Analysis of NHB Regulatory and Supervisory Activities and Associated MIS Monitoring Requirements

(Extracts)

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February 1994

Prepared for
Indo-US Housing Finance Expansion Program

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USAID Project No. 386-0526-00-C-2295-00

Report Contents

Section I: Introduction

The issues and recommendations discussed in this report were developed in two related work assignments issued by Abt Associates, Inc. The first asked for recommended policies, measurements, procedures and organizational structures to effect the National Housing Bank's (NHB) sound regulation and supervision of India's housing finance system. The second asked for recommendations on immediate, short-run and long-term information reporting needs for the NHB's regulation and supervision of Housing Finance Companies (HFCs).

Analysis of NHB Regulatory and Supervisory Activities

The first study is a follow-on to the author's earlier study of the options for licensing, regulation, supervision and closure of India's HFCs. Five tasks were requested in the Statement of Work for the current report. They included:

1. Review actions taken on recommendations made in the 1990 Croft report.

2. Review the affects of liberalization in the business environment of HFCs and its affects on levels of risk in the housing finance system.

3. Comment on the recommendations of recent studies of the Narasimham Committee and the Shah Working Group on Financial Companies, giving special attention to the recommendations regarding a new regulatory body to oversee all non-banking finance companies.

4. Recommend contents and frequency of measurement of HFC activities required in a management information system (MIS) to support effective regulation and supervision of HFCs.

HFC Reporting to the NHB: Management Information Systems

The second assignment is a necessary input to the two other ongoing studies being conducted at the NHB. In addition to the Ferguson Company, Price Waterhouse is also involved in a study at the NHB. This international accounting and consulting firm is developing recommendations to be used in a new corporate-wide (MIS). One piece of this system must necessarily address the needs of the regulatory and supervisory personnel in the Bank.

The Abt consultant's tasks involved in this MIS assignment consist of working with the local Price Waterhouse consultants to provide input regarding elements of the NHB's management information system addressing regulatory and supervisory responsibilities. Emphasis in this assignment is on defining measurements and standards which NHB supervisory personnel must track to assess the risk profiles of HFCs for which they are responsible.

Combination Study

The two assignments described above (sound regulation and supervision of HFCs and recommendations for a management information system) are closely related. Therefore, this report covers both topics under one cover. While many issues discussed in this report have implications for MIS at the Bank, the second topic is emphasized in Section III.D, Major Recommendations: Monitoring HFCs.

Sources of Information

The analyses and recommendations in this report are based on information from several sources. The author's visit to New Delhi and Bombay during the last two weeks in April 1993 was very helpful in providing information and insight to the review process. A list of the organizations visited and people with whom discussions were held is presented in Appendix I of the Report.

In addition, several source documents were helpful. The bibliography covering major reports and studies which provided background information for the current work is presented in Appendix II.

Section II: Background

There is a clearly recognized shortage of housing in India. It is estimated that the shortfall of housing is in excess of 30 million housing units.

One of the primary factors leading to this shortage is the difficulty with which the financial sector of the economy mobilizes, pools and directs the savings of private households and corporations into loans for private homes. Only a small portion of home loan financing is conducted through formal lending carried out by financial institutions.

That is not to say that depository institutions are non-existent in India. A broad array of companies is permitted to gather deposits from households. The breadth of this deposit-taking sector is much greater than is found in the United States and most other western countries. Many of these depository and lending activities have been relatively unregulated. Several highly visible companies have engaged in inappropriate deposit gathering activities and have subsequently failed.

Creation and Role of the National Housing Bank

These failures, in part, prompted the enactment of the National Housing Bank Act of 1987. This act called for creation of a National Housing Bank. The purposes of this institution were set out as <u>promoting</u>, <u>regulating</u> and <u>financing</u> the housing finance system.

Subsequently, the NHB was established. It took over the HFC regulatory function formerly carried out by the Reserve Bank of India (RBI). In addition, the NHB developed a set of attractive programs for lending funds to HFCs (refinancing programs) to facilitate their mobilization of savings into housing loans.

The focus of the regulatory powers granted to the NHB by the National Housing Bank Act of 1987 is on oversight of deposit-taking activities. The powers of the NHB to regulate these activities fall into five broad categories:

- Establishing restrictions on deposit rates and maturities.
- Limiting the deposit solicitation activities of HFCs to assure the full and fair representation of information to depositors.
- Monitoring compliance of HFCs with the Act and with NHB Directions through periodic reports and on-site inspections.

- Conducting a broad range of business with HFCs, including provision of financial services or direct investments in the institutions.
- Imposing conditions to protect the business interests of the NHB in its dealings with HFCs.

These authorities are primarily aimed at regulating deposit solicitation activities and at empowering the NHB in its capacity as a creditor to these institutions.

Recent Industry Growth and Trends

The formal HFC sector has grown in both number of companies and assets controlled. To appreciate the distribution of this growth, one must understand the various categories of HFCs.

All HFCs have always been licensed by the Registrar of Companies under the 1956 Companies Act. (The terms "licensed" and "registered" are used synonymously in this report, although "licensed" is used most often.)

A licensed HFC will be inspected by NHB personnel. If it appears that the HFC is engaged in the housing finance business as a substantial part of its operations, the company is subsequently formally classified as an HFC. HFCs operate under the NHB's general Directions concerning deposit rate caps, deposit maturities, advertising reviews, leverage ratios for capital and reporting requirements. As mentioned previously, these Directions focus primarily on the deposit-taking activities of the classified HFCs. If inspection reveals that an institution is not significantly engaged in housing finance, NHB will forego overseeing it.

