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A Working Paper Regarding Capital Investment Guidelines for the National Housing Bank

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Indo-US Housing Finance Expansion Program

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I Overview

Introduction

Housing finance companies (HFC), like other financial institutions and business enterprises, require capital as a source of permanent financing. Capital provides shareholders, depositors, creditors, deposit rating agencies and regulatory supervisors with a variety of attributes. Capital, among other factors:

- Creates a cushion to absorb unusual operating losses that exceed an HFC's recurring earnings.
- Inspires market confidence in deposit safety, and enhances regulatory confidence in HFC soundness.
- Instills asset/liability management and growth discipline within an HFC.

Key stakeholders are able to exercise some degree of control for institutions operating without sufficient levels of capital. Shareholders may sell shares of inadequately capitalized institutions. Declining stock prices provide the market a signal that an institution is unable to generate a return on equity commensurate with investors' cost of equity. Depositors and other creditors may demand higher interest rates or withdraw funds from institutions deemed too risky. Higher deposit costs or unusual deposit withdrawal patterns signal risky situations. Credit rating agencies will downgrade an HFC's deposit rating if capital is judged inadequate. Lower credit ratings signal problems; especially if the rating is lower medium-grade (BBB) or below-investment grade (less than BBB). Regulatory supervisors, including the National Housing Bank (NHB), require minimum amounts of capital (e.g., Rs. 5 crore) to be recognized as an approved HFC eligible for refinance. In addition, regulation requires HFCs to possess sufficient capital to meet minimum risk-based standards (e.g., 8% capital to risk-assets). Capital is an important source of funding for an HFC. Low capital and inadequate capital ratios signal regulatory problems.

To operate as an approved HFC and maintain the confidence of key stakeholders, a confirmed housing finance company requires both a minimum amount and proportion of capital-to-assets. Higher levels of capital increase the base available to support unusual losses, and allows regulators to minimize the probability of liquidating or merging an insolvent institution. However, an HFC can have too much capital. By operating with a lower base of capital, management can increase financial leverage and optimize return on

equity so important to shareholders. Return on equity (net income/equity) equals an entity's return on assets (net income/assets) multiplied by its equity multiplier (assets/equity). A lower capital ratio is equivalent to a higher equity multiplier. If regulation or the market require too much capital, management either will generate an inadequate return for shareholders or incur pressure to increase efficiency **and/or** increase exposure to risk. A high capital ratio requires management to increase return on assets by a sufficient margin to offset the consequence of a low equity multiplier. While capital is normally viewed as a safe and sound base to absorb losses, capital requirements can encourage management to effect asset/liability decisions that increase risk exposure.

The amount of capital required by deposit institutions also impacts the economic growth of a country. Deposit institutions mobilize savings, provide a store of wealth and extend credit important to the capital formation process of India. HFCs intermediate funds obtained from depositors and other creditors, including refinance provided by the NHB, to make loans to finance housing construction and purchase. If HFCs maintain too little capital and incur several years of unusually high losses, numerous housing finance companies could fail. Depositors, creditors and credit rating agencies would lose confidence in the housing finance industry and the NHB, and cease to save funds in HFCs. Similarly, if HFCs maintain too much capital, housing finance companies will be unable to grow at a rate consistent with effective demand of prospective mortgagors. The sustainable growth rate of any organization is equal to its return on equity adjusted by a dividend payout (i.e., sustainable annual growth equals return on equity times one minus the dividend payout ratio). Capital carries important macroeconomic implications. With too little capital, an HFC will be unable to attract funds from surplus units willing to save monies. With too much capital, an HFC will be unable to grow at a rate commensurate with effective demand from qualified deficit units.

National Housing Bank

Capital is an important issue that must be addressed by management and regulatory supervisors. The National Housing Bank was chartered as a subsidiary of the Reserve Bank of India to: promote the housing finance industry, supervise housing finance companies, and provide financial support to housing finance companies. Most apex housing finance agencies in other countries provide financial support to domestic institutions committed to housing finance by extending credit. Some housing finance apex organizations act as a "lender of last resort," which is a function often associated with a central bank. The apex organization operating as a lender of last resort will only extend credit for short periods of time to allow an institution to overcome temporary liquidity problems. Other housing finance apex organizations provide financial support as a "lender of first resort." The apex organization operating as a lender of first resort is able to obtain funds at a preferential rate relative to the industry and relends the monies to members at lower rates or better terms than private institutions are able to otherwise obtain.

The NHB historically has been able to obtain low-cost, governmental-directed funds and relend the proceeds to HFCs on preferential terms relative to the market. Refinance represents an important function of the NHB; over 80 percent of its assets as of June 30, 1995 are invested in refinances to approved HFCs. The NHB also provides equity support for housing finance companies. Very few, if any, global apex housing finance governmental agencies invest in the equity of an institution subject to supervision by the same agency. Most apex housing finance agencies require institutional or individual promoters to provide sufficient equity capital to charter an institution and to maintain adequate capital to meet prudential regulatory rules. Capital normally represents a regulatory tool, rather than a potential public investment.

