 50 percent risk weight for low LTV loans. This was done under the assumption that mortgage lending was demonstrably safer than other forms of lending. This has not always been the case, particularly in emerging markets.

Many issues particular to mortgage lending are addressed in the Basel II standards. Several are not, including geographic diversification and the market risk of mortgages held in the banking book. Basel II capital standards that are directly relevant to mortgage lending address: the credit risk of loans held in the banking book, credit enhancements, and investments in mortgage-backed securities.

In applying Basel II capital standards, the lender and supervisors may choose between two broad levels of sophistication. The choice depends on the technical capabilities of the lender, the complexity of their business, and the capacities of the supervisor:

The standardized approach is an extension of Basel I with additional risk categories that allow for selected refinement of the risk sensitivity of capital requirements. It is likely to be the approach of choice for less sophisticated banks, and for emerging markets that move to Basel II. The most important issue for mortgage lenders under the standardized approach is the risk weight for mortgages retained in the banking book. For large internationally active banks, this will fall from 50 percent under Basel I to 35 percent under the Basel II standardized approach in the case of residential mortgages.
Also important for mortgage finance, the standardized approach allows for the use of external credit-rating agency ratings of credit enhancers (such as mortgage default insurers), and of asset-backed securities, including MBSs. Use of credit rating agencies presents challenges for emerging markets, which often have no such firms, or lack the practical ability to enforce standards for credit ratings.

The internal ratings based (IRB) approach permits banks to hold capital according to their own estimates of risk parameters such as the probability of default and the expected loss given default of their credit portfolios. In efficient mortgage markets, where mortgage lending represents the safest business lines of many banks, the IRB approach will result in a dramatic lowering of risk weights, to as little as 10 percent. IRB requires sophisticated technology and technical staff on the part of both lenders and supervisors. Lenders must demonstrate that their models and the procedures for using them are well developed and robust, and their data adequate to assess risk. In general, Basel II requires at least five years of detailed data history for a given asset class to establish default and loss statistics. This is inadequate for mortgage lending, given the long cycles of real estate prices.

Supervisory agencies need budget to employ, train, and retain staff with the capacity to evaluate the lenders’ models and methods. The reduced risk weight for mortgages in the banking book recognizes the high value of the mortgage pledge in countries with liquid real estate markets, well-defined valuation rules, and efficient contract enforcement.

In well-developed mortgage markets, foreclosure may take as little as three months. In emerging markets, however, foreclosure generally takes years, and expected losses rise quickly with the length of time required to foreclose.

As a result, the Basel committee notes that the 35 percent weight should be applied only when valuation criteria establish the security of the collateral, and where the default experience of mortgages justifies the lower weight. Otherwise, supervisors
should require a higher risk weight. Unless they can demonstrate lower risk, emerging market regulators should not adopt a 35 percent risk weight for mortgages. Few emerging market regulators have the resources to supervise the IRB approach to capital standards, and none of these will adopt it within the time frame of wealthy countries. For example, Russia and Colombia will continue to require a 100 percent risk weight as they move to adopt Basel II according to their own schedules. Thailand, on the other hand, is applying a 35 percent risk weight for loans below 3 million baht, despite the fact that the regulators are not adopting any other part of Basel II.

Basel II also asks regulators to determine capital requirements for operational risk. Operational risk is measured in terms of the likelihood of processing errors and associated expected losses, and the likelihood of incidents such as undesired access to proprietary systems by computer hackers. There is, however, a scarcity of data on operational risk in every market, be it well developed or not, and the methodology for developing assessments of operational risk is immature. Given the lack of data and research for G-10 internationally active banks, it is likely to be some time before extensive quantification of operational risk is available in emerging markets.

(d) Capital Requirements—Supervisory Standards

Basel II calls on regulators to evaluate the quality and accuracy of each bank’s risk assessment, risk management, and internal controls. Pillar 2 places responsibility on banks to improve their risk management practices.