Finally, an institution can be qualified (or "approved") to do financial transactions with the NHB. In order to achieve this distinction, an HFC must be licensed and classified and, in addition, must be inspected by the NHB and found to comply with a set of "Guidelines for Housing Finance Companies," the most recent version of which was issued in December 1992. To be a qualified HFC, a company is typically larger, more sophisticated and very active in making housing loans.

In mid-1990, there were approximately 70 companies licensed under India's Companies Act as HFCs. Of those, approximately 20 had been classified formally as HFCs, and only five of those were qualified to refinance under NHB programs.

Today there are approximately 270 registered HFCs, 72 of which have been classified as HFCs, and 18 of which are qualified for the NHB refinance programs.

The 18 qualified HFCs do not all borrow under NHB programs with the same level of involvement. One of the larger players, LIC Housing Finance Limited, makes very little use of the NHB programs. On the other hand, the rapidly growing Dewan Housing Development Limited has financed a substantial portion of its activities under the NHB programs. Overall, the NHB refinance programs are now approximately Rs. 600 crores per year [Diamond, page 1].

Recent Studies of Related Issues

The winds of change are strong in India's financial services sector. The movement toward liberalization of the financial services industry has prompted several studies of the many issues which face India's financial policy makers.

The Croft Study, August 1990. The author's 1990 study discussed "Options for Licensing, Regulation, Supervision and Closure of Housing Finance Companies in India." This report contained several general recommendations to be considered by the NHB in its role as the regulator and supervisor of the emerging housing finance sector of the economy. The recommendations from that report are summarized below.

Summary of Croft Recommendations

Recommended Changes	Type of Action	Timing
Require one or two years of operating history before an institution becomes NHB-qualified.	G	Imm
Allow HFCs to advertise their NHB-qualified status (with a disclaimer about any NHB guarantee of repayment).	G	Imm
Seek authority to issue both general and specific directions concerning loan and investment activities for HFCs.	L	Imm
Establish guidelines for investment in non-housing loans for 25% of portfolio.	G	Imm

Summary of Croft Recommendations (continued)

Recommended Changes	Type of Action	Timing
Develop portfolio diversification rules.	D	Int
Establish limits for the amount of refinancing an HFC can have outstanding.	G	Int
Allow HFCs to leverage capital more highly if their loans comply with the most conservative underwriting and documentation standards.	D	L-T
Propose legislation to establish a secondary mortgage market.	L	L-T
Study feasibility of offering better loan refinancing terms on the most conservatively underwritten loans with standard documents.	G	Int
Develop underwriting criteria to use as equity trade-offs (only after Parliament approves legislation allowing rapid foreclosure and sale and after these new provisions have been tested).	D	L-T
Modify reports to the NHB to allow measurement of interest rate risk exposure.	D	Imm
Develop rules for limiting interest rate risk exposure.	D	Int
Seek authority to apply remedies against institutions engaged in unsafe and unsound practices--up to and including conservatorship.	L	Int
Obtain authority to prohibit deposit-taking for unsafe and unsound operations at an HFC.	L	Int
Seek authority for the NHB to:		
■ Encourage mergers of weak with strong institutions.	L	Int
■ Establish receivership at an HFCs insolvency.	L	Int
■ Establish receivership prior to insolvency.	L	L-T
Develop a position on the feasibility of deposit insurance for HFCs and present it to Parliament.	L	Int

Legend: G = Guidelines; D = Directives; L = Legislative; Imm = Immediate (next year); Int = Intermediate (1 to 3 years); L-T = Long-term (3 to 5 years)

The NHB has had little opportunity to implement these recommendations. Other pressing issues appear to have diverted attention and resources from making the type of progress in regulation and supervision which was envisioned almost three years ago.

Some progress have been made, however, especially in the first three recommendations listed above. The responsibility for classifying an institution as an RFC has now been transferred completely from the RBI to the NHB. When an institutions registration notice is received, the NHB will write the company to determine if housing finance is its primary business. If it is, NHB inspectors will visit it during the first year to complete the classification process. (Inspectors may, however, visit earlier if the NHB receives a complaint about the company's practices.) If an inspection or annual report from a company shows that less than 50% of its business is in housing finance, oversight responsibility will be transferred to the RBI.

Institutions have now been allowed to advertise their association with the NHB, as previously recommended. NHB officials have discussed and considered legislative actions to authorize explicit regulation of the asset side of each HFC's balances sheet, i.e., limitations and regulations regarding how depositor funds can be invested, but no legislation has been put forward.

Most of the other recommendations are not currently being pursued and await installation of new leadership at the NHB and/or commitment of the necessary resources to carry out such recommendations.

The Narasimham Committee on the Financial System, November 1991. This Committee addressed several reforms in the financial sectors "needed to improve the financial health of banks and the development financial institutions (DFIs) to make them viable and efficient so as to better serve the emerging needs of the real economy in which the spirit of competitive efficiency is being ignited" [Narasimham, page 4]. To that end, the Committee developed 48 recommendations. The recommendations having greatest relevance to regulatory and supervisory responsibilities at financial institutions, in general, and HFCs in particular, are summarized below.

