FINANCIAL INTERMEDIATION IN INDIA: A CASE OF AGGRAVATED MORAL HAZARD?

by

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May 2002

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JEL Keywords: density of government involvement, financial leverage coefficient,
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I. INTRODUCTION

Not since the early nineties have prospects for the Indian economy looked as uncertain as they do now. Despite a normal monsoon, GDP growth is estimated to have been only about 5 percent in 2001-02, domestic savings are stagnant, private investments are reportedly flat, the primary capital market is moribund, corporate activity is ebbing, exports have declined and unemployment and layoffs are rising. Most palpably, the confidence of investors in the capital markets is precariously low, with a series of problems and failures since the beginning of the year shaking the already unsteady foundations of financial intermediation. India’s largest mutual fund scheme has had to restructure its contractual redemption, at least two co-operative banks have become insolvent in the wake of a securities market scam, and, after the government structured a bailout for a mid-sized financial institution, a string of other intermediaries are in line. Recent disclosures by India’s largest mutual fund have underlined its precarious state.

Are the two sets of events – the economic slowdown and, at least the perception of, an incipient (systemic) crisis in the financial sector - correlated? Several conventional reasons have been ascribed to the current deceleration in India’s growth and the virtually flat private sector investment. But these are more the effects of underlying malaises. There have undoubtedly been exogenous contributors to the slowdown, including, inter alia, the meltdown of the technology sector and a global slowdown. But recent disclosures of problems of a number of financial intermediaries have underlined the close links between economic growth and the financial sector. There is still, moreover, inadequate understanding of the propagation mechanism for the shocks, despite the importance attached by policy makers to maintaining a sound financial system. The links are even more complicated if feedback mechanisms for financial sector “ solvency” and economic activity are incorporated.

The Indian financial sector has been monopolized by the public sector for much of the last three decades. Even after a decade of banking sector reforms, financial intermediation remains a predominantly government owned function. The persisting management control of a large section of financial intermediaries by the government has
moreover been reinforced, especially over the last few years, by the increasing use of a variety of practices that is increasing the density of government participation in the financial sector. A prominent reason is an attempt by government to boost public investment (both through direct spending and indirectly through intermediaries), partially to counter low private investment.

In this scenario, the normal mechanisms that mitigate moral hazard in agency situations are greatly weakened. First, public ownership of intermediaries reduces the (profit-maximising) incentive for requiring optimal co-financing from borrowers - both the absolute levels and the effectiveness of co-financing decline\(^1\). Second, the absence of effective bankruptcy procedures force intermediaries to roll-over existing sub-standard debt or convert them into equity\(^2\), thereby continually building up the riskiness of their asset portfolio and further diluting the (already weakened) notional co-financing norms. The use of intermediaries by the government as quasi-fiscal instruments, with increasing diversion of funds for non-commercial purposes, reinforces the decline in the quality of assets. Third, a virtual certainty of sustained bailouts by the government replaces a policy of “constructive ambiguity” [Mishkin, 1999] by one of “destructive unambiguity” [Mohanty and Patel, 2000]. Fourth, there is a higher regulatory forbearance for bank closure given their public sector ownership. The resulting political economy of financial intermediation leads to “aggravated” moral hazard.

Some of the substantial literature on financial crises has explored the links between the real and the financial sectors in terms of arguments of moral hazard and adverse selection emerging from the asymmetry of information between lenders and borrowers. This paper suggests a specific stochastic feedback mechanism – a financial leverage coefficient - that might have high power in explaining the observed relationships between the financial and real sectors in India. It concentrates on the lending aspects of

\(^1\) Public issues of equity in the primary capital markets have been falling since the middle of the post-reform period, implying decreasing levels of nominal co-financing, at least in a transparent (and therefore, a more desirable) form.

\(^2\) Some of the forms of the reportedly widespread practice of “evergreening” assets.
the financial sector as the key link, rather than the capital markets, for two reasons. First, it is now evident that many of the periodic episodes of securities markets turbulence in India have been linked to irregularities in procedures of banks and financial institutions and, in some cases, have occurred with their active connivance. Second, lending, compared to securities markets, is still dominated to a much larger extent by publicly owned institutions.

The analytical scaffolding of the paper is a formal model developed in Bhattacharya and Patel [2001], which integrates diverse strands of macroeconomic and financial research. These include the financial accelerator as a link between the real and financial sectors [Bernanke and Gertler, 1999]; research into the sequence of increasing fragility of the banking sector under imperfect prudential regulation [Dekle and Kletzer, 2001]; and the analysis of unobserved structural “turning points”, drawing upon the work of, among others, Hamilton [1989]. The model explicitly modifies the financial accelerator to account for government involvement in financial intermediation through the specification of an endogenous structural parameter that has the potential of converting the accelerator into a decelerator, and vice versa. The modified accelerator is called the financial leverage coefficient.

The structure of the paper is as follows. Section 2 reviews the characteristics and analyses the performance of financial intermediaries in India in terms of standard parameters. Recognising the inadequacy of these parameters for an effective description of the problems of the financial sector, Section 3 presents an impression of the problems in terms of four stylised facts that, to varying extents, result from a high and increasing degree of government involvement in the financial sector. Section 4 constructs a set of formal indices that attempt to validate the assumptions and trends underlying the observed performance of the financial sector and the stylised facts. Section 5 concludes with some policy implications and recommendations.

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3 In our case, moral hazard is also enhanced by government ownership of intermediaries who are involved in capital markets, viz., Unit Trust of India (UTI), Life Insurance Corp. of India (LIC), etc. These institutions used to have characteristics of both banks and securities institutions. For instance, UTI’s largest fund offered, till the end of 2001, fixed rates of returns on its units, akin to bank deposits.
II. THE FINANCIAL SECTOR IN INDIA

Although the importance of banks and financial institutions in the mobilisation and allocation of financial savings in India has diminished somewhat with the development of capital markets, these entities continue to dominate financial intermediation. This section outlines the role of financial intermediaries from the perspective of investment and economic growth.

II.1 Brief macroeconomic overview

After a spurt of 7 percent-plus rates in the mid-nineties, economic growth has considerably slowed down. The latest estimate of GDP growth for the first three quarters of 2001-02 is down to 5.3 percent\(^4\), after an anemic 4 percent growth in 2000-01\(^5\). The industry sector has been especially hard hit, with industrial growth plummeting from 5.4 percent during the period April-February 2000-01 to 2.6 percent in the corresponding ten months of 2001-02\(^6\). This is in line with the trends observed since 1996-97. The slowdown in both overall and industrial growth becomes starker if one compares two periods – roughly corresponding to the first and the second halves of the nineties (Figure 1 below).

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\(^4\) The fiscal year in India runs from April 1 to March 31. The spurt of GDP growth in the third quarter (October – December 2001) was driven by a 7.1 percent growth in the agriculture sector and a 10 percent growth in the financing and business services sectors. The Advance Estimate of real GDP growth in 2001-02 is 5.4 percent.

\(^5\) Revisions of GDP data in India are significant. For instance, Advance Estimates of growth in 2001-02 were initially 5.6 percent, which were revised down to 5.2 percent and thence to 4 percent as the Revised Estimates.

\(^6\) The Index of Industrial Production (IIP) showed a month-on-month growth rate of 2.3 percent in February 2002, compared to 4.5 percent in February 2001.
Even more disturbingly, investment levels in India have been steadily falling since the mid-nineties. On the other hand, the borrowings of the public sector – centre and states and other government owned entities\(^7\) – have increased steadily\(^8\). The overall fiscal gap of the public sector in 1999-2000 is estimated to have been 12.1 percent of GDP. The government is also increasingly relying on banks to finance its resource requirements – banks’ holdings of central and state government securities increased from 27 percent of their deposits in 1998-1999 to over 30 percent in 2000-01\(^9\).

Simultaneously, for reasons not completely emanating from the industrial and economic slowdown, new public issues in the primary capital market have declined

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\(^7\) These comprise Public Sector Undertakings (PSUs) and other government entities like State Electricity Boards, Road Transport Corporations, Port Trusts, etc.

\(^8\) So have resources mobilised through (post-office) small savings instruments, although definitional changes have created a distorted picture of mobilisation, as the reader will notice in Table 2 (see Section II.2.2 for explanations).

\(^9\) Although FIs are not required to subscribe to government securities, they are reportedly lending larger amounts to public sector entities; there is, unfortunately, little data on their lending patterns in most cases (see Appendix 2 on the asset portfolio of the Life Insurance Corporation of India (LIC)).
precipitously\textsuperscript{10}. In contrast, private placements of securities have increased dramatically – both the number of issues and volumes\textsuperscript{11}.

### Table 1: Key ratios of the Indian economy

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<td><strong>Gross Domestic Savings</strong></td>
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<td>of which, Public sector</td>
<td>22.5</td>
<td>23.5</td>
<td>22.0</td>
<td>23.2</td>
<td>23.4</td>
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<tr>
<td>Private corporations</td>
<td>1.7</td>
<td>1.5</td>
<td>-0.8</td>
<td>-1.0</td>
<td>-1.8</td>
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<td><strong>Gross Capital Formation</strong></td>
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<td>(Investment) of which, Public sector</td>
<td>23.1</td>
<td>25.0</td>
<td>23.0</td>
<td>24.3</td>
<td>24.0</td>
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<tr>
<td>Private corporations</td>
<td>3.5</td>
<td>4.2</td>
<td>3.7</td>
<td>3.7</td>
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<tr>
<td><strong>Public sector savings-investment gap</strong></td>
<td>-7.6</td>
<td>-5.1</td>
<td>-7.2</td>
<td>-8.8</td>
<td>-9.6</td>
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<tr>
<td><strong>Overall fiscal gap / deficit</strong></td>
<td>10.3</td>
<td>9.4</td>
<td>11.4</td>
<td>12.1</td>
<td>11.4*</td>
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Note: * Overall fiscal deficit number for 2000-01 is authors’ estimate.