Supervisors are responsible for judging the efforts of banks to assess and mitigate risk. Supervisors are to intervene where necessary, including by requiring additional capital. The Basel committee expects regulators to use Pillar 2 to determine the regulatory and capital treatment of risks that are not explicitly included in the capital adequacy requirements of Pillar 1. Three of these risks are particularly important for mortgage lenders:
(e) Credit Concentration Risk

Basel II is silent on the topic of geographic diversification, an important omission with respect to mortgage markets. Real estate values are driven by local economic and regulatory factors, so geographic diversification plays an important role in mitigating credit risk in mortgage lending. One estimate showed that the economic capital required for a portfolio of regionally concentrated loans to highly rated borrowers in the United States would be two-and-a-half times that of a diversified portfolio to similarly rated borrowers (Calem and LaCour-Little 2004). This is intuitive for countries with large, economically diverse territories such as the United States or China. Even in small countries, however, house-price levels and trends can vary dramatically between the centres of major cities and the surrounding countryside. For instance, in Armenia, the price per square meter for housing in the centre of the capital is more than three times that of the country’s second city. Further, Armenia is a good example of another emerging-economy phenomenon, where rapid residential real estate price increases in the most economically active region of the country are driven by speculation more than by the need for shelter.

Supervisors should gather and publish data on house price trends in local and national markets. They can use this data to estimate default and loss rates, and so gauge the risk of regionally concentrated loan portfolios. Supervisors may also simulate stresses to lender portfolios using historically based worst-case scenarios. In concentrated markets, and particularly where there is a risk of speculative bubbles, regulators should be wary of over exposure to a single region or location, and should raise capital requirements for riskier portfolios. Supervisors should encourage mortgage lenders to diversify their portfolios.
(f) Market and Liquidity Risk

Portfolios of 15- or 20-year mortgages require similar term funding. While floating rate mortgages may reduce interest rate risk, they still present liquidity risk. Banking supervisors generally use ratios to monitor liquidity risk as described above. Some, however, have adopted more involved stress test requirements. While Basel II does not include standards for market risk in the loan portfolio, many countries require lenders to apply industry best practice for asset liability management, and some impose capital requirements for the lending portfolio. In 2002, India’s National Housing Bank, promulgated guidelines for asset-liability management at India’s specialized housing lenders, which are known as housing finance companies (HFCs).

HFCs are permitted to take deposits and make residential mortgage loans. The National Housing Bank guidelines reflect the specific risks of longer term mortgage lending funded by short-term deposits. The rules include guidance for the development of financial indicators of risk and management information systems to monitor term mismatch and liquidity on the balance sheet. At the time they were promulgated, they were flexible in that they recognized the lack of management and automated systems at many HFCs. The guidelines envisioned an evolution from simple techniques such as categorizing cash flows by maturity buckets or bands, to calculating duration of equity and risk-adjusted return on capital. Importantly, they also address the governance aspects of market risk management, calling for HFCs to establish risk committees for both management and boards of directors.

Argentina’s standard is demanding in that it expects all banks to be able to estimate value at risk for every asset class in both domestic and foreign currency. At the same time, it necessarily requires a number of assumptions about the structure of the balance sheet. Risk capital for interest rate risk of no quoted assets such as loans is based on the estimated maximum expected loss of the value of the net asset position at a 99 percent confidence interval over a three-month time horizon. Capital
requirements for net asset positions are defined in terms of assumptions about which liabilities fund which assets.

The Argentine regulation allows banks with strong capital, assets, management, earnings, and liquidity (CAMEL) ratings to recognize that a large part of their deposit base is effectively permanent, even if contractually short term in nature. These banks are permitted to assign up to 50 percent of short-term deposits to fund long-term fixed rate assets. Adjustable rate loans that have a rate linked to an external index are considered to have a maturity equal to the reset frequency of the index. For adjustable rate loans with administrative variation, where the bank has the contractual ability to vary the rate, 40 percent are considered to be fixed rate, reflecting the experience in most countries that, in case of crisis, banks are not able to raise the rate on such loans as quickly and as high as market conditions might dictate. This inability to adjust rates in time of crisis reflects the heightened credit risk that results from such moves, as well as political pressure to keep rates stable.