Capital can be leveraged far more extensively than refinance. For example, one Rs. crore of refinance supports one Rs. crore of new housing loans. If an HFC maintains a capital-to-assets ratio of six percent, one Rs. crore of equity may be leveraged to Rs. 16.6 crore of new housing loans and other investments. If an HFC maintains a capital-to-risk assets of eight percent, one Rs. crore of equity may be leveraged to Rs. 12.5 crore of new housing loans designated as 100%-risk weighted assets. Equity investment provides the NHB with a powerful tool to achieve its designated mission. An equity investment allows the NHB to promote housing finance, and support housing finance companies by increasing the capital base critical to a safe and sound HFC. Equity provides capital needed to be recognized as an approved HFC, and confers immediate credibility of an HFC in the market place. Consequently, an HFC may better mobilize savings in India and originate more mortgage loans for new homes. While the NHB has invested Rs. 10.4 crore as of mid-1996 in the equity of several HFCs and expects to commit at least Rs. 4.6 crore of additional equity capital into selected HFCs, the agency has not developed or approved a written set of guidelines for making such investments.

Working Paper Scope

The Indo-US Housing Finance Expansion Program has retained A. F. Ferguson & Co. to assist the NHB develop guidelines related to equity investment. The projected amount of funds to be committed by the NHB to equity investments is limited and subject to public oversight and scrutiny by market participants. Consequently, any guidelines must: 1) provide a uniform and transparent basis for extending equity support, 2) enable the NHB to utilize its equity support to meet strategic promotional goals, 3) provide flexibility consistent with market dynamics, and 4) enable the NHB to fulfill oversight supervisory responsibilities. The Regional Housing & Urban Development Office, located in New Delhi, India, requested the services of Abt Associates to develop the equity guidelines. The work is funded by the United States Agency for International Development.

This working paper was requested by Abt Associates to provide A. F. Ferguson & Co. insight regarding equity investment in HFCs. Section I of the working paper briefly establishes the issues applicable to equity investment from an institutional, regulatory and country perspective. Section II identifies the advantages and disadvantages of various

types of instruments that may be recognized as capital. The NHB can support capital formation, exert financial pressure, enhance safety and soundness, and more easily obtain an "exit" strategy by considering a range of capital instruments, rather than simply focusing on equity. The second section reviews financial parameters related to equity, subordinated debt, preferred stock and fixed-rate instruments convertible into equity. Capital must meet the objectives of an HFC. Section II focuses on capital from an HFC's perspective. To meet NHB objectives, capital must allow an HFC to better support housing finance in India. Section III reviews equity investment from the NHB's perspective. The equity commitment must allow the NHB to promote the industry, operate with transparent and fair procedures, and maintain a sound fiscal base. The procedures must consider how to invest funds, how to monitor the investment, and very importantly, exit from an investment. Section IV summarizes the key issues related to capital investment. The recommendations included in the final section are structured to provide A. F. Ferguson & Co. an additional source of information from which to develop equity guidelines.

II Sources of Capital and Housing Finance Companies

Importance of Capital

Capital management is a continuous process. The definition, amount, base and method of determining capital adequacy change over time and differ among countries. However, the importance of capital is paramount to any deposit institution, including an HFC. Capital long has been viewed as the cornerstone of a safe and sound depository system. The NHB requires approved housing finance companies to meet several criteria applicable to capital:

- **Minimum Initial Capital** -- Initial capital must equal Rs. three crore. The NHB is increasing the minimum capital to Rs. five crore. Based on a survey compiled by A. F. Ferguson & Co., the higher capital initially required to be recognized as an approved HFC will adversely affect the eligibility of three or four confirmed HFCs that maintain capital larger than Rs. 50 lakhs. Higher minimum capital levels restrict the number of confirmed institutions capable of becoming eligible for refinance.

- **Prudential Capital** -- HFCs must maintain capital in a proportion that reflects prudential risk-based capital guidelines. The NHB, similar to most regulatory supervisory operating in other countries, require capital to equal or exceed eight percent of risk-weighted assets. The NHB increased the capital ratio from six to eight percent as of 1996. Higher risk-based capital requirements encourage capital-deficient HFCs to raise capital, shrink the asset base, or to favor low-risk investments.

- **Diversification** -- HFCs should not lend more than 30 percent of net owned funds to one borrower to be eligible for refinance. The loan-to-one borrower ratio constraint is commonly prescribed by most regulatory supervisors to prevent the loss of one customer from bankrupting an institution. Many regulators limit loans-to-one

borrower to 15 percent of net owned funds when unsecured and 25 percent when secured by marketable collateral. Prudential guidelines issued by the NHB follow such practice; an HFC should not lend more than 15 percent of net owned funds to any single party or 25 percent to a single group of parties.

Management have an incentive to meet minimum capital rules. Well-capitalized banks will be approved by the NHB for refinance. Based on SEBI guidelines, a housing finance company eligible for refinance from the NHB can publicly issue securities. Well-capitalized HFCs are typically subject to fewer supervisory restrictions and bear lower regulatory costs than under-capitalized institutions.

The NHB divides capital into two tiers. Tier I capital is core capital, which provides a permanent base to support unexpected or large losses. Tier I capital comprises paid-up equity capital, and free reserves unrelated to the revaluation of assets. Tier II capital consists of elements that lack the permanence of Tier I. Tier II capital comprises preference shares, a portion of revaluation reserves, general loan loss reserves not to exceed 1.25 percent of risk-weighted assets, and subordinated debt. Subordinated debt is subject to a discount based on remaining maturity, and may not exceed 50 percent of Tier I capital. The total amount of Tier II capital cannot exceed 100 percent of Tier I capital. Capital was set to equal six percent of assets until March 1996, when the minimum was increased to eight percent common to most banks operating in other countries.