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<td><strong>Capital Goods sub-Index</strong></td>
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<tr>
<td>of Index of Industrial Production (IIP)</td>
<td>9.2</td>
<td>12.6</td>
<td>6.9</td>
<td>1.8</td>
<td>-4.2*</td>
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Note: * Pertains to the period April-February 2001-02. The Capital Goods sub-Index accounts for 9.3% of the IIP.

One of the most noteworthy characteristics of savings and investments in India is the large discrepancy between the savings and investment performance of the public sector (Table 1 above). In the last year for which data is available, 2000-01, the public sector utilised more than a third of domestic savings, while actually dis-saving 1.8 percent. Note, too, the inverse relationship of the savings and investment behaviour of the public and private sector, respectively. Investments by the private corporate sector have fallen from 10.6 percent of GDP in 1995-96 to 6.5 percent in 2000-01, while its savings rate has remained steady at around 4 percent over the period. On the other hand, the share of the public sector in total capital formation has been on the rise since 1997-98, after having fallen (almost) secularly since a peak of 39 percent of investment in 1991-92.

\textsuperscript{10} New issues boomed in 1999-2000, in line with trends worldwide, following the “dotcom” boom, but this rise was short-lived.

\textsuperscript{11} Most of the privately placed issues were debt. The spurt of private placements of equity in 1998-99 was reportedly more due to high premiums for the issues than large sizes (see Section II.5.1 for details).
II.2 Government financing in India

This section is an overview of the pattern of government involvement in India’s financial assets. The involvement is manifest through three channels: (i) direct ownership of intermediaries, (ii) mobilisation of resources and (iii) policy directives on credit. These channels encompass mobilisation of financial savings and its utilisation for investment and working capital. The involvement is both direct, through its own channels and those of the financial intermediaries it owns, as well as indirectly, through statutory restrictions and directed lending requirements.

II.2.1 The market borrowing program

The role of the central and state governments and their entities in the appropriation of financial savings \(^{12}\) has been increasing since the slowdown in India’s economic growth – despite definitional finagling, the overall fiscal deficit rose from 8.5 percent of GDP in 1995-96 to 12.1 percent of GDP in 1999-2000 \(^{13}\). As noted in the previous section, although the public sector itself is dis-saving, its share in total investment is steadily increasing. There exist virtually no studies on the rates of return (and efficiency) on these investments. In addition, \textit{de facto} sovereign borrowings have been conducted through various intermediaries, e.g., the India Development Bonds (IDB) in 1991, the Resurgent India Bonds (RIB) issue in 1998 and the India Millennium Bonds (IMB) issue in 2000, all through the State Bank of India (SBI).

II.2.2 Mobilisation of resources through small savings (SS)

Small savings (Post Office Savings, National Savings Certificates, Kisan Vikas Patras, etc.) and (Employee and Public) Provident Funds have been significant (captive)
resource mobilisation instruments for the central government\textsuperscript{14}. Resources intermediated through small savings (SS) rose from 5.5 percent of total financial savings in 1995-96 to an estimated 11.6 percent in 2000-01. The definitional treatment of SS, including provident and other funds, has undergone two significant changes in the recent past. First, in the central budget for 1999-2000, the share of SS devolved to the states was taken out of the centre’s fiscal deficit\textsuperscript{15}. Second, since 1999-2000, the centre’s share of SS collections is converted into Government of India securities and is treated as part of internal debt. As a consequence, while the SS outstanding as a share of GDP fell from 19 percent in 1998-99 to 10.3 percent in 1999-2000, that of internal debt rose from 26.1 percent to 36.5 percent.

II.2.3 Government guarantees and other contingent liabilities

Total centre and state guarantees in 2000-01 rose (in nominal terms) by 11.6 percent compared to the previous year, on top of a high 20.8 percent growth in 1999-2000. More worrying, after having gradually declined as a share of GDP since the early nineties, they have begun to climb again since 1997-98, rising significantly from 9.7 percent to 11 percent of GDP in 2000-01. The increase was mostly contributed by the states, with outstanding guarantees of 17 major state governments at 6.4 percent of GDP (Rs 1,248 billion (bn)) at end-March 2000, up sharply from 5.5 percent of GDP as of end-March 1999\textsuperscript{16}.

II.3 Financial intermediation in India

Banks and financial institutions have been facing increasing competition from securities markets since the inception of the financial liberalisation process of the early nineties. They continue to remain dominant, however, in mobilising India’s financial

\textsuperscript{14} As well as for sources of financing for states, since they get a majority of these funds as statutory devolvement.

\textsuperscript{15} States were thenceforth required to issue bonds to the National Small Savings Fund (NSSF) against their share of transfers of SS collections, thereby taking an equivalent amount out of the ambit of the centre’s fiscal deficit, which consequently dropped (as budget estimates) from 5.4% of GDP to 4% in 1999-2000.

\textsuperscript{16} Even though states’ guarantees, as a percentage of GDP, dipped in the mid-nineties, they have been rising again. Also, the nominal stock of guarantees increased at 11% per annum between 1992 and 1999 [Thorat and Roy, 2001].
savings. To appreciate the magnitude of this dominance, it is necessary to provide a brief overview of the securities market in order to highlight the relative quantum of resources intermediated through banking intermediaries and securities market institutions. Although the design of equity markets in India is sophisticated, their use as vehicles for primary resource mobilisation has diminished considerably in recent years, primarily through a loss of investor confidence following a series of scandals. Debt markets are relatively undeveloped, although there is large debt outstanding, primarily of government securities, a large part of which is held by banks, especially public sector banks (PSBs).

Mutual funds are an increasingly important vehicle for financial intermediation in India. The growth in the corpus of assets under their management had outpaced that of bank deposits in the early and mid-nineties, although they have fallen behind since 1997-98. The total assets under management of mutual funds, as of September 30, 2001, were Rs 918 bn (4.2 percent of GDP). Even in this competitive segment with relatively low entry barriers, the importance of public sector mutual funds, especially Unit Trust of India (UTI), as a share of total assets under management continues, seven years after the entry of private funds. Although UTI’s share of the total corpus has declined to 53.6 percent at this date (from its share of over 80 percent in 1995-96), it remains by far the largest fund.

The major intermediaries in the Indian financial sector are commercial banks, the All India Financial Institutions17 (AIFIs, henceforth FIs) - encompassing term-lending institutions, investment institutions (IIs), specialized financial institutions and the state-level development banks – and Non-Bank Financial Companies (NBFCs) (Table 2

17 These comprise the Development Finance Institutions (DFIs) like Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Finance Corporation of India (IFCI), Specialised Financial Institutions (like EXIM Bank and IDFC), Investment Institutions (like the Unit Trust of India (UTI), Life Insurance Corporation of India (LIC), General Insurance Corporation of India (GIC) and its subsidiaries) and Refinance Institutions (like the National Bank for Agricultural Reconstruction and Development (NABARD) and the National Housing Bank (NHB)).
below)\textsuperscript{18}. Figure 2 below depicts the relative importance of these institutions in intermediating financial assets in India.

**Figure 2: Share of intermediaries in financial assets in 2001**

- 15.4% Term lending institutions
- 18.1% Investment institutions
- 66.0% Other institutions
- 0.5% Banks

Note: “Other institutions” denotes the Export Credit Guarantee Corporation (ECGC) and the Deposit Insurance and Credit Guarantee Corporation (DICGC).

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<th>Table 2: Comparative size of financial intermediaries (as percent of GDP)</th>
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<tr>
<td>Small Savings deposits, PPFs, etc. (SS)</td>
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<td>Mutual Funds (Assets under management)</td>
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<td>NBFC Assets</td>
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<td>Investible Resources of FIs (except UTI)</td>
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**Memo item**

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<td>Source: RBI Annual Reports, RBI Monetary Policy Statements, RBI Reports on Currency and Finance.</td>
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Notes: * The figures for Small Savings since 1999-2000 relate to the centre’s small savings only and prior to this period, the figures represent both centre’s and states’ together (see section II.2.2 for details). BSE: Bombay Stock Exchange.

Following the nationalization of the banks (in 1969 and 1980), the banking sector primarily met the government’s dual objectives of financing priority sectors and minimizing the cost of government borrowing. These objectives were met, for the most

\textsuperscript{18} We largely exclude NBFCs from the ambit of this paper, given the minimal involvement of the public sector in this segment of intermediaries and their small share in asset intermediation.
part, through administrative measures, which impeded the free and efficient allocation of financial resources, creating a number of distortions.

By 1990, there was serious concern about the financial condition of public sector banks, many of which had become unprofitable, under-capitalized and burdened with unsustainable levels of non-performing assets on their books. Against this background, and as part of the structural adjustment program initiated in 1991, a number of reform initiatives were taken on the basis of the recommendations of the Committee on Financial System (CFS), 1991.

The reform measures have had a positive impact on the financial system. Competition in the system has increased, but the overwhelming presence of government-owned institutions in all segments has meant that they still continue to be Stackelberg leaders. The introduction of new prudential norms uncovered a large stock of non-performing loans and gave a clearer indication of the weak financial position of the public sector commercial banks. Nonetheless, banks responded positively to the new initiatives: most of the banks now meet the capital adequacy ratio; non-performing loans have declined (as a percent of advances), although at some banks they remain at uncomfortably high levels; and there has been some improvement in profitability. This improvement, however, has been meager and the financial performance of PSBs leaves a lot to be desired (see Table A1 in Appendix 1; also see Srivastava [1999]).