2.5 MORTGAGE LOAN DESIGN

In many markets, lenders have employed loan design techniques to reduce the initial payments required on a mortgage, and so make it possible for the borrower to initially afford the payment. These may include “teaser” interest rates that start out lower than market, but escalate with time, or “negative amortization” features that trade off a lower initial payment with a growing principal amount. Such loan designs may lead to higher defaults if house prices fall or interest rates rise unexpectedly. A proliferation of exotic loan designs contributed to the high default rates in the Colombian crisis and led to a reaction by the Supreme Court to ban the designs and allow only fixed-rate lending. Likewise, after the devaluation shock and banking crisis in Turkey in 2001 all indexed and variable rate loans were outlawed. The mortgage law passed in 2007 allows these instruments but requires life-of-loan caps and detailed disclosure to borrowers. Supervisors should require lenders to provide stress test results for all
portfolios of loans, and they should pay particular attention to the assumptions and results for complex product designs.

(a) **Other Regulator Actions**

Regulators can encourage or require other actions to strengthen the mortgage lending systems of individual countries. Such actions can be particularly important to reduce the probability and severity of housing cycles.

(b) **Real Estate Market Information**

One step is to actively foster the development and publication of accurate, detailed information on real estate prices and transactions. In any market, speculative price bubbles are hard to spot until after the fact; however, the task of detection is made more difficult if there is a lack of consistent information on the prices themselves, and on the factors that lead to changes in real estate prices. Regulators in many markets track the performance of real estate markets. Central banks and regulators in China, the United Kingdom, and many other countries monitor real estate markets. Thailand (GHB) set up a Real Estate Information Centre in 2004 to provide real-time price and transaction data—in part to help policy maker’s spot bubbles that preceded the Asian financial crisis of 1997. SHF is doing the same in Mexico. The U.K. Financial Services Authority (FSA) discusses the impact that a possible fall in house prices would have on consumer wealth and expenditures, on the health of lenders, and on the economy as a whole in its risk outlook for U.K. financial markets (FSA 2006).

(c) **Management and Reporting Standards**

Regulators should produce management standards and reporting requirements for lenders, and include adherence to these standards as part of examination criteria. Lenders should be able to articulate a coherent and reasonable strategy for lending to a given real estate market and their means for mitigating risk in that market. Riskier
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products should have limits in terms of total assets or total capital. Examiners should review plans for credit risk, market risk, and operational risk, and compare performance of lender portfolios and of management against the plans.

2.6 PRUDENTIAL REGULATION OF HOUSING FINANCE IN INDIA

There are two distinctly identifiable sub-periods in the history of prudential regulation for housing finance in India between 1995 and 2011. The first period (1995 – 2001) comprised numerical restrictions (in the form of leverage restrictions on financial intermediaries, as well as an explicit interest rate ceiling on payments to depositors) for housing finance. The second period (2001 to the present) witnessed a shift to the prudential regulation framework outlined in the Basel – II norms, with risk weights and provisioning being the primary instruments of regulatory policy. As these broader changes occurred, a system of priority sector lending (PSL) norms remained in place throughout this period to target lending towards sectors designated by the government as socially important, one of which is housing finance. These norms took two forms, the first of which is a quantity restriction, i.e., compulsory allocation of credit in the system for housing loans, which was in place throughout the period. The second is a price subsidy, i.e., an interest subsidy (or subvention) element for small loans, and this arrangement was in place towards the end of the period under consideration.

The Reserve Bank of India (RBI) regulates bank lending to housing and the National Housing Bank (NHB) regulates lending to housing by Housing Finance Companies or HFCs. Some of the regulations imposed by the RBI on banks also impact HFCs indirectly – such as priority sector lending targets.

The RBI introduced Basel – I norms for banks in India in April 1992. Under this system, risk weights were assigned to balance sheet assets, non-funded items and other off-balance sheet exposures as prescribed by the Narasimham Committee (1991). However these risk weights did not change over this early period for any
assets. Under this regime, the risk weight for housing finance was a constant 100%, as housing finance was categorized as “Other advances” under the sub-heading ‘real estate and other investments’.

Banks were expected to maintain an unimpaired minimum capital fund as a percentage of aggregated risk-weighted assets on their balance sheets. The phased introduction involved compliance with these norms at different points in time. Indian banks with branches abroad had to comply with an 8 per cent norm by March 31, 1994. Foreign banks in India were expected to comply earlier, by March 31, 1993. Indian banks catering only to domestic requirements had an intermediate target of 4 per cent by 1993 and expected to achieve 8 per cent by March 31, 1996. Compliance with this requirement was the predominant concern throughout this decade.