However defined, capital contributes to an HFC's financial operations. Capital, especially Tier I capital, allows management to enhance operating performance for a variety of reasons:

- **Net Interest Income** -- Capital allows an HFC to increase its net-interest earning asset ratio, which equals the volume of assets earning interest less liabilities and deposits bearing interest. The net interest income provides HFCs with the majority of income and expense. Management either may increase the net-interest earning asset ratio and/or increase the spread earned between assets and liabilities. Typically, management improve the spread by increasing risk exposure. For example, management might increase liquidity risk by selling securities and investing in loans that are less marketable. Or, management might increase interest rate risk by funding long-term, 15-year housing loans with short-term, one-year deposits. Alternately, management might increase credit risk by making more project loans rather than investing in government securities.

- **Operating Economies** -- Capital allows an HFC to accept more deposits, request additional refinance and issue more debt securities. Well-capitalized HFCs can grow more quickly than inadequately-capitalized firms. By pursuing growth, an HFC may better realize economies of scale common to deposit institutions. That is, an HFC can leverage fixed operating costs over a wider base; hence operate more efficiently than other firms. The NHB expects HFCs to keep administrative expenses to under 1.5 percent of outstanding loans.

- **Asset/Liability Flexibility** -- Capital allows an HFC to invest in a wide range of assets. Well-capitalized HFCs possess more managerial flexibility to invest in 100%-risk weighted assets than under-capitalized institutions. These other assets may allow an HFC to earn higher interest income and fees; hence generate profits important to supplementing capital via earnings retained. These other assets also may allow an HFC to reduce portfolio risk if the activities are not perfectly, positively correlated with traditional investments.

In short, there are numerous financial and regulatory reasons to focus on capital and the capital planning process within the housing finance system. Capital is scrutinized by many market participants.

The NHB requires approved HFCs to have deposits rated by one of several recognized credit rating agencies in India. The rating is required to be investment grade, that is equal to or higher than "BBB." The Credit Rating Information Services of India Limited (CRISL) assigns ratings after assessing all of the business, financial, managerial, regulatory, competitive, economic and fundamental factors that affect the credit worthiness of a borrower. CRISL literature specifically indicates, "Capital adequacy recognizes the assessment of a company's true net worth, and its adequacy in relation to the volume of business and the risk profile of its assets." Clearly, capital affects the credit rating of a company. Although the public does not appear to fully differentiate credit risk as of mid-1996, interest rate differentials will likely increase after the consequence of India's next economic recession and related defaults by more risky borrowers. Investors will shun high risk investments or require higher yields from risky securities once credit losses are realized. Ultimately, HFCs with lower deposit ratings will be required to pay higher interest rates to attract savings. Market interest rates affect the spread earned by HFCs. Capital is an important component affecting a credit rating. Given the pervasive importance of capital to an HFC, it is instructive to differentiate the advantages and disadvantages of alternative instruments. Although the NHB has only invested in the equity of several HFCs, it is important to consider a wider range of capital market securities. Certain securities that qualify as Tier II capital may provide both HFCs and the NHB with superior parameters than equity.

Capital Instruments

Generally, HFCs may issue securities that qualify as capital by a variety of instruments. For example, an HFC could issue common stock, preferred stock or subordinated debt. Because preferred stock is a hybrid security -- it is similar to bonds in some respects and to common stock in other ways -- the basic strategic choice is between Tier I common stock and Tier II subordinated debentures. There are important risk/reward differences between the two basic alternatives to raise capital. Inadequately-capitalized HFCs may find the choice limited to stock. Adequately-capitalized HFCs trying to raise new capital must ensure that the advantages of one instrument outweigh the

risks. Well-capitalized HFCs may find it desirable to reduce capital or change the composition of capital from equity to debt.

- **Common Stock** -- New common stock may be sold several ways: 1) on a pro rata basis to existing shareholders through a rights offering, 2) to the general public through investment bankers via a public offering, 3) to a single buyer or small group of buyers by a private placement, 4) to employees via an employee purchase program, or 5) to existing shareholders through a dividend reinvestment program. Regardless of the sales alternative utilized, common stock represents Tier I capital.

- **Subordinated Debentures** -- The NHB, similar to most regulatory authorities, prescribes minimum conditions for debt to qualify as Tier II capital. To be eligible, the instrument must be fully paid-up, unsecured, subordinated to the claims of other creditors, free of restrictive clauses and not redeemable at the initiative of the investor without the consent of the NHB. Subordinated bonds are issued with a fixed maturity, and the NHB applies a progressively higher discount as a bond approaches maturity. Debt with a maturity of less than one year does not count as capital for regulatory purposes. Although few HFCs have issued subordinated debt, the instruments can be issued: 1) to the public via an investment banker in an underwritten transaction, or 2) to a single buyer or small group of buyers in a private placement.

There are advantages and disadvantages of raising capital via either instrument for both an HFC and the NHB.

An HFC's board of directors must evaluate the relative benefits and risks of obtaining capital by any source. Similarly, the board of directors of the NHB must recognize the opportunities and threats associated with investing in different capital instruments. The institutional decision framework can be reduced to three major criteria; cost, risk and control.