Summary of Selected Narasimham Recommendations

- Banks and financial institutions to reach minimum of 4% capital adequacy ratio based on "risk-weighted" assets in 1993 and to achieve Basle International Standards in 1996.

- Adoption of uniform accounting standards for the recognition of income and establishing loss reserves.

- Institution of a uniform asset classification system (into categories of: Substandard, Doubtful and Loss) with defined loss provision percentages assigned to each category. A four-year phase-in period should be used.

- Establishment of special tribunals to speed the process of recovery on defaulted loans.

- Increased emphasis on financial institutions' internal audit function. Focus supervisory attention on inspections which assure that internal audit departments are functioning properly and have appropriate policies and procedures in place.

- The supervisory function in the Reserve Bank should be set out in a quasi-autonomous organization (under the RBI) separated from the central banking functions of the RBI.

- Extend supervisory oversight to new financial institutions which are appearing on India's financial scene: merchant banks, mutual funds, leasing companies, venture capital companies and factoring companies. Guidelines should be established for capital adequacy, debt equity ratios, income recognition, loss reserves, disclosure and asset valuations.

- Phase out directed credit programs.

These recommendations are, for the most part, sound and consistent with overall liberalized directions in which the economy is heading. Some of the time frames may be overly optimistic, however.

The last two recommendations of the Narasimham Committee generated two additional studies relevant to the current study's issues. The first was the A. C. Shah Working Group's report on regulatory issues associated with Non-Banking Financial Companies (NBFCs). Since HFCs are NBFCs, this recommendation has a significant potential impact on HFCs.

The second was a report by Dr. Douglas Diamond addressing options faced by the NHB if the Narasimham recommendations concerning phasing out directed credits is adopted.

<u>The A. C. Shah Working Group on Finance Companies, September 1992.</u> The Narasimham committee examined a broad range of issues in the Indian financial services field. It recommended that the Non-Banking Finance Companies be brought into a regulatory structure. In order to investigate this Narasimham recommendation further, the RBI constituted a Working Group under the chairmanship of Mr. A. C. Shah.

The Working Group studied several important issues surrounding the regulation of NBFCs. These included:

- Appropriate agency for regulation of NBFCs
- Licensing, registration and eligibility criteria
- Prudent norms of operation
- Reporting requirements
- Accounting systems
- Inspection needs
- Norms for acceptance of deposits

- Deposit insurance
- Credit rating systems
- Public awareness campaigns

The recommendations of the Shah Working Group were published in September 1992. The recommendations were "based on the need for putting in place a cohesive regulatory system which will be uniform in its application to all categories of NBFCs" [A. C. Shah Working Group Report, page 7]. The recommendations most clearly related to HFCs are summarized below.

Summary of Shah Working Group Recommendations

- Begin regulation of the asset side of NBFCs' [HFCs'] balance sheets.
  - Establish capital adequacy standards based on risk-weighted assets in the same fashion as commercial banks.
  - Develop the risk-weighting factors in conjunction with trade group and accounting industry experts by March 31, 1994.
  - Introduce a capital requirement of 8% of risk-weighted assets by March 31, 1995.
  - The debt to equity ratio should remain at 15 to 1 until the capital adequacy framework suggested above takes effect.
- Institute several measurable regulatory standards for NBFCs:
  - Minimum liquidity should be 10 of total deposit liabilities.
  - Loans to one borrower, or to a related group of borrowers, should be restricted to 15% and 25% of Net Owned Funds (NOF), respectively.
  - NBFCs should transfer 20% of annual profits to reserves until the reserve level equals paid in capital.
  - Prohibitions on investments in certain undesirable assets should be established by regulatory authorities.
- Eliminate the distinction between "exempted" and "regulated" deposits for the purposes of computing gearing ratios.
- Development of norms for income recognition, disclosure or transparency of accounts, and provision for bad and doubtful debts should be undertaken by a Standing Committee made up of representatives from the new High Powered Board, the Institute of Chartered Accountants, Self-Regulatory Organizations and the NBFCs.

- Independent auditors should be assigned a greater role in the regulatory process. Each regulated institution should be required to submit periodic reports to its regulator with a "satisfaction certificate" from its auditors certifying that it complies with certain prudential norms.

The Shah Working Group's overall approach is both thorough and sound. The report and recommendations demonstrate a great deal of thought and an understanding of the financial institution regulatory process.

However, two of the recommendations cited above deserve comment. The first is relatively minor. The recommendation that independent auditors be assigned greater responsibilities in the regulatory process needs to be supplemented with certain incentive for the auditors. By taking on a function in which the auditors certify that institutions are meeting certain prudential norms, they also take on potential liability. Institution managers may, from time to time, be able to hide financial problems even from their auditors. Alternatively, there may be times when auditing firm personnel fail to do their jobs completely. Thus it will be natural for audit firms to resist taking on significant liability for incorrect certifications, unless they are provided an incentive.

The regulatory authority should develop a program in which it can bar and prohibit an audit firm from the performance of audits at regulated NBFCs should the audit firm fail to perform its certification function adequately. The regulator will also need to specify very carefully the type of certifications required and define the meaning of certifications with care to assure that auditing firms do not qualify their opinions so thoroughly as to make any certification meaningless.

<u>Diamond's Report on the NHB's Refinance Programs in a Deregulating Financial Sector, March 1993.</u> One of the most profound recommendations from the Narasimham Committee, as these recommendations affect the housing finance industry, is the one that deals with phasing out the directed credit programs. One of the central functions of the NHB is squarely centered on the notion that housing finance is to receive special consideration in the allocation of India's scarce financial resources.