2.7 HOUSING FINANCE BY BANKS

(a) Period 1: 1995 – 2001

The RBI introduced Basel – I norms for banks in India in April 1992. Under this system, risk weights were assigned to balance sheet assets, non-funded items and other off-balance sheet exposures as prescribed by the Narasimham Committee (1991). However these risk weights did not change over this early period for any assets (see Table 1). Under this regime, the risk weight for housing finance was a constant 100%, as housing finance was categorized as “Other advances” under the sub-heading ‘real estate and other investments’.

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(b) Period 2: 2001 – 2011

The second Narasimham Committee in 1998 recommended several measures to strengthen the capital adequacy framework for banks in India. During this period, the RBI first considered prudential norms set by way of exposure limits to “sectors particularly sensitive to asset price fluctuations such as stock markets and real estate” while risk-weights on sectors came into existence much later, the powers to set them were vested with the RBI in February 1999 by way of a circular.

This committee also recommended that, “The risk weight for a Government guaranteed advance should be the same as for other advances. To ensure that banks do not suddenly face difficulties in meeting the capital adequacy requirement, the new prescription on risk weight for Government guaranteed advances should be made prospective from the time the new prescription is put in place.” Consequently, a March 31, 2000 circular by the RBI brought into force such a change.

Risk weights changed for different loan categories defined both by loan size and loan-to-value (LTV) ratio. Loan to value ratio excludes any taxation due (such as stamp duty and local land taxation), registration, and documentation charges that may apply to a mortgage transaction. However, a majority of Indian mortgage providers have been found by the RBI to interpret LTV regulations as those that apply to loan-to-cost ratios (LTC) that include all costs of the transaction. This was clarified much later, in February 2012, well after the sample period under study. Thus, LTC and LTV cannot be differentiated from one another until February 2012.

A few other notable changes were introduced in the mid-term review of monetary and credit policy by the RBI in 1999. The minimum capital to risk ratio was raised from 8 to 9 per cent. This was effective from March 2000. Importantly, the time period for classifying debt as doubtful was shortened to the international standard of 90 days from 180 days. This was brought into force in 2004 for Banks. The next section deals with the classification of assets as non-performing in greater detail.
(c) Non-performing Assets regulation

In 2004, RBI redefined an asset that is ‘non-performing’ as an asset, “in respect of which, interest has remained overdue for a period of ninety days or more”, reducing the number of days from 180 to 90 days for banks.

The definition of assets as non-performing has been changing over time. In particular, the period of delinquency in order to be so classified has been steadily reducing since 1993. In essence, an asset became ‘non-performing’ when it ceased to generate income for the bank for specific time duration. This duration was 4 quarters from 1993 to 1994, 3 quarters between 1994 and 1995 and 2 quarters ‘past due’ between 1995 and 2004. In May 1998, the Narasimhan committee mooted the idea of reducing this time period to 90 days. The RBI addressed this in a speech made by the Governor on 24 April 2001, and followed it with a regulatory notification on 30 August 2001 that the definition for a non-performing loan will be reduced to 90 days.16 This change was binding on banks since 31 March 2004, where a ‘non-performing’ asset was one where interest and/or principal remained overdue for a period of more than 90 days in respect of a Term Loan. These were followed up by the NHB, and definitions were changed to match those issued by the RBI, albeit with a lag.

The classification of an asset as an NPA incurs additional provisioning norms. On sub-standard assets (those classified as NPAs up to 12 months prior), banks were required to make a general provision of 10 percent on total balances outstanding. Following the 12 month period, the asset would then be regarded as a “doubtful asset,” and 100 percent of the unsecured component, and between 20 and 50 percent on the secured component (depending on the duration of the asset being classified as doubtful) were required from banks. This range moved to 20 - 100 percent from March 2005.

Another important change to the treatment of non-performing assets that came into force at this time was the enactment of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, which made non-performing asset reconstruction and repossession easier.
2.8 HOUSING FINANCE BY HFCS

The NHB is a wholly owned subsidiary of the RBI and propagates norms that apply to all registered HFCs. HFCs in India can be sub-classified into deposit-taking and non-deposit-taking institutions. Deposit-taking HFCs must currently comply with the following rules:

a) No HFC can accept / renew public deposits unless it has an investment grade rating for fixed deposits on a yearly basis.

b) The ceiling on public deposits stands at some stated multiple (currently five times) of the HFCs’ net owned funds (NOF).

c) No HFC can accept / renew deposits repayable on demand unless the maturity of the deposit is more than 12 months and less than 84 months.

d) An HFC must comply with interest rate regulation on such deposits as prescribed by the NHB.