Unlike India’s equity markets, substantive reforms have mostly bypassed the lending side of its financial sector. Although there have been changes in the norms of capital adequacy, income recognition and asset classification during the past decade of liberalisation, adequate – let alone complete – transparency has not been achieved. Compounding this lack of reform (or probably being its predominant cause), much of this segment is publicly owned (or has a significant government shareholding) and accounts

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19 In the sense that even the private and foreign banks continue to retain high lending rates and thereby maintain higher operating margins than the public sector banks.

20 By March 2001, 25 out of 27 public sector banks had met the RBI-stipulated capital adequacy ratio requirement of 9 percent.
for an overwhelming share of financial transactions\textsuperscript{21}. The public ownership of these institutions creates an environment where market discipline is perceptibly weak. FIs (including IIIs) have been used to support vague (and sometimes extra-legal) objectives – providing artificial support to stock markets, underwriting the government’s disinvestment targets, contributing assistance to states based on the political clout of the representatives, and occasionally, overt lapses in due diligence.

It is worth noting that most of the recommendations of the CFS that have been accepted and introduced, although significant, are in the nature of ratios, rates and accounting. The same degree of progress has not been attained with regard to structural and systemic aspects of the reform agenda.

The importance of FIs in financial intermediation can be gauged from their 70 percent share in total loans sanctioned in 2000-01\textsuperscript{22}. The Life Insurance Corporation of India (LIC), as of March 2001, the latest date for which figures are available, had a total business of Rs 7,300 bn, in terms of sums assured. The corpus of its Life Fund was Rs 1,860 bn\textsuperscript{23}.

\section*{II.4 Government ownership of financial intermediaries}

In India, commercial banking is dominated by the existing 27 public sector banks (PSBs), which account for 80 percent of assets, as of end-March, 2001\textsuperscript{24}. Of these, as of date, fourteen are still wholly owned by the (central) government (or its entities) and thirteen are partly privately owned (Table A2a in Appendix 1)\textsuperscript{25}. PSBs were first able to raise capital in the domestic equity markets only in the early 1990s, and since then,

\begin{footnotesize}
\textsuperscript{21} Public sector banks and term lending institutions accounted for over 81 percent of lending and investments in 2000-01. Of the total deposits in the banking sector, 77 percent is with the public sector banks. Resource mobilisation by the financial institutions, especially DFIs, has increased in a manner virtually mirroring the decline in issues in the primary capital markets.

\textsuperscript{22} The share of FIs in total loans advanced and investments made in 2000-01 was over 35 percent. Their share in total loans outstanding at end-March 2001 was over 50 percent.

\textsuperscript{23} A measure of LIC’s ability to cover risk.

\textsuperscript{24} Which include 19 nationalised banks and 8 banks of the State Bank group (the State Bank of India and its associates).

\textsuperscript{25} The nationalized banks that are still completely owned by the government are Allahabad Bank, Bank of Maharashtra, Canara Bank, Central Bank of India, Indian Bank, Punjab & Sind Bank, UCO Bank, Union Bank of India and United Bank of India.
\end{footnotesize}
thirteen of them have raised over Rs 57 bn. Two aspects of the equity issues of PSBs are evident: (a) the RBI and the government are still the owner, manager and regulator of a large segment of the financial sector\(^{26}\); and (b) the pace of bank privatization has been extremely slow; in fact, not a single PSB has been privatised in any sense of the term.

The driving force for state-owned banks to seek private capital has been to attain their capital adequacy requirements — rather than boosting productivity through privatization per se. The government’s real objective in the exercise is given away by a preference for “divestment” through dribbles of private equity rather than large strategic stakes. Private capital has been introduced through new public issues rather than divestment of existing equity\(^{27}\). With the government finding it increasingly difficult to use public funds to recapitalize banks, the pressure to raise private capital has been intensified. However, reliance on this route is constrained by the poor stock market performance of most banks and the concomitant lack of investor interest: public sector banks whose financial performance has not been strong are having problems in raising funds from domestic and international markets\(^{28}\).

A point of caution, here. The financial plight of IFCI, which has a government stake of 44 percent (Table A2b in Appendix 1), makes amply evident that mere reduction of government ownership of financial institutions below majority levels is not sufficient either to stop its intervention or reinforce commercial discipline into the decisions of these institutions. This implies that the government has to relinquish (anything but the most minimal, if at all) ownership of these institutions – small, intermittent divestitures are meaningless.

The Banking Companies (Acquisition and Transfer of Undertakings) Bill and Financial Institutions Laws (Amendment) Bill were tabled in Parliament in 2000, but

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\(^{26}\) The Bank Nationalization Act stipulates a minimum 51 percent government share holding in nationalized banks and the SBI Act mandates that the RBI’s stake in the State Bank of India can be no less than 55 percent.

\(^{27}\) Under the current law, while the RBI’s stake in the State Bank of India is transferable, the government’s share holding in nationalized banks is not. Of course, the law can be amended.

\(^{28}\) Given the global trend towards consolidation and mergers, it is unlikely that small Indian banks will be able to float equity abroad.
have not yet been enacted. These seek to reduce the minimum shareholding by
government in nationalised banks to 33 percent and provide greater leeway to
development financial institutions (DFIs) to raise resources as well as impose tighter
prudential requirements on them.

II.5 Resource mobilisation

Although inflows into debt and liquid mutual funds rose significantly in the early
and mid-nineties, the largest growth in deployed savings since 1997-98 has been in bank
deposits, accounting for over 50 percent of financial savings in 2000-01\(^\text{29}\). This growth is
indubitably as a perceived safe haven for increasingly risk-averse investors, unwilling to
risk the higher returns of capital markets. Despite bulging deposits, industrial credit off-
take from these banks have slowed significantly – there are few viable projects to deploy
these funds. Investments in corporate bonds and debentures are also low, partially due to
the series of redemption failures (albeit small) in the recent past. Over 38 percent of
incremental deposits have been invested in government securities in 2000-01.

Since FIs in India cannot accept deposits and their recourse to statutory sources
has dried up during the last 8 years or so, they have made large issues of bonds of varying
maturity (ranging from 1 year to as long as 20 years) through public issues as well as
private placements.

II.5.1 Mobilisation through capital markets

Fresh public issues of equity, both IPOs and of existing stocks – which are an
indicator of project promoter co-financing - have come almost to a standstill. Private
placements of issues (especially of debt), on the other hand, have grown rapidly since the
mid-nineties. There was even a spurt of privately placed equity issues in 1998-99, but the
large volumes of placements were reportedly more due to a high premium on these issues
rather than a large size of placement.

\(^\text{29}\) Table A3 in Appendix 1 provides a breakdown of resource mobilisation by type of financial
intermediary.
Resource mobilisation through private placements in 2000-01 was Rs 675 bn, an increase of 10.1 percent over the previous year (Table 3 below)\(^{30}\). Of this, DFIs were the largest issuers (Rs 148 bn) followed by public sector undertakings (PSUs) owned by state governments (Rs 120 bn). PSU bonds, traditionally issued through public placements, are also increasingly being privately placed in recent years (Table 3 below). The growth of even private placement issues, however, has slowed down significantly compared to the three previous years.

### Table 3: Resource mobilisation through capital markets (Rs bn)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public issues of debt &amp; equity:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>By Private corporations</td>
<td>160</td>
<td>104</td>
<td>31</td>
<td>50</td>
<td>52</td>
<td>49</td>
<td>57</td>
</tr>
<tr>
<td>Public Sector Banks / FIs</td>
<td>35</td>
<td>44</td>
<td>15</td>
<td>44</td>
<td>26</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td><strong>Public issues of debt</strong></td>
<td>76</td>
<td>87</td>
<td>34</td>
<td>68</td>
<td>50</td>
<td>36</td>
<td>63</td>
</tr>
<tr>
<td><strong>Public issues of equity by private corporations and banks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of which IPOs</td>
<td>53</td>
<td>43</td>
<td>9</td>
<td>4</td>
<td>26</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td><strong>Private placements</strong></td>
<td>134</td>
<td>151</td>
<td>301</td>
<td>497</td>
<td>613</td>
<td>675</td>
<td>489*</td>
</tr>
<tr>
<td>Of which Private sector</td>
<td>41</td>
<td>25</td>
<td>92</td>
<td>170</td>
<td>194</td>
<td>244</td>
<td>NA</td>
</tr>
<tr>
<td>Public sector</td>
<td>93</td>
<td>126</td>
<td>209</td>
<td>327</td>
<td>419</td>
<td>431</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Bonds issued by PSUs</strong></td>
<td>23</td>
<td>34</td>
<td>30</td>
<td>49</td>
<td>86</td>
<td>156</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Source:** RBI Annual Reports, various issues, latest 2000-01. Figures for 2001-02 are from the Macroeconomic and Monetary Developments in 2001-02 supplement, RBI Monetary Policy document.

**Notes:**
* Pertains to the period April – December 2001. NA means Not Available.

Public issues are through prospectus and rights. Private placements were negligible prior to 1994-95.

There is nothing inherently problematic with private placement of securities – this is an accepted practice worldwide due to transactional advantages offered through the use of this route. Benefits include a lower cost of borrowing, by avoiding costs associated with disclosure and advertisement, and the ability to borrow at one go, rather than access markets in tranches with their associated repeated transactions costs, without adverse effects on prices. In India, additionally, the peculiarities of its financial regulations

\(^{30}\) These are RBI data. SEBI data show these as Rs 866.35 bn (compared to Rs 61.1 bn through IPOs, rights and debenture issues). The discrepancy in data on private placements vary considerably, with RBI figures differing from SEBI data, both of which do not tally with figures collated by other organisations that are reportedly better informed about private placement issues.
confers another benefit to banks in subscribing to debt issues, whether public or private: exemption of placements from priority sector lending requirements, which are applicable in the event of direct loans (credit).