Douglas B. Diamond, Jr. addressed the financing options facing the NHB as it enters this period of uncertain sources of directed credits. He prefaced his recommendations by asserting three "propositions":

1. The supply of advantaged funds will shrink relative to demands and could even disappear entirely.

2. The NHB can develop some alternative sources of market rate funds.

3. Dramatic changes in eligibility for NHB funds are not desirable since certain HFCs are highly dependent upon the NHB's refinance window.

While the winds of change are blowing and the pace of change is rapid, those organizations which set their sights on a goal early and trim their sails best will be the clear leaders in the new environment.

Overall Conclusions

From the studies cited above, we can draw a number of overall conclusions. Some of the most important from the standpoint of the NHB are as follows:

- There will be less directed/subsidized credit available to HFCs, in general, and through the NHB, in particular, in the liberalized economy.
- HFCs <u>and</u> the NHB will need to compete for funds in the open market. They will need to develop market-based deposit gathering and lending schemes.
- Slower growth of the HFC industry will likely ensue until a new equilibrium is established in the financial markets. (This period can be used by the NHB to restructure and strengthen its regulatory and supervisory position in the industry.)
- The impact of the market changes and the NHB's role as a source of directed credit will not be uniformly felt in the HFC industry.
- There is a blurring of the boundaries between the different types of financial institutions co-existing in the Indian economy.
- More <u>uniform</u> regulation and supervision of these evolving institutions is justified and needed.
- <u>Stronger</u> monitoring and supervision is required.
- There should be an increased focus on the importance of safe and sound operations of financial institutions and how they deploy the deposits they have garnered from savers.

Monitoring Recommendations: Supervisory Management Information Systems

One of the most clearly recognized roles for supervisory personnel in all financial settings is that of a monitoring agent. The underlying purpose for requiring regulated institutions to submit periodic reports on their condition is to give regulators and supervisory personnel information about the condition of the institution and its compliance with regulations.

The second assignment to Abt Associate, Inc. as part of the current study asked for recommendations on immediate, short-run and long-term information reporting needs for the NHB's regulation and supervision of HFCs.

The following three criteria were used in determining what items should be included in a supervisory management information system:

- Relatively few measures should be monitored. This should focus the attention of both management and regulators on the critical few items which need to be tracked. When these few critical measures indicate a problem, the supervisory staff can request additional information. The NHB supervisory function is already short of staff and should not be overwhelmed with mind-numbing schedules of information whose meaning is difficult to interpret.

- The definitions of the items to be monitored should be clear. Alternatively, they should be clarified prior to their introduction to the supervisory MIS system. The information monitored should also be clear as to its importance for supervisory oversight. Such clarity will mitigate the resistance of the supervised institutions to supplying reports.

- To the extent possible, the system should use information currently being generated by the supervised HFCs. The best immediate monitoring information is that which is already being submitted to the NHB.

General Approach. Overall, this report recommends more frequent collection of information for the Supervisory MIS. Currently, approved HFCs submit information half-yearly. Classified institutions submit information only annually. All classified institutions should be required to submit information on a quarterly basis. This change should be implemented as quickly as possible.

HFCs have a nearly unquenchable demand for their product, home and related loans. Thus they can grow extremely rapidly, if funds to lend are available. Problems can arise swiftly at rapidly growing institutions. Early on, reports should contain information that management collects on a regular basis to rule their institutions.

More frequent reporting will be facilitated by the recent introduction of a system wherein supervised HFCs are submitting their reports via computer disk. By the time the outline and detailed design of the Supervisory MIS for the NHB is in place, the supervisory staff should have some experience with the submission or periodic reports using this new methodology. In addition, computer storage and analysis of the collected information will facilitate the monitoring of the ratios and information outlined below.

A "Flags and Triggers" System. The overall foundation of a supervisory management information system should consist of a set of Flags and Triggers to be monitored by the supervisory staff of the NHB. That is, a relatively small number of measures should be calculated on a regular basis. When one or more of those measures is "out of line" at a particular HFC, the supervisory staff member assigned to monitoring that institution (hereinafter called the "supervisory agent") will see on his/her MIS that a "Red Flag" exists in the HFC's report. The presence of a Red Flag indicates that the HFC with this condition bears close monitoring of the factor showing the Red Flag.

When a measure being monitored is "significantly out of line," the MIS should note that a "Trigger" has been pulled (or actuated). Triggers may involve a performance measure which deviates markedly from past performance or from an established norm. However, it may also be pulled when a condition or performance factor has been showing a Red Flag for an extended period of time.

For instance, a rise of 50% in an institution's loan default rate from its normal levels might be considered as a Red Flag. The maintenance of that new, higher level for a period of three consecutive quarters might be considered a Trigger event. Alternatively, the doubling of the institution's default rate might be considered a Trigger event.

The existence of a Red Flag waving in the MIS of an HFC indicates that the supervisory agent should monitor the condition of that company on a close basis. The agent should carefully follow the subsequent reports of the HFCs with Red Flags and set as a first priority the review of those flagged conditions as soon as new reports are received each quarter.