(a) Period 1: 1995 – 2001

The NHB Directives in 1989, a year after the establishment of the regulatory body, do not explicitly state a framework for prudential regulation. However, prudential norms imposed on banks by the RBI have been imposed on HFCs, albeit with a lag. This lag has been shrinking over time. Until September 1997, the main instruments of prudential regulation were the interest rate ceiling on deposits with HFCs, as well as leverage restrictions on aggregate borrowings by HFCs. The interest rate ceiling on deposits with HFCs, as well as leverage restrictions on aggregate borrowings by HFCs, as well as leverage restrictions on aggregate borrowings by HFCs.

Since September 1997, HFCs were expected to maintain a certain percentage of assets in specified instruments. At least 5 per cent had to be placed either as a deposit with NHB, subscription to NHB bonds, or as a deposit with a scheduled commercial bank. Additionally, no less than 5 per cent of assets were required by law to be invested in “unencumbered approved securities” as listed by the NHB. HFCs were also required to hold a reserve fund of not less than twenty per cent of their net profits per year.
before dividend declarations. Compliance was to be reported daily to the NHB and lack of compliance attracted a penalty of 3 per cent over and above the bank rate.

The RBI directives in 1999 also restricted lending to HFCs by banks. The directives differentiated Non-Bank Financial Companies (NBFCs) registered with the RBI from the remainder. As HFCs were registered with the NHB and not the RBI, and since the directive called for restriction on lending to NBFCs that were registered with the RBI, banks were not restricted on lending to HFCs.

(b) Period 2: 2001 – 2011

The NHB signalled a new chapter for prudential norms for HFCs in December 2001. These directives were very similar in structure and implications to those issued by the RBI for banks. The income recognition framework, classification of income from investments, accounting standards, asset classification (standard, sub-standard, doubtful and loss assets), provisioning requirements for NPAs and other such sub-parts of the prudential regulatory framework were all virtually identical to those for banks. (HFCs cannot lend more than 15 per cent of its fund to any single borrower and 25 per cent of its fund to any group of borrowers. Furthermore, HFCs cannot invest in shares of any one company in excess of 15 per cent of its funds, and shares in a single group of companies exceeding 25 per cent of its owned funds. It cannot lend and invest (loans and investment) exceeding 25 per cent of its funds to a single party and 40 per cent to a single group of parties. See NHB Directions)

Until 2001, there were explicit restrictions on the extent of borrowings HFCs could undertake. However, with the new framework, all HFCs were mandated to maintain a minimum capital ratio of 10 per cent on or before March 31, 2001 and 12 per cent on or before March 31, 2002 on aggregate risk-weighted assets. Risk weights were further classified and defined in the NHB Directives in 2001.

The NHB also mandated a minimum holding of liquid assets. These were defined similarly to those in its initial asset management framework. HFCs were expected to maintain no less than 6 per cent of public deposits (on a daily basis) in unencumbered
approved securities. 12.5 per cent of public deposits were mandated either as deposits in a scheduled commercial bank, or as deposits at the NHB by way of bond subscriptions.

Another regulatory change that defined the HFC landscape was one of entry requirements. The RBI raised the minimum NOF to commence business for NBFCs from Rs. 2.5 million to Rs. 20 million. Consequently, NHB raised the bar to comply with RBI regulations. The RBI passed this notification in April 1999 and the NHB issued equivalent directives in January 2002.

(c) Non-performing Assets Regulation

In 2002, the Indian legislators enacted the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act. As stated in the legislation, this act aimed to “improve recovery by taking possession of securities, selling them and reducing non-performing assets by adopting measures for recovery or reconstruction”. Prior to its enactment, there were very few mechanisms that allowed for effective and swift recovery in the event of default.