In India a large fraction of the resource mobilisation of publicly owned DFIs is conducted through privately placed securities, the bulk of which is reportedly subscribed to by other public sector intermediaries. Financial and investment institutions are also the bulk of subscribers to privately placed securities of corporations, which reportedly have been the cause of many of the problems of the beleaguered intermediaries during times of capital market crises and economic slowdown. This points to the unfortunate inference that the quality of due diligence in the subscription to these securities might not have been of the same quality as those of public issues (with their associated disclosure requirements).

II.6 Performance of banks and financial institutions

II.6.1 Profitability

The financial performance of Scheduled Commercial Banks (SCBs) in 2000-01, in terms of the key parameters of operating and net profits, was mixed. While operating profits increased 7.9 percent over the previous year, net profits (net of provisioning for bad debts) declined precipitously. It is unclear how much of the operating profits were due to capital appreciation of the government securities held by these banks. The combined net profits of the financial institutions (excluding IIs) declined by over 35 percent, primarily due to higher rates of growth in expenditure compared to income, a phenomenon partially reflected in increasingly adverse spreads (net interest income), which declined from 1.7 percent of total assets in 1999-2000 to 1.6 percent in 2000-01 (see Table A4 in Appendix 1 for some financial parameters of select DFIs). The other major contributor was higher provisioning. Table A5 in Appendix 1 provides a comparative picture of select performance parameters of the banking sectors of a few countries.
II.6.2 Capital adequacy ratios (CAR)\textsuperscript{31}

There has been a distinct improvement in the capital adequacy position of the Indian banking sector over the medium term. As of end-March 2001, 23 of the 27 PSBs had capital in excess of 10 percent of their respective risk-weighted assets, two above the minimum mandated level of 9 percent, one lower and another negative (Table 4 below). However, the average CAR of the 27 public sector banks fell from 11.9 percent in 1999-2000 to 10.9 percent in 2000-01\textsuperscript{32}.

### Table 4a: Capital adequacy of select banks and financial institutions (as percent)

<table>
<thead>
<tr>
<th>Capital</th>
<th>31.3.00</th>
<th>31.3.01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tier I</td>
<td>Tier II</td>
</tr>
<tr>
<td>State Bank of India</td>
<td>8.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Average of 27 PSBs</td>
<td>7.3</td>
<td>4.6</td>
</tr>
<tr>
<td>ICICI</td>
<td>11.5</td>
<td>5.7</td>
</tr>
<tr>
<td>IDBI</td>
<td>12.3</td>
<td>2.2</td>
</tr>
<tr>
<td>IFCI</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

### Table 4b: Capital adequacy of select banks and financial institutions (as percent)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>State Bank of India</td>
<td>12.2</td>
<td>12.5</td>
<td>11.5</td>
<td>12.8</td>
</tr>
<tr>
<td>Indian Bank</td>
<td>-18.8</td>
<td>1.4</td>
<td>Negative</td>
<td>Negative</td>
</tr>
<tr>
<td>ICICI</td>
<td>--</td>
<td>12.5</td>
<td>17.2</td>
<td>14.6</td>
</tr>
<tr>
<td>IDBI</td>
<td>--</td>
<td>12.7</td>
<td>14.5</td>
<td>15.8</td>
</tr>
<tr>
<td>IFCI</td>
<td>--</td>
<td>8.4</td>
<td>8.8</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Source: RBI Report on Trend and Progress of Banking in India, various issues, latest 2000-01.
Note: The figures for Indian Bank are simply noted as “negative” in the RBI Report.

Besides fresh equity issues through the capital market, the public sector banks’ capital has also increased because of the infusion of capital by the government. Until end-March 2002, the government had injected over Rs 223 bn towards recapitalisation of 19 nationalised banks\textsuperscript{33}. A capital infusion totalling Rs 110 bn was made in just two years – 1993-94 and 1994-95 – to enable banks to achieve a CAR of (the then mandated) 8 percent.

\textsuperscript{31} Also known as Capital to Risk-adjusted Asset Ratio (CRAR), following Basle norms.
\textsuperscript{32} Excluding Indian Bank, which had negative figures for both the relevant years.
There is also a trend, which has become more pronounced lately, of public sector banks and financial institutions subscribing to each others’ Tier-II capital, through cross-purchases of each others’ papers\textsuperscript{34}. Apart from considerations of following up on directives from the government-owners of these intermediaries, this practice is also a reflection of fears of a poor subscription to any issues they might float in the markets to augment their Tier-I or Tier-II capital.

Irrespective of the levels of the intermediaries’ CARs, their declining profitability only emphasises the inefficiency in the use of funds - their problems arise from a lack of accountability and unwillingness to force industrialists to repay loans, despite a range of internal controls\textsuperscript{35}. Moreover, with the increasing blurring of roles of banks and DFIs, their gradual evolution towards universal banking and the consequent increased complexity of financial transactions, the true risk profile of their asset portfolios might be diverging from the documented and reported ones.

\textsuperscript{33} The actual amount may be higher. The bailout of the Madhavpura Mercantile Coop Bank shows how; it was engineered without a direct infusion from the government, and will not show up as a direct recapitalisation for 2001-02.

\textsuperscript{34} Recent reports of proposals by IDBI and IFCI to subscribe Rs 2 bn in each other’s issue of debt are in consonance with this exercise.

\textsuperscript{35} IDBI, for instance, has, among others, a high-level policy committee, zonal, credit, executive and audit committees to oversee risk and asset-liability management and a vigilance department that suggests measures for improving control systems and compliance with laid-down procedures.
II.6.3 Asset quality: Non-performing assets (NPAs)

The total NPAs of banks and FIs have crossed Rs 1,000 bn by March 31, 2001, over 14 percent of outstanding credit, of which those of public sector banks were Rs 548 bn. Even though there was a marginal improvement in the ratio of NPAs to total assets and advances (Table 5 below), gross NPAs actually increased by about 6 percent over the previous year.

There is considerable variation in the extent of NPAs among public sector banks. However, two factors need to be considered in interpreting these data. First, given the difficulties banks have been facing in recent years in meeting capital adequacy requirement, an incentive for evergreening may have been created. Secondly, the loan classification and provisioning norms followed in India are more liberal than those recommended by the Committee on Banking Sector Reforms (CBR) Report, 1998, which in turn fall short of international best practices.

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36 Sourced from RBI Report on Trend and Progress of Banking in India, 2000-01 and Report of FIs to Finance Minister (FM), July 2001. Estimates by some independent agencies of these NPAs, however, are Rs 1,200 bn, which is almost 17 percent of outstanding credit.
37 Between 1997 and 1999, gross NPAs ranged between 3.2 – 3.4 percent of GDP, while net NPAs were in the range of 1.5 – 1.6 percent of GDP. These are currently around 2.5 percent of GDP and under 1 percent of GDP, respectively.
38 Since the Indian legal system makes write-offs difficult even for fully provisioned loans, provisions are a relatively large proportion of NPAs, underscoring the need for focusing on NPAs net of provisions.
39 Internationally, an NPA is one on which no payments for interest or principal have been made for 90 days. For Indian banks, this is true only after 180 days. For the FIs, this is even more liberal: an NPA is where the principal payment is in default for over a year or interest payments are in default for more than 6 months.
40 Since prudential norms have to be applied uniformly and given the underlying weaknesses in several banks, authorities did not insist on stiffer norms, which could have pushed these banks to insolvency.
Table 5: Non-performing assets (NPAs) of banks and financial institutions
(as percentages)

<table>
<thead>
<tr>
<th></th>
<th>Gross NPAs / Gross Advances</th>
<th>Gross NPAs / Gross Assets</th>
<th>Net NPAs / Net Advances</th>
<th>Net NPAs / Net Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>99-00 2000-01</td>
<td>99-00 2000-01</td>
<td>99-00 2000-01</td>
<td>99-00 2000-01</td>
</tr>
<tr>
<td><strong>Outstanding</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Commercial Banks</td>
<td>12.7 11.4</td>
<td>5.5 4.9</td>
<td>6.8 6.2</td>
<td>2.7 2.5</td>
</tr>
<tr>
<td>Public Sector banks</td>
<td>14.0 12.4</td>
<td>6.0 5.3</td>
<td>7.4 6.7</td>
<td>2.9 2.7</td>
</tr>
<tr>
<td>ICICI</td>
<td>-- --</td>
<td>-- --</td>
<td>13.4 14.8</td>
<td>-- --</td>
</tr>
<tr>
<td>IDBI</td>
<td>-- --</td>
<td>-- --</td>
<td>7.6 5.2</td>
<td>-- --</td>
</tr>
<tr>
<td><strong>Incremental</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Commercial Banks</td>
<td>2.2 4.2</td>
<td>1.1 1.8</td>
<td>2.7 2.9</td>
<td>1.3 1.3</td>
</tr>
<tr>
<td>Public Sector banks</td>
<td>2.4 2.8</td>
<td>1.1 1.3</td>
<td>3.6 2.9</td>
<td>1.6 1.3</td>
</tr>
<tr>
<td>New Private sector banks</td>
<td>0.9 7.8</td>
<td>0.4 3.4</td>
<td>0.3 3.7</td>
<td>0.1 1.5</td>
</tr>
<tr>
<td>Foreign banks</td>
<td>4.0 5.7</td>
<td>4.1 2.4</td>
<td>-0.2 -0.7</td>
<td>-0.2 -0.3</td>
</tr>
</tbody>
</table>

Source: RBI Report on Trend and Progress of Banking in India, 2000-01.