- **Cost** -- Subordinated debt provides HFCs with a secondary source of capital, yet typically costs less to issue than common stock. The cost equation needs to consider both issuance expenses and financing costs. Issuance costs charged by investment bankers vary by size of issue and type of issue. More risky securities are underwritten with larger fees or sold on a "reasonable efforts" basis. An HFC is assured of raising funds in an underwritten transaction. An investment firm will try to place all securities when sold under reasonable efforts. Typically, subordinated debt is cheaper to issue than common stock. However, because the NHB would likely purchase either debt or equity in a private placement, issuance costs are less relevant to the decision framework. The cost equation must consider other factors. The interest expense applicable to debt is fixed. Investors purchase common stock with the ultimate expectation of receiving dividends that increase with time and successful operations. While there is no explicit cost of equity, investors require management to generate a return on their behalf. The cost of equity may be approximated by the bond premium model, which suggests the cost of equity equals the cost of subordinated debt plus an

equity premium ranging between five and ten percent. If an HFC would pay between 18 and 20 percent to issue subordinated debt, the cost of equity would approximate 25 or 30 percent. The **explicit** cost of debt is cheaper than the **implied** cost of equity. Because interest is recognized in India as a deductible expense for income tax purposes, the after-tax cost of debt is even cheaper than the cost of equity. The after-tax cost equals the before-tax cost multiplied by one minus the income tax rate. HFCs able to generate stable earnings subject to high levels of income taxation and with adequate liquidity should find debt preferable to equity. From a cost perspective, debt is typically a cheaper source of capital than common stock. However, the cost of Tier II capital is still higher than retail deposits or refinancings. Capital securities carry more credit risk and market risk than money market instruments.

- **Risk** -- Capital-deficient HFCs will find equity preferable to debt. Investors, credit rating agencies and regulatory supervisors view the probability of financial distress as high for deposit institutions with a small capital base. In addition, HFCs generating uneven core earnings or losses will be less able to take advantage of the tax subsidy offered by debt. Dividends on stock are discretionary while interest on debt is contractual. Common stock carries no maturity, while debt normally must be repaid within a period of five to 15 years. Common stock provides HFCs with a preferable source of capital from a risk perspective.

- **Control** -- There is no clear choice between debt and equity regarding control issues. By issuing debt, an HFC need not give up any voting control or share earnings with new shareholders. Debt avoids dilution of earnings and control that occurs when stock is sold, especially if sold at a price discount from book value. Although many bonds include affirmative and negative covenants structured to protect creditors, subordinated bonds issued as Tier II capital may not include such covenants. Restrictive covenants common to many bond indentures may restrict managerial flexibility.. However, regulatory supervisors invariably prefer HFCs to rely on Tier I capital rather than Tier II. Subordinated debt provides other more senior creditors protection if an HFC fails, yet the contractual interest payments and repayment at maturity may precipitate failure. The difference reflects the "going concern" definition of capital versus the "liquidation" perspective.

Regardless of the strategic factors affecting the issuance of capital, most firms around the world raise capital according to a preferred pecking order. First, firms rely on earnings retained to provide capital. Retained earnings do not require any issuance of securities; thereby avoiding flotation costs and dilution of control or earnings. Retained earnings limit the growth potential of adequately-capitalized HFCs to its return on equity adjusted by the dividend payout. Under-capitalized or newly chartered HFCs posting losses or small profits will not be able to rely on earnings as a preferential or sole source of capital. Second, firms prefer to issue subordinated debt, preferred stock or some variation with an equity sweetener. These securities minimize relative financing costs and maintain control of existing shareholders. HFCs able to take advantage of the tax deductibility of interest expense should find debt preferable to preferred stock. Finally, firms will issue common

stock via a public offer, a private placement or a rights offering. The issuance of common stock carries the highest issuance expenses, the highest after-tax costs of financing and may alert the investment community that the stock is overvalued. Investors often perceive that a firm's insiders have better insight regarding the pricing of common stock than external market participants. According to the "asymmetric theory of information," an HFC should issue shares when the stock is overpriced and repurchase shares when the stock is underpriced. Some investors believe that the issuance of stock is "bad" news. Still, equity is the only option for capital-deficient HFCs.

Each institution must determine for itself whether some variation of common stock or debt is preferable. The major advantages of common stock include the following:

- No obligation for a fixed or periodic payment.
- No mandatory maturity or redemption date.
- Improves creditworthiness, the deposit credit rating and regulatory compliance with rules related to capital.
- Enhances strategic financial flexibility to later borrow funds, pursue growth or enter new, more risky business activities within the 25 percent of assets limitation allowed HFCs.

The major disadvantages of common stock include the following:

- Extends voting rights to new shareholders.
- Dilutes proportional distribution of net income.
- Represents the highest cost of financing, albeit the cost is an implied cost of equity.
- Dividends receive no favorable tax treatment.

Subordinated debt, by contrast, retains common stock's disadvantages as advantages, and incurs disadvantages from common stock's advantages. Regardless of relative advantages and disadvantages of either source, capital allows an HFC to achieve a variety of objectives, to include:

- Avoid premature government takeover and maintain separate identity and viability.
- Improve creditworthiness as measured by a deposit credit rating, which reduces the cost of funding.
- Increase regulatory relations and better retains managerial control over strategic and tactical decisions.