The existence of a Trigger in an HFC's supervisory MIS report indicates that supervisory action is required. The triggered event may involve merely calling or writing the HFC to obtain an explanation of the reason for the reported figure(s). The explanation may be as simple as a data entry error or some unusual transaction which will not be repeated in the future. However, the explanation may indicate serious trouble is brewing; the supervisory agent may require an inspection to verify the condition; or he/she may require that the HFC management submit to the NHB a plan for correcting the condition which caused the Trigger to show up.

In any event, the supervisory agent should follow up with the HFC having a Trigger present in its MIS report until he/she is satisfied that the HFC management has the situation under remedial control. Also, it may be possible that the agent determines the presence of this Trigger at a particular institution is not a cause for concern. It may be that a unique feature of an institution allows it to operate in a safe and sound manner with the presence of Triggers which would indicate problems at other institutions.

Recommended Flags and Triggers. In what follows, factors to be monitored by NHB supervisory agents are identified. In addition, recommended levels for defining the existence of Red Flags and Triggers are given. In many cases reliable data are not available for analysis at present to help determine the appropriate Red Flag and Trigger levels. In those cases, the suggested levels to cause a Red Flag to wave or a Trigger to be pulled are only tentative and are noted as such. Also, some measures are indicated as to be determined (TBD).

NHB supervisory personnel will want to examine the sensitivity of the chosen measure to determine the appropriate levels at which Red Flag and Trigger hurdles should be set.

Suggested measures in each of five risk categories (credit, interest rate, liquidity, management and capital adequacy risks) are presented in the following sections of this report. They are summarized in tabular form at the end of this report.

Credit Risk Measures. There are several ways to measure an institution's credit risk. The most common method is to track delinquent loans. However, this measure is usually a lagging indicator of problems. That is, by the time delinquency rates rise, the problem of poor credits in the portfolio has usually been present for a long time.

Some of the measures proposed in this report are designed to identify problem credits at an early stage.

First, there is an indication of the amount of credit risk being taken into a portfolio at the time loans are underwritten. A measure of that risk is a portfolio's loan-to-cost ratio. Every study of indicators which predict the likelihood of a loan's eventual default has shown that the loan-to-cost ratio is the dominant predictive factor.

This makes economic sense. A borrower which has been able to save a large down payment on a home has usually demonstrated the discipline and/or ability to make the periodic additions to savings, which are similar to mortgage loan payments. In addition, a borrower with a significant amount of his/her own funds tied up in the equity of a property will work harder to keep a loan current than will one which has little or no equity at risk.

Therefore, an indicator of credit risk being added to an HFC's books is the average loan-to-cost ratio of loans sanctioned during the past quarter. It is recommended that when this ratio rises above 60% for the past quarter, this be called a Red Flag condition. A Trigger for this measure would be a ratio of 70% or higher or a ratio above 60% for three or more consecutive quarters. The tracking and monitoring of loan-to-cost ratios should begin immediately.

A second measure of impending credit risk involves the types of loans an institution makes. Traditionally, land acquisition, development and builder loans have a higher level of risk than loans on completed and occupied properties. An institution which includes a high percentage of such loans in its portfolio is taking on greater credit risk than one which has a low level of such lending.

It is recommended that the percentage of sanctioned loans in these categories be tracked each quarter. Tentatively, a level of these higher-risk loans in excess of 25% of the value of sanctioned loans in any quarter should be a Red Flag. A one-quarter rate in excess of 40% should be a clear Trigger. Alternatively, two consecutive quarters with values of land acquisition, development and builder loans over 25% should also be considered a Trigger. This type monitoring should begin in the intermediate term.

A third credit risk measure is the traditional measure of late payments. While such measures do not track credit risk as it goes into a portfolio, they sometimes measure how credit risk is being managed. That is, some institutions may take on loans that most organizations would find risky. Some institutions, however, are more skilled at underwriting or servicing these types of loans and can therefore achieve a lower-than-expected delinquency ratio. There are also cases where institutions can take on loans that are traditionally conservative, but through changes in economic factors or poor loan servicing, such loans may perform poorly or become seriously delinquent.

Many indicators which track such delinquencies are available. In many Western economies, financial institutions begin to worry about late payments once they are 60 days past due. Managers interviewed for this study report that Indian standards allow for slow collection mechanisms and recordation. Therefore, it is recommended that institutions report delinquencies in the 90- to 180-day range and also those that exceed 180 days. Tentatively, any institutions with residential loan delinquencies in the 90- to 180-day range over 1.5% should have a Red Flag. When this measure exceeds 2.5%, that should be a Trigger event.

Exceeding .8% of the portfolio in the 180+ days delinquent range should be considered a Red Flag. More than 1% in this category should be considered a Trigger.

An alternative method for measuring timeliness of loan payments is to track expected monthly installments (EMIs). If an institution receives all funds due it each month, its EMI is 100%. An alternative pair of targets for this measure of timely payments would be: under 97% should be considered as a Red Flag; under 94% should be a Trigger. Both of these targets should be considered tentative pending examination by the regulator/accountant/lender advisory review group recommended earlier. This type of monitoring should be possible beginning almost immediately.

The three previous measures of credit risk are relatively clear-cut. A fourth measure of credit risk should be considered; however, it is more difficult to measure. This credit risk involves those problems associated with institutions that make rapid changes in the "nature" of their business. That is, institutions that make radical shifts in the geographic concentration of their lending or in the types of loans they sanction are exposed to greater risks than those that make subtle and carefully phased changes. At a very minimum, major shifts away from any particular geographical area or type of lending may signal a shift in underwriting standards, business focus or philosophy that warrants supervisory attention.