The net NPAs of three leading DFIs — IDBI, ICICI and IFCI — were Rs 152.9 bn as of March 2001 against Rs 157.3 bn the year before, a 3 percent decrease. This small reduction in net NPAs was due to huge write-offs — IDBI and ICICI have written off over Rs 55 bn during 2000-01. IFCI’s net NPAs as on April 1, 2000 were Rs 41 bn, of which it wrote off Rs 4 bn. But its net NPAs on March 31, 2001 were Rs 39.4 bn; in other words, Rs 2.4 bn of new NPAs were added in 2000-01. At end-June 2001, compared to a total investible corpus of Rs 560 bn of UTI, its gross NPA (at cost) were Rs 57 bn (10.2 percent).

LIC’s loans outstanding to governments and public utilities in states at end-March 2001 were Rs 1,253 bn, about 67 percent of its Life Fund of Rs 1,860 bn. These loans are mandated by the “social obligation” clause of the Insurance Act 1938. Appendix 2 contains a detailed description of LIC’s loan and investment portfolios. LIC’s provisioning for doubtful assets was about 0.5 percent of total assets and its net NPAs at end-March 2000 were Rs 4.1 bn, but many industry experts feel that they should reasonably be much higher, taking into consideration the nature of its social obligation loans.
II.6.2.1 Contingent liabilities and guarantees

Off-balance sheet exposures of commercial banks increased by almost 29 percent in 2000-01 to Rs 7,530 bn, or 58.2 percent of their total liabilities, up from 52.6 percent the year before\textsuperscript{41}. Of these, nationalised banks recorded the highest proportional increase of 42 percent. Guarantees provided by the three largest DFIs (IDBI, ICICI and IFCI), though small in relation to their loans and investments, increased over 44 percent in 2001-02. Together with similar credit-enhancements given by the central and state governments, these off-balance sheet exposures are increasingly being used to boost investments. Although not intrinsically problematic, the unwinding of some of the largest exposures should impart a degree of alarm\textsuperscript{42}.

II.7 Pre-emption of loanable funds and other lending restrictions

As mentioned earlier, certain statutory requirements on commercial banking has served to introduce distortions in banks’ lending decisions\textsuperscript{43}. While restrictions on applicable interest rates (especially on the lending side) have been freed considerably, statutory pre-emptions remain at very high levels, by international standards.

II.7.1 Reserve requirements

There remains an extraordinarily high level of preemption of bank resources through the Statutory Liquidity Ratio (SLR) and Cash Reserve Ratio (CRR), although reforms have progressively reduced these instruments. Banks hold a dominant part of government paper, even beyond their own statutory requirements, partly reflecting the lack of good projects and investment opportunities in the current economic environment\textsuperscript{44}.

\textsuperscript{41} Comprising of forward exchange contracts, guarantees and acceptances and endorsements.
\textsuperscript{42} Notably for the foreign currency denominated debts of the Enron-sponsored Dabhol Power Company.
\textsuperscript{43} Although milder restrictions exist in the banking systems of most countries for prudential reasons, the motivation for such pre-emption in India was developmental.
\textsuperscript{44} Also, in government owned banks, there is concern among risk-averse lending officers about enquiries from vigilance and other enforcement watchdogs (like the Central Vigilance Commissioner (CVC)). Consequently, a peculiar distortion arises: even \textit{bona fide} acts of commission are punished if they go awry, while no one is held accountable for acts of omission.
To counter the trend of declining profitability from business from the private sector, ICICI is targeting Rs 80 – 100 bn from central and state governments and their undertakings in 2001-02, and has formed a Government Initiatives Group to interact with this segment. Already, about 25-30 percent of ICICI’s incremental approvals are from government businesses.

II.7.2 Priority sector lending

As a consequence of the directed lending policy, banks have been constrained in their ability to allocate credit freely and the relative dearth of viable projects in the priority sector has led to poor quality loans. The statutory minimum ratio of total loans for scheduled commercial banks that needs to be allocated for agriculture, small-scale industries, transport operators and export-oriented industries has remained at 40 percent of net bank credit for a number of years.\(^{45}\)

Constrained lending can only result in relatively more ineffective due diligence and a higher likelihood for sub-standard assets in the future. This is borne out by data. For example, gross NPAs constituted 22.5 percent of priority sector advances of public sector banks as of March 2001, compared to 12.4 percent in case of overall advances.\(^{46}\)

Moreover, priority sector loans of public sector banks (PSBs), as a percent of their net bank credit, have consistently remained above those of the scheduled commercial banks (i.e., also including private and foreign banks). Since 1995-96, this segment of credit for PSBs has also been above the statutory floor of 40 percent.

\(^{45}\) The definition of activities eligible for inclusion under “priority sector” has been expanded. While this might prima facie be expected to ease the constraint, these new activities are typically in high risk sectors, like the slew of web-enabled start-up companies in 1999, which the intermediaries are not properly equipped to evaluate.

\(^{46}\) Thereby implying a gross NPA ratio of 5.7 percent of the banks’ non-priority sector loans. This outcome is a partial explanation for banks’ investments in government and corporate paper, much of the latter subscribed through private placements.
II.7.2.1 Rural Infrastructure Development Fund

The National Bank of Agricultural and Rural Development’s (NABARD) Rural Infrastructure Development Fund (RIDF) is a good example of lessons not learnt from past experience. The RIDF, which was created in 1995-96, has graduated into the eighth year in 2002-03. The Fund is partially made up of contributions from commercial banks against their shortfall in agriculture target lending (up to 1.5 per cent of net bank credit). The initial corpus (RIDF-I) of Rs 20 bn was utilised for extending loans to state governments, mainly for completing irrigation projects. Successive Union Budgets have made enhanced allocations to the RIDF corpus and the amount allocated thus far (including the budgeted allocations for 2002-03) aggregates to Rs 285 bn.

Despite the notoriously weak commercial norms for RIDF disbursements, only Rs 159 bn have been sanctioned till 2001, and actual disbursements have been much lower at Rs 70 bn, even though interest on loans extended from the fund were reduced by 0.5 percent in 2000.

II.8 Dealing with weak intermediaries

Thus far, the government’s policy of dealing with failing institutions can be summarised as: dissemble and hope the problem goes away through repeated infusions of taxpayer money (see Table A6 in Appendix 1). The Working Group on Restructuring Weak Public Sector Banks (WG-RWB [RBI, 1999b]) examined the financial health of public sector banks using a seven-point test that covered three major areas: solvency, earning capacity and profitability. The test revealed that out of twenty-seven public sector banks, three banks did not meet any of the seven criteria; twenty-two met some of these criteria, and only two met all the criteria. This is a significant indictment of the state of Indian banking. The test not only helped identify the three weakest banks, but

47 Probably the most thoughtful enunciation of banking system reforms can be found in Khatkhate [1994].
48 Parameters included under solvency were (i) capital adequacy ratio and (ii) coverage ratio; those under earning capacity were (i) return on assets and (ii) net interest margin; and under profitability were ratios of (i) operating profit to average working funds, (ii) cost to income and (iii) staff cost to net interest income and all other income.
49 Of these twenty two, six banks met only one or two criteria.
also revealed the widespread weaknesses in the banking system\(^{50}\). One area of concern is that some of the banks which currently meet some, but not all efficiency criteria, may indeed be having acute financial problems, which at present are being masked by the existing liberal norms of income recognition and asset classification.

Even the stronger banks, which have been able to raise funds from the market so far, will soon be constrained by the prescribed floor of RBI and government shareholding. If the risk weighted assets of these banks (i.e., barring the three weak ones) are to grow in line with the projected growth of the economy over 2002-2007, additional capital requirement of these banks may exceed Rs 100 bn, assuming 10 percent capital adequacy requirement. However, under the current floor prescriptions, public sector banks can raise at most Rs 10 bn from the market. The gap will have to be bridged through either recapitalization by the government or generation of internal capital (retained earnings). It needs to be recognized that the only sustainable method of ensuring capital adequacy in the long run is through improvement in earnings profile, not government recapitalization or even mobilization of private capital from the market. Conceptually, a bank can sustain its capital adequacy at its existing level (or improve upon it) if it can generate retained earnings sufficient for its capital base to grow at the same rate (or more) as its risk-weighted asset base (see Patel [1997])\(^ {51}\). To generate internal capital in an increasingly competitive environment where the spread is falling, banks will necessarily have to cut down costs, which banks find difficult to accomplish under public ownership\(^ {52}\).

The principle behind “constructive ambiguity” [Mishkin, 1999] is that the ideal way to deal with persistently weak banks is to close them. Public ownership, with its unambiguous perception in the minds of depositors of certainty of a government bail out

\(^{50}\) It is noteworthy that the Report of the Committee on Banking Sector Reforms [CBR, 1998] suggested that a ‘weak bank’ be defined as one whose operating profits less its income on recapitalization bonds is negative for three consecutive years.

\(^{51}\) Faced with the constraints posed by capital adequacy requirement, some banks in recent years have attempted to slow down the growth in risk-weighted asset base through increased investment in government securities.
of bankrupt PSBs, leaves little scope for “constructive ambiguity”\textsuperscript{53}. If no one is accountable and no one loses anything, the situation changes almost wholly to one of “destructive unambiguity”. Depositors are less likely to monitor bank performance or impose market discipline on banks by withdrawing deposits when they suspect that the bank is taking on too much risk. Similarly, bank managers have no incentive to manage risk optimally\textsuperscript{54}.

This virtual unambiguity was reinforced by an abrupt reversal (and thereafter repeatedly reiterated) of the government’s stance early in 2001-02 that there would be no further recapitalisation of weak banks. In November, 2001, the government announced a Rs 18 bn recapitalisation package for two of the previously identified trio of the weakest banks. It is noteworthy that the government has already spent Rs 67 bn for recapitalizing these three banks (plus another Rs 13 bn provisioned in the 2002-03 Budget), and that two of them have not shown significant signs of recovery. The WG-RWB (RBI, [1999b]) had earlier pointed out that these three banks have failed to adapt to competition following liberalization of the banking sector, and need immediate restructuring to restore competitive efficiency.