- Enlarge the capital base, which supports the opportunity to pursue growth, mobilize savings and originate more housing loans.

Capital provides the NHB with a powerful tool to meet its mission and promote housing finance companies. As suggested by the discussion, capital may sometimes better be provided by debt rather than equity. In other cases, capital may better be provided by common stock. If the NHB is going to develop a policy to invest in equity, the agency should also consider subordinated debt. The **equity** investment guidelines should be expanded to **capital** investment guidelines. Although the capital choice discussion typically focuses on the merits of debt versus equity, other options should be considered. Selected deposit institutions in other countries add a convertible feature to preferred stock or subordinated debt. The resultant hybrid security that includes the equity sweetener deserves special recognition by the NHB.

The Convertible Option

Traditionally, deposit institutions evaluating securities that qualify as capital limit their selection to common stock, preferred stock or subordinated debt. The choice often is based on the relative cost and availability of each component of capital. In addition, the decision partially reflects the institution's strengths and weaknesses. Finally, the election is subject to compliance with appropriate regulatory requirements applicable to capital adequacy. HFCs able to generate stable earnings subject to high levels of income taxation typically find subordinated debt preferable. HFCs that are more concerned with improving viability and maintaining future financing flexibility find equity preferable. By adding a conversion feature to a bond or preferred stock, an HFC may substantially reduce the interest cost required to sell capital and later convert the issue to equity at prices 15 to 25 percent higher than available currently. Although the conversion feature may be added to debt or preferred stock, the subsequent discussion only considers debt.

Convertible debt is a security that can be exchanged later for common stock at the investor's option under conditions established by the issuer. If the debt is converted, the original Tier II capital is replaced with a like amount of common stock that provides a permanent source of Tier I capital.

- **Conversion Option** -- One of the more important features of a convertible security is the ratio of exchange into common stock. The convertible feature can be stated in terms of a ratio (number of HFC shares per bond) or a conversion price (the price at which each new share may be obtained). For example, a Rs. 10,000 par bond might be convertible into 200 shares of stock. The conversion ratio is 200 and the conversion price is Rs. 50. The conversion price is normally set 15 to 25 percent above the market price of stock when the security is first issued. A convertible bond provides an HFC with a delayed issue of common stock at a price higher than possible under current conditions. If structured according to regulatory guidelines, the subordinated debt may qualify as Tier II capital until converted or approaching maturity. The

conversion price must be adjusted for any stock splits or stock dividends that occur after the convertible bond is issued. The provision that protects investors against the adverse effect of a stock split or dividend is known as an anti-dilutive clause.

- **Call** -- Most convertible securities include a call provision, which is subject to approval by the NHB. The call feature allows an HFC to force conversion to stock or to retire the debt prior to maturity. An investor will accept conversion if the implied market value of the shares received exceed the call value of the debt. If the debt issued initially qualified as Tier II capital, conversion will not change the amount of total capital. Conversion will increase Tier I capital and reduce Tier II capital.

- **Interest Rate** -- The convertible option allows an investor to benefit if the stock of an HFC rises above the conversion price. For example, assume an HFC issued a Rs. 10,000 bond convertible into 200 shares of stock. If the bond is called prior to maturity when the HFC's stock is trading at Rs. 60, the value of the resultant stock is Rs. 12,000. The investor will accept the more valuable shares rather than accept a lower redemption value. If the bond is called prior to maturity and when the HFC's stock is selling below the conversion price, the investor will redeem the bond. In this case, the HFC would lose capital and highlights the importance of subjecting a bond's call to approval by the NHB. A convertible option provides an investor with a valuable option; the opportunity to benefit from rising equity prices. The bond provides an investor with another valuable option; the opportunity to receive par value at maturity if the issuer's equity does not appreciate. Options are not free. The HFC should expect to issue subordinated debt at a lower interest rate than the market would otherwise require. The interest subsidy is related to the equity conversion premium. Investors will accept a proportionately lower interest rate on the bond with a relatively lower equity conversion premium. By issuing a convertible subordinated bond, an HFC might obtain capital at interest rates equivalent or lower than available from deposits or refinance.

Convertible debt, like other capital issues, provides HFCs with potential advantages and disadvantages. There are specific advantages of convertible debt:

- **Low Cost Capital** -- HFCs should be able to issue convertible debt at a lower interest rate than straight subordinated debentures. Alternately, when and if the security is converted at a conversion premium, the HFC will sell stock at a higher price than available when the debt was first issued. The higher price reflects the conversion premium that typically ranges between 15 and 25 percent in other countries.

- **Value Maximization** -- An HFC creates value for shareholders by earning a return on equity (ROE) higher than the implied cost of equity (COE). The convertible feature allows management to achieve both financial objectives. By relying on debt capital, an HFC is able to maintain or increase the equity multiplier because debt is not equity. The convertible feature also allows an HFC to increase return on assets because the conversion feature reduces the interest rate required to obtain Tier II capital. Further,

the tax-deductibility of interest creates additional profit advantages associated with the security. By issuing capital, albeit Tier II capital, an HFC will affect the required return investors expect. The cost of equity equals the risk-free rate of interest applicable to a country's government bond rate plus a risk premium. The premium reflects the HFC's capital adequacy, asset quality, stability of earnings, depth of management, and liquidity. More capital reduces the risk of an HFC and lowers the required return demanded by investors.