At times institutions launch new initiatives or new lending programs without installing the necessary systems and infrastructure to support a new type of business. (It may be argued that this type of risk is better called a "Management Risk," but it will be categorized as a Credit Risk for purposes of this report.) At other times, managers of institutions that have had past problems or that are headed for problems try to recoup losses by making rapid and, at times, ill-planned shifts in the nature of their business. Major shifts in business are not necessarily risky, but such shifts should alert supervisory personnel to assure that appropriate planning and implementation of such changes have been carried out.

To measure shifts in institutions' "nature" of business requires that data be collected on the current lines of business in which they are engaged. Thus this monitoring measure must be classified as one to be implemented over a long-term time frame. The process of establishing baseline measures should proceed as follows:

1. Establish the two or three categories which should be tracked to indicate the type of business conducted by HFCs. These may include:
   a. Geographical regions such as branch offices or territories.
   b. Loan types such as owner-occupied residences, land acquisition, development or builder.
   c. Loan size groupings.
2. Break each category into logical groupings to which sanctioned loans can be assigned, i.e., office/territory of origination; loan types; or loan sizes.
3. Develop an annual moving average (two periods if semi-annual reports are used and four periods if quarterly reports are used).
4. Compute the percentage change of loans sanctioned in each of the classified groupings.
   a. Consider a change in any grouping in excess of 25% from the annual moving average to be a Red Flag condition.
   b. Trigger conditions are those where changes exceed 50% of the annual moving average.

The following example may illustrate how this type of system should work. Let us assume that NHB supervisory agents determine that they wish to track the percentage of loans an institution makes in each of the following categories: residential owner-occupied, land development loans, second mortgages and builder loans. Further assume that an institution's four-quarter moving average distributions in each of these categories and the current quarter's distribution are as presented below:

Category	Moving Average	Last Quarter
Residential Owner-Occupied	60%	55%
Land Development	15%	20%
Second Mortgages	15%	11%
Builder Loans	10%	14%

The current quarter's figures for this institution show Red Flags in the Land Development and Builder Loan categories since those two figures have changed 33% and 40%, respectively. (The 25% Red Flag level and the 50% Trigger level are suggested, but other figures could be used, depending on the sensitivity supervisors desire and experience with the seasonal changes found in the chosen categories.)

Interest Rate Risk Measures. Interest rate risk is the potential for loss associated with nonparallel movements of interest rates and repricing schedules between interest-earning assets and interest-bearing liabilities. This risk can be measured using a number of different approaches. The two most widely discussed and reported are gap analysis and duration analysis. Gap analysis is relatively simple to perform, but duration analysis provides more information and a better theoretical justification. Since duration analysis requires significant computation and a relatively high level of financial sophistication to understand, gap analysis is the recommended approach for measuring interest rate risk at HFCs.

Gap analysis measures the monetary value difference of assets and liabilities with similar remaining term to repricing and is usually expressed as a percentage of total assets. It involves selecting various time intervals (or buckets) and determining the value of assets which reprice during that period. The value of liabilities repricing during the same time intervals are also computed. The value difference is the "gap" value for that period.

The traditional measures of interest rate risk exposure are the cumulative percentage gap at one year and at three years. It is recommended that NHB supervisory personnel use these two traditional measures for tracking the level in each HFC's interest rate risk exposure.

It is difficult, however, to determine what levels of cumulative one-year and three-year gaps should be used as the Red Flag and Trigger levels. These values should be determined on the basis of substantial knowledge about how far and how fast HFC costs of funds and portfolio earning levels are likely to move in any period. The author lacks this knowledge and suggests that the appropriate Red Flag and Trigger levels could be established with the help of economists or financial experts more intimately familiar with rate changes in the Indian economy. Development of such information is likely to delay the implementation of gap analysis to at least an intermediate-term implementation.

Liquidity Risk. The third type of risk that concerns supervisory personnel is liquidity risk. This risk deals with an institution's ability to honor depositor requests for withdrawals, to make payment of normal bills and to fund loans to which the HFC is committed. Liquidity risk is a matter of maintaining sufficient liquid funds on hand to meet daily needs.

Thus quarterly reporting of liquidity positions to a regulator has little meaning. HFCs have a daily liquidity requirement, but it would be extremely cumbersome to report and monitor those positions on a daily basis.

The more reasonable approach is to forego periodic reporting requirements similar to those for the other measures of risk. Instead, inspectors should develop procedures to trace the daily liquidity positions of inspected institutions during their periodic visits. Those institutions which are found to be in regular violation of liquidity requirements should be required to correct their procedures to eliminate the violations. But quarterly reporting measures like those used for measuring other risks do not appear appropriate.

The question of where to set the liquidity requirement appears open to change. In the past few years, the requirement has been set at the 10% level. Some discussions have centered on the advisability of using a 5% standard. The prudence of such a standard depends to a large extent on the back-up systems in place to handle liquidity crises. To the extent that an HFC is approved to borrow from the NHB and has its paperwork and other collateral in order to effectuate speedy borrowing, there appears to be little risk in lowering the standard to 5%.

Management Risks. The decisions made by management of a financial institution have the capacity to produce both positive and negative results. The potential for incorrect or harmful management decisions is management risk.