The example of Indian Bank highlights all the problems of repeated and unwarranted bailouts. Even after its net worth was wiped out twice, deposits are still increasing\textsuperscript{55}. Nearly 249 urban co-operative banks out of a total of 2,084 were categorised as weak as on March 2001 by the Reserve Bank of India; it was found that many of them had been violating norms governing advances. The Madhavpura

\footnote{Failure to generate internal capital would mean passing on the burden of capitalization to borrowers. In a competitive environment, this may not be possible, because borrowers have the option of raising funds from the capital market or abroad.}
\footnote{Mishkin has recommended creation of ‘constructive ambiguity’ in decisions relating to bank closure, for instance, by authorities announcing that the first bank to fail will not be bailed out.}
\footnote{In addition, see footnote 44.}
\footnote{The Indian government had to provide a comfort letter to Indian Bank to avoid the closure of its Singapore branch in 2000, since the regulator there insisted on the bank retaining a minimum CAR of 9 percent for continued operations.}
Mercantile Cooperative Bank was given a capital infusion of over Rs 12 bn in 2001, even though there was little danger of any systemic risk following its closure\textsuperscript{56}.

The (dated) estimated cost to government of restructuring weak public sector banks (capital infusion, staff rationalisation and technology upgrades) was around Rs 55 bn (and is certain to have increased as of now). The weak banks appear to be trapped in a vicious circle of declining capability of attracting good business, and increasing need for capital support from the government. The proposed strategy, while addressing some of the weaknesses of the past restructuring efforts, may not still be effective as it does not include a clear-cut method to deal with banks that do not honor, in time, their respective commitments in areas such as staff rationalization or closure of branches. Even more worryingly, the Group does not contemplate closure as an option.

The Industrial Development Bank of India (IDBI) had submitted its recovery plan to the Ministry of Finance (MoF), Government of India (GoI), in late 2001, asking for an extension of the tenure of its Rs 14.4 bn debt from the Reserve Bank of India (RBI) to fifty years. It has also asked the government to invest long-term preference capital to augment its tier-I capital, grant infrastructure finance agency status\textsuperscript{57} and pay another Rs11 bn for the guarantees offered by the central and state governments. Recent reports suggest that in the space of a couple of months, the problem has become deeper – IDBI is now seeking Rs 55 bn from the government. Not to be left behind, in August of this year, IFCI was promised Rs 10 bn courtesy of a government-inspired bailout package to prop up its balance sheet. In the last months of 2001-02, IFCI requested a bailout package of as much as Rs 70 bn, although the government has reportedly denied this additional assistance.

There has been, thereafter, a steady stream of banks and financial institutions that have appealed to the MoF for assistance in covering their financial losses or bolstering their credit ratings, with the objective of raising even more debt from the market. One of the original trio of weak banks, UCO Bank, after claims of “[having] turned around

\textsuperscript{56} Of which Rs 4.6 bn was from the DICGC and the rest from a consortium of other cooperative banks.

\textsuperscript{57} To enable it to avail of tax breaks under Section 10 (23) G of the Income Tax Act.
and…started making profits” and bravely declining the government’s offer of a credit line, has sought a bailout, in April 2002, by way of a write-off of Rs 7.6 bn in losses against the government’s contribution to the bank’s paid-up capital, ahead of a projected IPO in 2002-03.

The government has also engineered many other indirect forms of bailouts. Financial interventions in the UTI’s US-64 scheme are examples. Following the recommendations of an Expert Committee set up after an earlier payments crisis in 1998, the government decided to exempt for three years the US-64 from a 10 percent dividend tax (deducted at source) that other equity mutual funds were required to pay. Data on dividend income distribution and the dividend tax for US-64 for 1999-2000 indicate a tax revenue foregone of around Rs 2 bn. Under the Special Unit Scheme of 1999, the GoI did a buyback of PSU shares at book value, higher than the then prevailing market value, effectively transferring Rs 15 bn to investors. After the second US-64 payments crisis in 2001, under a Repurchase Facility covering 40 percent of the assets of US-64, investors were allowed to redeem up to 3000 units at an administratively determined price, with the GoI making up the gap between this price and the NAV of a unit. Eight Public Sector Banks “offered” liquidity support to UTI in the event of large-scale redemptions. Recognising the unviability of this support and a high probability of an ultimate default on these loans, however, these banks have sought comfort through government guarantees to help in easy provisioning against the loans and avoiding violation of norms of lending without collateral. Even more than the actual loss to the exchequer, these implicit safety nets insidiously create an expectation of government support to investors, weakening their commercial judgment.

It transpired in 2001-02 that worse was to follow. The reserves of Monthly Income Plans (MIPs), which provide assured income to holders, had a deficit of Rs 34 bn. Six of the 17 MIP schemes mature in 2002 and their combined deficit is Rs 19.8 bn. One
Detractors of the thesis of the adverse impact of government control of financial institutions might point to a steadily declining ownership of the government in these intermediaries. While the government has been intermittently diluting its stakes in many financial intermediaries, management control, in almost all cases, still rests wholly with the government. Diminution of stakes in banks, moreover, are often achieved through increased cross-holdings by other government owned institutions. Not only does this dilute whatever little effect there might have been, it actually impacts the performance of the healthier institution that “buys” into the weaker institution and serves only to increase the costs of intermediation.

The rebuttal to this line of reasoning is that declining ownership means little in the face of continuing management control of these institutions. IFCI is a case in point: despite a reduction in its holding to less than 50 percent, the decision making processes are still dominated by the government. Moreover, while having indubitably served a purpose, the raison d’être of these institutions with an unchanged management structure, has disappeared with the evolution over the last decade of financial markets in India.

III. STYLISED SHORTCOMINGS OF INDIA’S FINANCIAL SECTOR

The recent troubles of some of India’s premier financial institutions have focused attention once again on the fragility of the financial sector, which is now widely acknowledged. Dire predictions of a severe crisis in the making have led to extensive debates on solutions in policy echelons. A systematic investigation into this fragility is hindered, however, by a lack of adequate information on investments and other lending

58 The Securities and Exchange Board of India has intervened in the wrangling between UTI and its sponsors (IDBI, SBI, etc.) about the responsibility of filling the deficit on redemption. If the sponsors refuse, then, despite all declarations to the contrary, the government will have to bail out the Scheme.

59 In the case of banks, even after a dilution of the government’s equity stakes to less than 51 percent, the government reportedly plans to appoint nine of the fifteen directors, including four whole-time directors. The voting rights of the other shareholders will continue to be restricted.
practices of financial intermediaries. The non-transparent nature of disclosure requirements of banks and financial institutions make a quantitative assessment of the extent of the problems difficult. Even the investigation reports of the regulator are confidential. The objective of this section is to consolidate indicative and anecdotal evidence of financial fragility drawn from media reports; these reports necessitate a renewed evaluation of inferences drawn from published (and audited) results of the financial sector. These impressions, based on circumstantial and indirect evidence, are grouped into four (not wholly independent) stylised facts.

i) **Holding company (pyramid) structure of many Indian corporations creates strong incentives for diversion of funds among group companies.**

Many corporates in India are organised in the form of pyramids, with a holding company (or Group) structure being in control over a large number of companies. A promoter owns enough shares to control firm A (say, 26 percent), which in turn, owns controlling shares in firm B, and so on. The promoter, thus, is allowed control over all firms in the pyramid, even the ones in which he has no direct ownership. This separation of ownership from control characterises pyramids and creates strong incentives for the promoter to divert resources between firms. The usual ways are through low interest rate loans, input sales or purchases at artificial prices (under or over invoicing), leasing of assets and guarantees for other companies’ borrowings. A recent study (Bertrand et al, [2000]) found evidence of considerable diversion, with much of the diversion occurring in non-operating components of profits. An outcome of this diversion is that actual co-financing levels for individual projects may be much lower than suggested by raw data, thereby significantly increasing the riskiness of projects with their consequent higher leverage.

ii) **The absence of effective foreclosure processes for both intermediaries and corporations is a strong incentive for the former to minimise non-recoverable assets by swapping sub-standard debt for equity.**

60 In contrast, in a typical US firm, formal control and cash flow rights usually go hand in hand.
The current large stock of NPAs reflects not only the slowdown of the economy in the last few years, but also to a significant extent, India’s lax foreclosure laws. The weaknesses in the legal system have been an important factor hampering loan recovery and, furthermore, few meaningful steps to overhaul foreclosure laws have been taken. It is sobering to note that in the last 20 years, existing legal procedures have not helped HDFC (India’s premier housing finance company) to make even a single loan recovery!

In addition to the need for overhauling bankruptcy (exit) laws governing Indian companies, facilitation of timely action and proper monitoring by financial intermediaries would also aid recovery efforts with respect to wilful defaulters and prevent diversion of funds. A major investment institution got away with the story that two rogue employees sold a hefty chunk of shares of a prominent company to the promoters. In the case of a major textile corporation, the lead lending institution squandered resources litigating with other secured lenders instead of forcing the promoters to return funds allegedly siphoned off.

iii) These equity for debt swaps by intermediaries have implications for their balance sheets as well as resulting in lower effective co-financing of projects compared to those suggested by raw data, thereby increasing moral hazard.

The Reserve Bank of India (RBI) has expressed concerns over the activities of development financial institutions (DFIs) – especially IFCI and IDBI. Increasing holdings of equity by FIs (see Table A7 in Appendix 1) is one indication of swaps of equity for debt, especially if these are netted of subscriptions to public issues and private placements. Both FIs and companies “benefit” through these swaps – the company, because it avoids becoming a defaulter and the institution, since it can show lower NPA levels in its balance sheet.