Despite the low-cost source of capital available via a convertible issue, there are several risks. Relative to other sources of capital, convertible debt carries the following disadvantages:

- **Tier II Capital** -- Convertible debt is only recognized as Tier II capital. The amount and mix of Tier II funds that are recognized as capital is limited. In addition, convertible debt matures if not converted. Convertible debt does not provide the same permanence as equity.

- **Stock Overhang** -- The issue of a convertible bond creates an overhang of potential stock that is unsold. Until the security is converted or called, an HFC will find it more difficult to issue common stock by another private or public issue.

- **Control and Dilution** -- Although a convertible bond allows the issuer to sell stock at a higher price than initially possible, the price will be lower than the market price when converted. The investor should not accept conversion unless the equity value of the bond exceeds the call value. The HFC will need to share earnings and control with new shareholders when and if a convertible bond converts.

The conversion option expands the range of capital issues available to an HFC and the NHB. Both participants must ensure that the potential advantages of a convertible exceed the applicable risks.

The convertible feature allows an HFC to send a signal to the market that management has confidence in future earnings and growth. According to the asymmetric theory of information previously described, a bank should issue stock when management believe the its equity is overvalued. An HFC does not want to issue convertible debt that does not convert because of the undesirable effect of overhanging stock outstanding. Consequently, by issuing a convertible bond, management is demonstrating its belief that the common price will soon exceed the conversion price.

HFC management should evaluate the relative merits of augmenting capital by various sources. The spectrum of capital securities is much wider than suggested by common stock alone. By expanding the universe of capital securities to include common stock, preferred stock, subordinated debt and convertible debt, an HFC can best issue an instrument structured to both maximize earnings and to reduce portfolio risk. Similarly,

by expanding the universe of potential capital securities considered by the NHB, the apex housing agency can best fulfill its mission.

III Capital Investment and the National Housing Bank

Industry Promotion

The National Housing Bank was chartered in 1987 as a subsidiary of the Reserve Bank of India to accomplish several objectives, to include: 1) promote housing finance companies, 2) supervise the housing finance company industry, and 3) provide finance to the industry. The capital investment guidelines should be developed to ensure the NHB is able to fulfill its overall mission. The amount of funds committed to equity investments is small relative to refinance. As of 1996, the NHB has invested approximately Rs. 10 crore in equity, compared to almost Rs. 2,000 crore of refinance. The nominal comparison understates the importance of capital funding. Capital can be leveraged; Rs. one crore of capital supports between Rs. 12.5 crore and Rs.16.7 crore investments. Consequently, capital represents a powerful tool to promote the industry.

Industry Supervision

Virtually every deposit institution liquidated in any country of the world has low or negative capital at the time of failure. Capital is the cornerstone of a safe and sound institution. Problem institutions often suffer liquidity problems related to heavy withdrawals of deposits if the low capital ratio of a failing institution is recognized by market participants. The low capital and strained liquidity typically reflect other factors, to include:

- Poor management unable or unwilling to identify, measure, monitor or control risk.
- Quick asset growth that outstrips the sustainable growth of an institution from retained earnings.
- Passive directors and vague policy statements.
- High yielding assets, inadequately documented loans, and insider loans that lead to excessive loan classification and require a very high allowance for loan losses.
- An illiquid institution with a high loan-to-deposit ratio, little borrowing capacity, an excessive volume of contingent loan commitments and a poor "name" and credit rating.
- Excessive operating expenses, and exposure to interest rate risk and foreign exchange risk.

The National Housing Bank has a responsibility to ensure that any common stock, preferred stock, subordinated debt or convertible security investment allows a housing finance company to remain a viable intermediary in India.

Industry Financial Support

If the NHB expects to provide financial support to the industry over time, the apex housing finance agency itself must retain safe operations and a sound condition. The NHB must generate adequate income to meet supervisory, promotional and finance-related expenses. Otherwise, the NHB will be unable to raise funds in a market economy at a sufficiently low rate to relend at an attractive rate to housing finance companies. In addition, the NHB will lose the confidence of the RBI and will be unable to obtain additional equity important to supporting asset growth. Although the amount of funds currently dedicated to capital investment by the NHB is small, investment guidelines should follow financial principles that allow the NHB to retain an "AAA" credit rating independent of the RBI. The capital investment guidelines should consider each of the following principles:

- **Capital** -- In contrast to refinance, capital instruments are a more risky investment. The total amount of funds committed to capital investment should not exceed some portion of the NHB's net owned funds, say 25 percent. The current amount of funds committed to capital investment is still very small and represents less than three percent of net owned funds. The NHB could increase investment directed toward capital investment and achieve significant leverage of funds effectively committed.

- **Asset Quality** -- The NHB must establish the objective of capital investment. There are many alternative policies compatible with the mission of the NHB. For example, capital could be invested in unprofitable or under-capitalized HFCs; the equity invested would forestall or defer failure. Alternately, capital could be invested in profitable HFCs unable to meet prudential risk-based capital requirements; the capital would ensure all profitable institutions are able to attain investment-grade deposit credit ratings and remain viable. Or, the NHB could utilize the limited funds to meet social concerns of India by investing capital in HFCs committed to providing mortgage funds to economically weaker sections (EWS). The NHB could invest in a portion of capital for new HFCs prioritizing loans to the EWS or for existing HFCs committed to the EWS. In either case, it is important that institutional or individual owners have contributed at least one-half of the capital funds required to meet prudential capital guidelines. Otherwise, the NHB will be exposed to an agency conflict. Owners with a small equity stake in an HFC have an incentive to adopt high-risk operations; the owners either will achieve large returns or the NHB will suffer a large loss. The NHB should only invest capital is those HFCs that will be adequately-capitalized as a result of the NHB funding, possess good asset quality, have a talented management team and rely on a comprehensive risk-management system, retain sufficient liquidity, and are projected to generate sufficient profits to attract private investors.