This report will discuss three types of management risks and recommend three ways to measure them. These risks have been identified from areas where managers of U.S. thrift institutions have made mistakes that have lead to detrimental financial results. These three areas cover: interest rate coverage/spread, asset growth and planning.

Any financial intermediary strives to operate with a positive spread between what it pays for the funds it borrows and what it earns on the funds it invests. Prudent and skilled managers borrow at rates as low as possible and invest at higher rates, commensurate with safe investment practices. The difference between the higher investment yield and the lower borrowing yield can be used to pay administrative costs and overhead at the institution and to yield a profit. Skilled managers operate with these interest spreads wide enough and administrative costs low enough that there is sufficient left over to produce a profit.

The adequacy of the difference between interest-earning assets and interest-bearing liabilities can be measured in several ways. Two of the most common are interest "coverage" and interest rate "spread." Interest coverage is the ratio of interest earned to interest paid/credited. That is, a small hypothetical institution which earns Rs. 150 on its invested assets and pays out Rs. 100 on funds borrowed from depositors and all other sources, has a healthy interest coverage ratio of 1.5. The interest coverage ratio is already being reported to the NHB by regulated HFCs. Data already submitted to the NHB over the last three reporting periods indicate a wide variation in the reported figure for interest coverage ratio. The reported figures contain so much variation and obvious errors that it is clear the reporting companies need instructions on how to compute this figure. For instance, one approved company reported a phenomenal ratio of 9.9, while another profitable HFC reported a ratio of less than 1.0. It is only after clear data are obtained that the appropriate Red Flags and Triggers can be determined.

The appropriate level for Red Flags and Triggers should be addressed by the advisory group mentioned earlier. However, it is recommended that this group consider the merits of the following: under 1.2 for the Red Flag level and under 1.1 for the Trigger level. Since this information is already reported, short-term implementation of these Red Flags and Triggers should be possible.

An alternative method of measuring interest coverage is to measure the "spread" or percentage difference between rates being paid on interest-earning assets and interest-bearing liabilities. If an institution is earning a weighted average rate of 15% on its loaned funds and is paying an average of 12.5%, it has an interest spread of 2.5%.

This measure is straightforward and simple to understand. However, it can produce a misleading impression of an institution's operating health. An institution may have a rather high average rate of interest on its invested funds and a low rate of interest on its borrowed money. This would result in a healthy measure of simple spread. But if the institution has a high level of non-earning fixed assets such as office buildings, equipment or repossessed assets, a simple measure of spread computed on the basis of yields on financial assets would produce an overly optimistic measure of management's performance. If a measure of interest spread were to be used by regulatory and supervisory authorities to monitor management risk at HFCs, it would be necessary for them to establish procedures to adjust for potential biases. For instance, it is possible to include an additional measure of performance which compares the level of interest-earning assets to interest-bearing liabilities. It is also possible to set rules for inclusion of fixed assets or non-performing assets at a zero interest yield when computing interest rate spread.

If supervisory authorities chose to measure management risk by using a form of interest spread, they will need to develop these procedures. Then, depending upon the procedures adopted and the asset and liability structure of the typical HFC, the NHB and the advisory group mentioned earlier could set standards for Red Flags and Triggers.

A second measure of management risk which should be monitored involves asset growth. In most businesses growth is viewed as healthy. However, institutions that are charged with the management of others' savings have serious responsibilities to assure that their growth is well-managed and under control.

Growth itself is not risky. Unmanaged growth can produce serious problems. Appropriate policies and procedures need to be adopted to assure that the growth is properly funded, that new funds are prudently invested and that all transactions are clearly documented and recorded.

A rapidly growing financial institution should be inspected more regularly than one that experiences slow growth. Properly trained inspectors can assess the adequacy of systems and procedures management has installed and can review sample transactions to determine if prudent policies and procedures are being followed.

It is recommended that the Red Flag level on asset growth be set at 25% on a quarterly basis. The trigger level should be set at 30% for a single quarter or two consecutive quarters over 25%.

Institutions identified under these targets would be those growing at rates in excess of 100% annually. Such institutions deserve special attention. (It may be necessary to provide exemptions in the monitoring system for new, small institutions which have very high-percentage growth rates in their formative stages.) Monitoring of growth can be implemented in the very short term.

A final measure of management risk centers on business planning. One of the essential measures of management success is the extent to which it can establish a business plan and then implement it.

Business plans can be limited or expansive in their scope. Some business plans are little more than annual budgets. However, the basics of an HFC business plan should include some of the measures of risk that have been discussed in this report. For instance, management should plan the mix of lending it will sanction. It should plan its growth. It should estimate the rates it will receive on its loans (net of delinquencies) and the interest it will be paying on deposits.

All of these estimated performance levels must be balanced and put into an overall projection of bottom-line results. The most difficult part of planning, however, is to develop and carry out the actions that must be performed to achieve the projected results.

Finally, performance must be monitored and compared to the plan. At times, variations may indicate that new actions are required to achieve management's planned level of performance. At other times, it may be necessary to revise the plan.

It is recommended that supervisory personnel at the NHB develop a limited number of measures, beyond those already described, for planned results at the HFCs they monitor. (One clear candidate for inclusion is the HFC's projected quarterly profits.) Each HFC should be required to submit to the NHB this limited set of projected operating results from its business plan. NHB supervisory staff should then monitor quarterly reports from the HFCs using a simple computerized exception reporting system which identifies "large" variances from business plans.