While financial institutions with exposures to many diversified groups have often been helpless in forcing the profit making companies in the group to pay, they have

\[61\text{ In this regard, there is a dire need for procedures akin to Chapter 11.}\]
\[62\text{ Since this indirect ownership of companies implies that poor-quality debt of troubled companies is now showing up as assets on the books of DFIs and IIs.}\]
recently started adopting a tough line and have initiated management takeovers in a couple of cases. These widely reported cases of management takeovers, though, raise their own set of attendant problems\textsuperscript{64}.

This is the route that is also being proposed for the Enron promoted Dabhol Power Company. The common element in these conversions is that these are born of distress and are not taken on ex-ante commercial considerations. Conversion would not be a problem if these firms were sold after the takeover, but in most cases, FIs have not been able to find buyers for years.

Many institutions have also bought large chunks of shares of (the erstwhile) promising companies, often at high premiums, based on a plan by the promoters of a subsequent IPO. These companies were often those whose parents were existing clients of the FIs. Dabbling in venture capitalism has created massive problems for these institutions, since the poor state of capital markets has led to the deferment of the promised IPO, leaving the institutions saddled with virtually worthless paper. Given the pyramid structure of many companies in India, these investments have de-facto resulted in debt-for-equity swaps. Banks and financial institutions have also repeatedly been used by the government as quasi-fiscal instruments, with the primary objective of raising resources and a secondary one of intermittent divestments of its shares in public sector undertakings (PSUs). A consequence of this manner of disinvestment, instead of a strategic sellout, is burdening financial institutions with shares of PSUs without a concomitant increase in the latter’s efficiency.

A peculiar outcome of government ownership of intermediaries is that bank officials are subject to the government’s anti-corruption machinery. This has deterred managers from taking even reasonable commercial risks, lest their mistakes should come back to haunt them in future as well as created incentives to disguise the quantum of substandard assets. Under this system, inefficiency is not punished, but with hindsight,

\textsuperscript{63} Unwarranted exposures to equities by other FIs, especially UTI’s erstwhile fixed returns schemes, too have been criticised, but these are not under the regulatory ambit of the RBI.

\textsuperscript{64} The actions raise incentive-compatibility problems, since management is not a core competency of the FIs.
wrong judgement is. In effect, this leads managers to lend to government, government backed entities and often (private) corporations that are perceived to have backing from the political class.

The lack of a commercial outlook for most of the financial institutions in India is evident on a reading of the compilation of the Annual Reports of these institutions [IDBI, 2000 and earlier]. More than three quarters of the Report(s) are devoted to enumerating the sanctions and disbursements of these institutions, reflecting a continuing orientation of many of these institutions towards growth and targets rather than commercial discipline. There are few details on financial performance, other than some highly aggregated tables. The impression is that of continuing target-based performance that had characterised pre-liberalisation economic activity.

iv) Regulatory forbearance in the financial sector is high due to government stake in intermediaries.

The shortcomings in the decision–making, accounting and reporting practices of financial intermediaries discussed above are facilitated by heightened regulatory forbearance arising both out of the public sector ownership of these intermediaries and expectations of continued bailouts by the government. All constraints, including regulatory norms, become soft in these circumstances. This forbearance increases if the regulator owns part of the financial system that it is supposed to regulate (e.g., RBI's majority holding of the State Bank of India’s (SBI) equity).

Government ownership can also have strange, but nevertheless serious consequences. For example, the Government of India is one of the largest defaulters that IDBI has to deal with; centre and state guarantees of more than Rs 11 bn are reportedly not being honoured\(^{65}\).

\(^{65}\) The centre has reportedly guaranteed all the loans given by IDBI to textile spinning mills, factories in the cooperative sector and sugar factories (the latter account for 80 per cent of the loans to this sector); in addition, the centre has provided guarantees valued at Rs 12.4 bn on the debt of those power projects where the FIs have an exposure of Rs 62 bn.
Non-adherence to prudential norms – overexposure to companies and groups.

Among the 3 leading DFIs, IFCI’s exposure to a single largest borrower is the highest at 127 percent of its capital funds. ICICI’s figure is 32 percent and IDBI’s is 15 percent. IFCI and ICICI have to cut their exposure drastically to meet the revised RBI prudential norms of exposure ceiling for single borrower to 15 percent of the capital funds effective March 2002. Regarding allowable exposure to a single borrower group, while RBI norms cap the permissible limit at 50 percent of capital funds, IFCI’s exposure to the largest borrower group stands at 201 percent, while that of ICICI is 45 percent, and IDBI at 24 percent.

Mis-representation of asset classification and income recognition.

There is increasing evidence that the asset quality of many intermediaries’ portfolios is far worse than is being officially reported. RBI has pointed out significant divergences in asset classification and provisioning of IDBI, pointing out a Rs 4.85 bn shortfall in its provisioning towards loan assets and inflation of advances with the aim of under-reporting the levels of its NPAs as of March 2000 (Table 6 below). These RBI estimates represent a significant deterioration in IDBI’s asset quality, from the gross and net NPA levels of 16.6 percent and 13.4 percent of total advances on March 31, 1999

Interestingly, ICICI has made an exceptionally large provisioning to bring down its NPAs in 2000-01. The magnitude of the provisioning suggests that either there has been a marked deterioration in asset quality during 2000-01 or that there had been under-provisioning in earlier years.

66 IDBI had included as “advances” in its balance sheet items like “consideration receivable from SIDBI” (instead of the head “balances with other banks”), equipment lease scheme / lease finance (instead of “other assets”), NCDs (instead of “investments”) and call money.
Table 6: Discrepancies in NPAs and advances of IDBI (as on March 2000) (amounts in Rs bn)

<table>
<thead>
<tr>
<th></th>
<th>IDBI</th>
<th>RBI</th>
<th>% of misstatement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NPAs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross</td>
<td>98.5 (20.1%)</td>
<td>117.1 (22.0%)</td>
<td>15.9%</td>
</tr>
<tr>
<td>Net</td>
<td>76.8 (17.7%)</td>
<td>90.9 (19.9%)</td>
<td>15.5%</td>
</tr>
<tr>
<td><strong>Advances</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross</td>
<td>592.7</td>
<td>532.5</td>
<td>11.3%</td>
</tr>
<tr>
<td>Net</td>
<td>571.0</td>
<td>506.3</td>
<td>12.8%</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are percentages to total assets.

Asset liability mismatches

The DFIs are finding it increasingly difficult to raise funds, after reforms in the early nineties phased out their access (granted earlier) to low cost, long-term sources of funds like the RBI’s National Industrial Credit Fund, quota of SLR bonds and budgetary support. Their initial strategy of tapping public sector banks for raising resources is exhausted, having hit their existing regulatory restrictions, like credit limits, with these entities; PSBs cannot take fresh exposures in DFIs without special permission from the RBI. The more financially viable DFIs, like ICICI, are tapping private banks and retail investors. But the weaker ones, like IDBI and IFCI, are finding it increasingly difficult to raise even short-term funds – indeed, small investors are now wary of subscribing to their bonds, most of which are for five years or less. The outcome is a substantial asset-liability mismatch, requiring the mobilisation of substantial amounts to meet redemptions of maturing liabilities.

IV. AN INDEX OF EFFECTIVE CO-FINANCING

There is an increasingly widely held view that public sector involvement in financial intermediation has been gradually increasing in tandem with the slowdown in India’s economic growth in recent years. Bhattacharya and Patel [2001] formulated a model that attempted to formalise the hypothesised link to the observed economic slowdown - through a financial leverage coefficient - and the key mechanisms driving the

67 On the other hand, access to a large retail deposit base provides resources virtually on tap, e.g., to the State Bank of India, thereby reducing banks’ reliance on (long) term deposits.

68 Crisil, an Indian rating agency, downgraded IDBI’s ratings on its long-term bonds to AA+ (from AAA).
increasing fragility of the financial sector in India, based upon the density of government involvement in the sector. The next sub-section provides a heuristic motivation and Appendix 3, a brief outline of the formal structure of the model.

IV.1 A heuristic description of the model structure

The model formally establishes a link between the real and financial sectors through a *financial leverage coefficient*. This acts as a transmission channel for shocks between the two sectors, and is derived within a standard endogenous growth framework, explicitly incorporating increasing government involvement in the financial sector.

The analytical framework is a generalisation of the financial accelerator, which was introduced in the literature to explain the amplification of adverse real shocks in the economy, and which was theorised to arise endogenously from credit-market imperfections and agency costs. The underlying notion is that of a leveraging parameter generated by co-financing of investment in the system. The model’s divergence from the existing framework arises from the introduction of a distinction between the *effective* and *notional* co-financing requirements. The difference becomes relevant due to specific features that arise out of significant government involvement in financial intermediation, leading to a weakening of the profit maximising motive for many institutions in the sector, which is then aggravated by the lack of exit opportunities for both intermediaries and the firms that they lend to. The model then takes the reasoning a step forward with a suitable endogenisation of the co-financing parameter that makes it time-varying and, through a feed-back mechanism, influences the production and investment decisions of the economy. A key outcome of this time variation is that the leveraging parameter can actually switch from positive to negative, thereby creating a “crisis” of the kind intermittently observed.

The switching mechanism for the financial leverage coefficient is endogenous, in the sense that it is (partially) driven by the capital formation and production processes of the system. A plausible rationale for the evolution dynamics is the observation that falling levels of investment in the private sector and a slowdown in economic growth usually
elicit increased public investment, leading to lower marginal effectiveness of the incremental investment.