- **Management** -- To minimize agency conflicts, the NHB should ensure that existing capital investments are closely monitored and new capital investments are provided according to transparent, consistent and fair guidelines. The NHB should be able to nominate and place independent, public citizen directors on the board of any HFC receiving equity funding from the agency. The number of directors appointed by the NHB should be in proportion to the amount of Tier I capital provided. If an HFC committed to the EWS has equity equal to Rs. three crore and the NHB invested an additional Rs. two crore, the agency would be able to appoint 40 percent of the directors. The ability of the NHB to appoint directors would terminate when the equity investment is repaid. As suggested previously, the NHB should invest in less than one-half of any HFC's capital base. The NHB should have some token representation if it invests in subordinated debt or convertible debt, say one director. However, the NHB should retain the option of appointing a proportional number of directors according to capital provided to total capital if an HFC is unable to pay interest and repay principal applicable to Tier II capital on a timely basis. Regardless of the number and proportion of directors appointed by the NHB, the individuals should **not** be employees or officers of the National Housing Bank. The NHB must preserve its own independence when supervising the industry.

- **Earnings** -- Although equity investments currently comprise a very small proportion of NHB assets, the activity should ultimately provide earnings capable of expanding the agency's own capital base. As suggested, equity is a high risk activity. The NHB can anticipate that several equity investments will provide a very low return or no return on funds advanced. By contrast, a like amount of funds invested should provide the NHB a very high return. It is critical that any equity investment possess an "exit" strategy prior to initial investment. The exit strategy represents the timing and determination of converting the capital invested to cash. Many promoters will wish to retain the option to purchase the equity from the NHB; thereby maintaining control. The NHB should resist allowing the stock to be repurchased by the HFC. A repurchase of stock would reduce the equity and liquidity of the firm. While it is currently illegal for any firm in India to repurchase stock, laws are modified over time. The NHB can best provide capital to deserving HFCs, maintain an earnings stream, and provide an orderly exit strategy by committing long-term subordinated debt. The debt can be structured as straight debt or convertible debt.

- **Liquidity** -- Again, given the small size of funds currently committed to capital investment, the activity carries few concerns applicable to the NHB's own liquidity management. However, it is important to recognize that equity investments may provide little liquidity for the NHB. Dividends need not be paid on common stock. Indeed, if an HFC is under-capitalized or just adequately-capitalized, it will be under pressure to retain earnings to support capital important to safe and sound operations. The exit strategy applicable to equity investment can be facilitated if an HFC lists its stock on an exchange in India. To qualify for refinance, an HFC is supposed to have listed stock on an Indian exchange. The NHB might sell some proportional amount of stock on an annual basis over a given period of time. For example, the NHB could

purchase Rs. one crore of a small HFC and agree to hold the investment for at least five years. The NHB would then retain the option of selling up to 20 percent annually over a five year period. By selling a small amount per year, the HFC's stock price will be under less market pressure from excess supply. Yet, the NHB will have an option to exit the investment and use the funds for new investments in deserving housing finance companies. The exit strategy would be well defined for subordinated debt; the principal must be returned at maturity.

Unless the NHB wishes to consider funds to be invested in HFC capital securities as "give away money," the investment guidelines must be structured to facilitate sound management by the apex agency.

Capital represents an important source of funds for any entity operating in a market economy. Capital is the supervisory cornerstone of a safe and sound deposit institution system. There are many types of instruments that qualify as capital. The capital investment guidelines should recognize the advantages and disadvantages of capital from an HFC's perspective. The guidelines also must reflect the opportunities and threats of different capital instruments from the NHB's perspective. The final section of the working paper integrates the two viewpoints

IV Capital Investment Guideline Recommendations

The National Housing Bank can promote housing finance companies far more effectively by investing capital than providing refinance. Capital may be leveraged by a multiple between 12 and 16 times; hence allow HFCs to promote home lending and construction. Capital is also more risky than refinance. There is no assured source of repayment with capital. Consequently, the capital investment guidelines must consider a number of factors. First, the capital investment must promote the industry. Second, the capital investment must allow an HFC to operate in a safe, sound and efficient manner. Third, the capital investment must allow the NHB to maintain financial operations and condition commensurate with an "AAA" organization within India. Fourth, the capital investment guidelines must be transparent and fair. The following recommendations are structured with these objectives:

- **Objective** -- The NHB must clearly articulate the objective of providing capital funds to an institution subject to its own supervision. Most market economies look to capital investors to bear the risk of failure and share the rewards of success. To avoid interference with the market and market pricing, the NHB might wish to limit capital investment to those HFCs whose business plan will support the EWS or other social priorities clearly established by the NHB. For example, the NHB could invest in capital instruments of newly approved HFCs operating in geographic areas or loan markets underserved by existing deposit institutions. Or, the NHB could invest in the capital of existing institutions that promote leveraging the capital to expand lending to the EWS. The NHB must clearly identify and prioritize the objective of investing in capital.