This system should report a Red Flag condition on any tracked measure for which there is a reported variance of plus or minus 25% on a quarterly basis. A Trigger should be reported on any variance in excess of plus or minus 50%, or when two or more consecutive quarters show a specific measure with a variance in a Red Flag condition. The monitoring of these variances will likely take a long term to implement.

Capital adequacy. The final dimension on which supervisory agents should focus is capital adequacy. Capital serves as the ultimate cushion against risk. Significant levels of poor-quality assets, substantial losses from unprotected interest rate movements, or the results of management mistakes can be absorbed by owners' capital. When capital levels at a deposit-taking financial institution are low, however, loss can eat through capital and leave the institution with a capital deficit. Such a condition means that the institution has insufficient resources to pay off its depositors. All of the risk measures discussed to this point in this report are aimed at monitoring the risk position of the institution and its likelihood of incurring losses that will dissipate capital.

Thus it is highly important that supervisory personnel monitor the capital levels of HFCs and assess the adequacy of capital, in general, and each HFC's capital in view of its particular risk profile. That is, an HFC which has virtually all of its assets in residential loans that are performing well may need a lower level of capital than a similarly-sized institution with a significant portion of its portfolio invested in builder loans.

Therefore, a risk-weighted capital requirement should be developed for implementation with all HFCs in the long run. In the longer term, NHB supervisory agents need to be monitoring changes in the overall asset classifications of HFCs. That is, they must be able to track the levels of Substandard loans, those classified as Doubtful, and Losses. This international classification system is likely to be implemented for all NBFCs if the Shah Committee recommendations are adopted. Thus the NHB will need to develop definitions for these classifications along the Shah/Narasimham recommendations and should be prepared, from an MIS point of view, to track the value of loans in each of those classes and to provide weights to those loans in the eventual computation of loss reserves. More immediately, however, NHB supervisory staff should establish Red Flag and Trigger levels for capital.

It is recommended that newer, smaller HFCs have their Flag and Trigger levels set higher than those that are better established and larger. This is due to the fact that newer management is typically untried, and small institutions have a lower margin for error due to their smaller capital bases.

The specific definitions for "small" up to "large" HFCs have been worked out in the past. "Small" has been those HFCs with NOF below 10 crores. "Medium" has been institutions with NOF between 10 and 20 crores. "Large" institutions are those with NOF exceeding 20 crores. However, these definitions should be reviewed and/or worked out with the NHB group providing advice on supervisory matters. The suggested Red Flags and Triggers presented below are all tentative in nature and should be discussed with the advisory group prior to adoption.

The capital adequacy of an institution should be measured by the ratio of its capital to its liabilities. Consistent with the Shah Committee's recommendations, the measure of liabilities should include all deposits and not allow an exemption for inter-corporate deposits. In addition, such a measure circumvents the problem of classifying some deposits as "exempted" and others as "nonexempt." The suggested capital adequacy Red Flag levels, segregated by institution size, are as follows:

Small HFCs	Below 12.5%
Moderately-Sized HFCs	Below 10.0%
Large HFCs	Below 8.3%

The tentative capital adequacy Trigger levels, segregated by the same asset size categories and again expressed in terms of capital as a percentage of total liabilities, are listed below.

Small HFCs	Below 11.0%
Moderately-sized HFCs	Below 8.75%
Large HFCs	Below 7.25%

Summary

The recommended elements of a supervisory monitoring system and the Red Flags and Triggers recommended in this report can be summarized in tabular form.

Flags and Triggers for the
Supervisory Management Information System of the NHB

Risk Category	Measure	Flag/Trigger Event	
Credit	Loan-to-Cost Ratio of Ind. Loans Sanctioned this Quarter	Flag: Trigger:	Over 60% Over 70% or 3 Qtrs over 60%
Credit	Higher-Risk Loans Sanctioned this Qtr. (Begin with Land Acq., Development and Builder Loans.)	Flag: Trigger:	Over 25% (T) Over 40% or 2 Qtrs over 25% (T)
Credit	Loan Collection I 90-180 past due.	Flag: Trigger:	Over 1.5% (T) Over 2.5% (T)
	Over 180 past due.	Flag: Trigger:	Over .8% (T) Over 1% (T)
	OR		
	Loan Collection II EMIs collect for Qtr. per Abt Survey	Flag: Trigger:	Under 97% (T) Under 94% (T)
Credit Avg.	Shift in Business.	Flag:	Over 25% variance from 4-Q
Avg.	See Explanation in Test of Report.	Trigger:	Over 50% variance from 4-Q
Interest Rate	One-Year Cumulative Gap	Flag: Trigger:	Over +/- TBD% Over +/- TBD%
Interest Rate	Three-Year Cumulative Gap	Flag: Trigger:	Over +/- TBD% Over +/- TBD%
Liquidity	No Measure	Handle during Inspection	
Management	Interest Coverage Ratio per NHB Current Reports.	Flag: Trigger:	Under 1.20 (T) Under 1.10 (T)
	Interest Coverage Ratio which Measures Portfolio Spread.	Flag: Trigger:	Under TBD Under TBD
Management	Asset Growth (Other measures are possible)	Flag: Trigger:	Over 25%/Qtr. Over 30%/Q or 2+ Qtrs over 25%

Management	See Explanation in Test of Report Planning	Flag:	Variance of +/-25%. Trigger: Variance of +/- 50%