The act provides two channels of recourse to financial institutions. A financial institution had the legal sanction to move NPAs off its books by way of sale to a new class of institutions called Asset Reconstruction Companies (ARCs) who then attempt recovery of such assets. The second channel for financial institutions such as Banks or HFCs is asset seizure and auction. This channel is also the one to be used by ARCs to recover debt. The right of the secured creditor, in our case the Banks or HFCs, did not allow them to enforce their security interest without the intervention of a court of law until SARFAESI Act, 2002 was brought into force. Even under the act, this can be done only after two conditions are fulfilled: The borrower should not have paid debt instalments, classifying the asset as an NPA and the borrower fails to pay within sixty days from the first notice to fully discharge the borrower’s obligations. The SARFAESI Act, hence, allowed for enforcement of security interest without going to a court of law. While there is no public evidence on the extent to which the first channel (transfer of assets to ARCs) has been used in the Housing finance sector,
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Banks and HFCs have enforced their security interest without going through a judicial process under this law.

The second important change is that the definition of an NPA was modified in 2004 (by RBI) and 2005 (by NHB) for banks and HFCs respectively. With effect from March 31, 2005, the NHB redefined a ‘non-performing’ asset as one, “in respect of which, interest has remained overdue for a period of ninety days or more”, reducing the number of days from 180 to 90 days for HFCs. However, as noted earlier, the RBI introduced this change a year earlier for banks.

2.9 SUBSIDIES FOR THE HOUSING SECTOR

Subsidies for the housing sector comprise mandatory lending, cash subsidies, and reduced interest rates on housing loans.

(a) Priority sector lending (PSL)

Lending to small borrowers is an important political goal in India. Banks are subject to a quantity target for Priority-Sector Lending (PSL), which includes loans to agriculture, small businesses, export credit, affirmative action lending, educational loans, and -- of particular interest to us -- mortgages for low-cost housing. The PSL target is 40% of net bank credit for domestic banks (32% for foreign banks), and there is a severe financial penalty for failure to meet the target, namely, compulsory lending to rural agriculture at a haircut to the repo rate. In addition, since 1998, 3% of net new deposits of public sector banks must be allocated to housing.

PSL requirements have been binding on banks in India. For the public sector banks in India, priority sector lending has fluctuated between 36% and 45% of credit outstanding over the past one and a half decades.

These regulations do not directly apply to HFCs, but bank lending to an HFC qualifies for the PSL target to the extent that the HFC makes mortgage loans that qualify, i.e., are below the specified nominal PSL threshold. The overall effect of the
PSL system is to provide a strong incentive, directly for banks, and indirectly for HFCs, to originate small mortgages that finance low-cost housing purchases.

Housing has been a priority sector in India since 1970. Unlike other micro-subsidy schemes, PSL was a creation of the RBI rather than the Government of India. The intention of priority sector lending is to focus on sectors that “impact large segments of the population & the weaker sections, which are employment-intensive”. Housing loans for individuals and commercial real estate intended towards construction of houses were covered under this scheme. Over time, the definition of loan size that qualifies for PSL has changed. While the size differed across urban and rural areas, currently, loans up to 25 lakhs, irrespective of location constitute the priority sector for housing.

Beyond quantitative ceilings, PSL regulation also governs other provisions such as penal interest, services and inspection charges, waiver of insurance against risks on underlying assets, repayment schedule, and interest rate calculations.

(b) Interest rate on housing credit

A federal government budget announcement in the financial year 1997-98 stated that where, “loans up to Rs. 2 lakhs will be given for building houses in freehold land in rural areas at normal rates of interest, subject to the borrower putting in one-third of the value of the house. NHB has been requested to prepare a scheme in which other organizations will also participate.”

The NHB followed this up with an expansive scheme called the “Golden Jubilee Rural Housing Finance Scheme” (GJRHFS), where the objective was to provide institutional credit at ‘normal rates of interest’ for housing in India. While what constitutes normal rates of interest has been left vague in the policy documents, banks followed guidelines issued by the RBI. Such guidelines, in addition to what has been documented above, involve categorization of loans under various schemes. The “Differential Rate of Interest” scheme is one such scheme, in which banks lend up to a ceiling (subject to change) per dwelling unit at an interest rate of 4 per cent per annum. It is important to note that this
rate of interest has not changed since 1977. Another such scheme, introduced in 1996, was the Indira Awas Yojana (IAY), which public sector banks were advised to fund under the “Differential Rate of Interest” scheme.