- **Amount of Support** -- To ensure that institutional or individual promoters retain a financial interest in the operations of an HFC, the NHB should only consider investing capital up to 49.9 percent of pro forma net owned funds. Otherwise, promoters will have an incentive to incur too much risk to the detriment of the NHB. The NHB must clearly indicate that capital investment is designed to **augment** the private capital of an HFC. In addition to limits applicable to investment in one HFC, the NHB should consider limiting the total amount of capital support to some percentage of its net owned funds, say 25 percent. Capital is a risky investment and the total investment should be subject to some portfolio constraint.

- **Prudential Norms** -- The NHB is responsible for supervising HFCs. The industry can best provide housing finance by mobilizing savings, providing a store of wealth and extending credit to deserving mortgagors exhibiting effective demand. The industry must operate from a base of capital sufficient to obtain an investment grade rating on deposits and to retain the supervisory confidence of the NHB. The NHB must ensure that any HFC receiving capital funds qualifies for an investment grade on deposits and meets **all** prudential capital norms.

- **Due Diligence** -- The NHB should conduct a review of the operations and financial condition of any HFC requesting capital funds. The review should ensure that it is legal to invest funds in the HFC and that there is a reasonable chance that the capital funds invested will be used appropriately by the institution. The review should evaluate the capital, asset quality, management, earnings and liquidity of the institution. The NHB must ensure that any capital invested represents a legal transaction that will be repaid at some point in the future.

- **Capital Alternatives** -- There are a variety of instruments that qualify as capital for supervisory purposes. Some institutions will find subordinated debentures structured as Tier II capital preferable to equity. Other institutions will require equity to support assets and risk-weighted assets. The NHB must identify the types of instruments that will be offered through the capital investment guidelines and might include: common stock, preferred stock, subordinated debt and convertible debt or convertible preferred.

- **Pricing Common** -- To avoid paying too much or too little for capital, the NHB should agree to purchase stock at the "market" price or perhaps some agreed upon premium from market, say a premium not to exceed 10 percent. If an HFC's stock is not traded or a market price is not readily available, the NHB should have stock appraised by an organization independent of the NHB and the HFC. Appraisers will likely compare the operations and condition of a prospective HFC being considered by the NHB to other institutions and adjust the comparable price-earnings ratio or a price-book value to indicate value. Because the issuance costs for capital are among the highest of any financial instrument, the NHB will provide a benefit to any HFC by avoiding flotation expenses. The NHB should purchase and sell equity at the market

price or independently determined fair value, subject to any premiums or discounts clearly indicated by policy.

- **Debt Pricing** -- If an HFC prefers to obtain capital by subordinated debt, the NHB must ensure the debt carries an interest rate commensurate with risk. Subordinated debt is more risky than refinance and should carry a higher interest rate than refinance. If subordinated debt is structured as Tier II capital, the instrument should possess a relatively long-term maturity; say ten to 15 years. The NHB should determine the ability of the HFC to generate sufficient earnings from the subordinated debt to "earn back" the principal invested. The earn back theory suggests that earnings generated by leveraging subordinated debt will provide a source of repayment of Tier II capital prior to maturity. Alternately, the NHB should consider investing in convertible debt at interest rates lower than refinance. The exact interest rate reduction applicable to a convertible security is subject to the conversion premium. A low conversion premium (e.g., less than 10 percent) should carry relatively low interest rates, while a high premium (e.g., greater than 25 percent) should carry relatively high interest rates. It is important to recognize that Tier II capital is more risky than refinance or deposits; hence should carry a higher rate than either funding source. Consequently, subordinated debt that is priced at the same interest rate as refinance should be consider "low" cost. Convertible debt will likely include a call option that allows the HFC to force conversion of debt to equity.

- **Repayment** -- Prior to investing in any capital instrument, the NHB should identify and discuss an exit strategy with the HFC. Debt carries an obvious exist, which is repayment at maturity. Common stock should be sold in the market in annual increments after a stated number of years; say five to ten years. The NHB should ensure that capital funds initially invested are fully returned after some period of time, say 15 years.

- **Representation** -- Capital investors represent an important stakeholder in a market economy. The NHB should receive the opportunity to appoint a proportional number of directors to the board of an HFC receiving equity funds. The directors should not be employees or officers of the NHB. The appointed directors should be well-qualified, independent public citizens of India with a common bond of the region or emphasis of the HFC. The NHB should have the ability to appoint at least one director when investing other types of capital. The NHB should be able to appoint a majority of directors to any HFC defaulting on payment of interest on debt or repayment of principal on debt.

- **Reporting** -- The NHB should prepare reports that identify the amount, timing and type of capital invested in HFCs. The reports should also indicate how the capital has been leveraged to support EWS or other social/financial objectives established by the NHB. The reports should indicate how and when the exit strategies will be effected. Finally, the reports should indicate what profit or loss the NHB has incurred by investing in capital securities.

Capital investments provide the National Housing Bank an innovative opportunity to promote the industry and increase access to housing finance. A. F. Ferguson & Co. may wish to consider the points raised in this working paper when developing investment guidelines on behalf of the NHB.