Until 2009, the government simply decreed the (immutable) rates at which very small housing loans should be made. Since 2009, subsidy schemes were changed to provide reductions in the prevailing market interest rates. From October 2009, a 1 per cent interest-rate subvention on the first 12 months was announced for qualifying loan sizes. In this scheme, it is also important to note that, “in case account turns NPA [non-performing asset, or default] after 12 months, subsidy would not be returned, as Scheme provides 1% interest subsidy for 12 months only.”

An urban interest subsidy scheme has also been in place since 2009, in which small urban loans (of less than Rs. 1 lakh) qualify for a subsidy of 5 per cent per annum on the principal of the loan, for the entire period of the outstanding loan.

(c) **Quantum of housing credit and cash subsidy**

These low interest-rate schemes in many cases were augmented by directives on the amount of credit to be provided for housing. Three major schemes launched by the Government of India, together with the NHB, namely the IAY, GJRHFS and the Credit-cum-Subsidy Scheme were prevalent at some point or the entire period under discussion.

The IAY focuses on the amount of credit to be given to each beneficiary of the scheme, with per unit assistance varying over the years. The GJRHFS is based on the total number of units financed and these targets are in turn sub-allocated to implementing agencies (banks, HFCs and other smaller financial institutions in rural areas). In the year of introduction (FY 1997-98), the target was 50,000 units and has steadily risen over the years to 350,000 units in FY 2007-08.

The Credit-cum-Subsidy Scheme for Rural Housing was launched in April 1999, where the policy targeted families with annual income up to Rs. 32,000 for a subsidy
of Rs. 10,000. The maximum loan that can be availed of is Rs. 40,000 (25 per cent more than the annual income of the borrower).

(d) Other Schemes

The NHB is the nodal agency for refinancing housing loans in India. Over and above standard refinancing undertaken by the agency, several schemes relating to refinancing housing loans were available during this period.

Individual financial institutions have limits up to which refinancing is available. Some schemes redefine the ceiling on loan slabs that are eligible for refinance, while others define direct pass-through of 100 per cent of principal for refinancing. The first such scheme underway, within the time period of concern, was in FY 2000-01.

In FY 2000-01, the government directed NHB to refinance banks and HFCs to construct 150,000 houses under the GJRHFS. Refinancing was used, in effect, as a tool of reducing the interest rate charged by financial institutions for housing loans. Another scheme, introduced in 2006, was designed as a composite loan for income generating activity and housing, where the NHB provided the housing loan component by way of 100 per cent refinancing.

More recently, in 2008, loans up to Rs. 15 lakhs for housing construction and up to Rs. 5 lakhs for extension and renovation to ‘weaker section of society’ (direct and indirect) are eligible for 100% refinance from the NHB at a rate specified from time to time. The sum has to be repaid in 3 to 7 years by financial institutions making the loan. Currently, the rate of refinancing is set at 8 per cent.

Refinancing assistance from NHB is constrained by various factors like the net owned fund restriction on the NHB (from the RBI), and borrowing power of HFCs. In order to assist HFCs to raise funds directly from the market, the NHB devised a scheme in FY 2001-02 to guarantee bonds floated by HFCs under certain conditions. The main thrust of this scheme is that HFCs pay a floating charge on the assets equivalent to 125% of the principal amount.

NHB’s ability to refinance is also assisted by its ability to raise debts at lower cost.
than private financial institutions. With an average maturity of 3 years and an explicit government guarantee, NHB bonds trade at yields that are roughly 50 basis points lower than bonds issued by private institutions.

2.10 CONCLUSION

Regulatory Framework and Risk Management is an essential ingredient for financial inclusion industry. Housing Finance is one of the industries that is the part of financial inclusion and Hence special care is taken while drafting the contents of this chapter. This chapter includes the study of categorical classification of risk management involved in Housing Finance Industry and their perspective towards the management. Regulatory framework is also an essential ingredient for the present study hence role and tools of regulation has also been study with international standards for reporting including provisional aspect as per IAS 39 for “Financial Instruments: Recognition and Measurement,” BASEL Accords has also been highlight as a part of regulatory framework. As this study has basically concern with Indian scenario hence prudential Regulation of housing finance in India has separately been studied
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