There are two sources of the stochasticity in the above dynamic specification of the regime switch: one is an endogenous source of uncertainty, arising from the stochastic productivity of capital, incorporating a simple feedback mechanism from the production side of the economy. The second is an inherent degree of uncertainty, arising from the policies and behaviour of the government itself\(^69\): for instance, the possibility and extent of government bailouts of financially insolvent intermediaries\(^70\).

The model formally introduces two key notions: cascading moral hazard and hysteresis of government involvement in the financial sector. Hysteresis of government involvement arises from a stickiness built into the evolution dynamics of the density of government involvement. The implicit rationale is that, in good times, there is little incentive for the government to change the status quo. In bad times, due to deepening financial distress, the government institutes measures that increase its involvement – higher public sector investment levels, government guarantees and even government financing to “jump-start” private capital formation, etc. Therefore, there is a systematic bias built into the movement of the density – a component with an expected positive value. The other random component, with an expected value of zero, may lower its value periodically (relative to the increasing trend), but has no systematic influence.

This hysteresis in turn is the basis of cascading moral hazard, which is the driving mechanism for the switch of the leverage coefficient from an accelerator to a decelerator. The basis underlying the hypothesised link between the real and financial sectors is that government involvement weakens the mechanisms normally used for mitigating moral hazard, giving rise to the concept of aggravated moral hazard\(^71\) and “cascading”

\(^69\) There is a growing body of literature on the institutional influences and political economy of the growth process and business cycles [see Alessina and Perotti, 1994].
\(^70\) This implies a slight modification of the notion of “destructive unambiguity” postulated by Mohanty and Patel [2000], with the introduction of a limited extent of uncertainty.
\(^71\) We distinguish the term “aggravated” from “enhanced”, considering the former as a parametric shift of the underlying variables as opposed to a functional dependence in the case of the latter. More explicitly, increasing moral hazard enhances the incentives of banks to accumulate riskier portfolios, whereas an
introduces a dynamic component to this. The aggravation is systematically increased through the increasing density of government involvement\textsuperscript{72}. A continued weakening causes an eventual regime change when the leverage coefficient switches from an accelerator to a decelerator, thereby bringing capital formation to a halt. A brief enunciation of the causal sequence of events leading to the switch of the sign on the financial leverage coefficient from positive to negative is as follows. Increasing government involvement leads to a series of disincentives for mitigating the enhanced moral hazard, for instance, increased regulatory forbearance, insufficient insistence on adequate equity, rolling over of sub-standard loans through debt for equity swaps, “evergreening” loans, disregarding defaults, etc. Already low levels of notional co-financing are made even more ineffective.

IV.2 Motivation and rationale for indices

In this sub-section, an attempt is made to validate the hypotheses underlying the parameters of the model enunciated in the previous sub-section, to the extent possible, by constructing an Index of Effective Co-Financing (IEC-F), comprising of two subsidiary measures: one, of an aggravated moral hazard and second, of an Index of Density of Government Involvement in the Financial Sector (IDGI-F). The IEC-F also attempts to validate some of the stylised facts proposed in Section III by grouping available data into categories (or metrics) that have implications for the reinforcement or weakening of implied trends. Time series of these metrics then provide a quantitative validation of these trends.

The extent of government involvement in financial intermediation is evaluated both through the mobilisation of Indian financial savings as well as from their investment

\textsuperscript{72} The underlying premise is that the “too-big-to-fail” argument becomes stronger with each bailout engineered by the government – the recent capital infusions in UTI and IFCI are examples – thereby leading bank management to build up increasing riskier portfolios that are more susceptible to collapse, which in turn further increases the likelihood of another bailout.
and lending patterns. Government is defined as the central and state ministries and departments, as well as all the Undertakings, Enterprises, Boards, Trusts and Authorities under the administrative control of these Ministries. Most of the individual variables used in the indices show a deterioration (in the sense of indicating aggravated moral hazard and increased government involvement) since the mid- or late-nineties. Consequently, the simplest aggregation of the indicators comprising each of the indices is an arithmetic mean. Punctilious analysts might argue that the deterioration of particular indicators might be more significant than those of others, in terms of their impact on the extent of government involvement. However, in the absence of quantitative measures of the relative magnitudes of such impacts, the best (in the sense of least biased) weights may be uniform ones.

It might also be pointed out that the paper ignores some indicators which might actually show a reduction in government involvement in financial intermediaries, and hence weaken its thesis. These developments include a gradual diminution of government ownership of financial intermediaries, progressive reductions in reserve ratios and even the gradually less stringent directed lending norms. A valid counter-point is that some of these improvements are basically notional (or have not gone far enough), and maintain an effective status quo.

The stylised facts, themselves, are difficult to quantify, given both definitional ambiguities as well as the lack of publicly available data. Instead, the paper collapses the implications of these stylised facts into three measures – (i) effective (as opposed to notional) co-financing, (ii) a “density” of government involvement and (iii) aggravated moral hazard. These variables are both cause and effect of the stylised facts: the model described in the previous sub-section incorporates a feedback loop from these parameters to economic growth, which, in turn, impacts these parameters. Table 7 below is a mapping of some of these metrics to the variables.

73 Municipal bodies are not included due to the unavailability of information on their finances.
Table 7: Mapping of metrics to parameters included in the Financial Leverage Coefficient

<table>
<thead>
<tr>
<th></th>
<th>EFFECTIVENESS OF CO-FINANCING</th>
<th>DENSITY OF GOVT. INVOLVEMENT</th>
<th>AGGRAVATION OF MORAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Economy-wide savings and investment behaviour.</td>
<td>♦</td>
<td>■</td>
</tr>
<tr>
<td>2</td>
<td>Relative size of public sector in financial intermediation.</td>
<td>♦</td>
<td>■</td>
</tr>
<tr>
<td>3</td>
<td>Share of the public sector in resource mobilisation by financial intermediaries.</td>
<td>•</td>
<td>♦</td>
</tr>
<tr>
<td>4</td>
<td>Share of the public sector in investments and advances of financial intermediaries.</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>5</td>
<td>Relation of government with financial intermediaries (management control and bailouts).</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Legend:
♦ Primary Effect
• Secondary Effect
• Tertiary Effect

There is a degree of artificiality in the separation of the metrics constituting the Indices. There is also an inevitable degree of double counting inherent not just in the separation of the metrics, but also in the nature of the data classification that is publicly available – it is difficult, if not impossible, to adjust for this double counting.

Figure 3 below is a graphical representation of two indices - the Index of Effective Co-Financing (IEC-F) and its component index, the Index of Density of Government Involvement in the Financial Sector (IDGI-F). The detailed methodology for construction of the indices is provided in Appendix 4.
As can be seen, both indices showed a marked improvement in the early- and mid-nineties, before deteriorating in the later half.

Note that most of the Index constituents directly contribute to increasing the density of government involvement. There are, however, other practices and procedures in use by financial intermediaries in India that indirectly contribute to lowering effective co-financing, e.g., directed (priority sector) lending requirements, the increasing magnitude of private placements relative to public issues (much of which has recently been subscribed to by public sector institutions with a concomitant weakening of effective due diligence), etc. that are virtually impossible to quantify (and hence cannot be incorporated in the Index). These practices have a serious negative impact on the parameters listed in Table 7 above, degrading the quality of due diligence.

The most harmful is that of “evergreening” or rollovers of loans. These manifest themselves either as conversions of sub-standard assets into equity of the defaulting company or as fresh loans to either the same company or other group companies, to enable them to repay the old loans and stave off defaults. Conversion into equity or initiating bankruptcy proceedings for defaulting companies is standard practice world-
wide. In India, however, in large part due to the public ownership, the incentives for effective restructuring or change in management for financial solvency are missing. A very indirect (and ambiguous) indicator of such evergreening is a check for relatively high levels of sanctions and disbursements by financial institutions during recessionary periods, when commercial investments can be expected to be relatively low. A related problem, arising from the peculiar institutional feature of a “holding company” structure of companies in India, is the problem of strict monitoring of sanctioned funds, specifically to avert their diversion to other group projects and subsidiaries.

V. CONCLUSION AND POLICY RECOMMENDATIONS

The paper deals with the policy implications of an analytical framework that endogenously links a slowdown and eventual collapse of investment and economic growth to financial sector dynamics driven by the political economy of increasing government involvement in the financial sector. This endogenous evolution, accentuated over time, creates a process of aggravated and cascading moral hazard that arises through two primary characteristics that weaken mechanisms generally designed to mitigate moral hazard in agency situations. First, a diminished effective co-financing through a combination of the role of state-dominated intermediaries in reducing the incentive for requiring optimal co-financing from borrowers and the absence of effective bankruptcy procedures, which forces these intermediaries to convert sub-standard debt into equity or roll-over existing debt, thus further diluting the already weakened nominal co-financing norms, without a commensurate increase in capital. Second, higher regulatory forbearance for exit of intermediaries, given their domination by the state, closes an avenue that could potentially have countered the tendency towards diminished effective co-financing. This process of increasingly aggravated moral hazard driving a progressive augmentation of the riskiness of the asset portfolios of financial intermediaries is analogous to riding a bicycle without brakes – once on it, if you stop pedalling, you will fall off.

Far from the illusory sense of confidence imparted to depositors regarding the sanctity of their funds with financial intermediaries, government involvement in the financial sector has aggravated the extent of moral hazard, thereby adversely affecting the
potential viability of the sector. An extensively held view - given the wide perception of the increasing fragility of financial intermediaries, recent reports of admissions by major FIs and banks of increasing distress, and more worryingly, the acquiescence of the government in further bailouts of these troubled institutions - is that it is only the government’s support that is preventing some of them from collapse. An implication of the analytical framework underlying this paper is that, despite publicly available data not indicating signs of an imminent financial crisis, the economy might already have crossed a (unobserved) critical switching threshold and be in the “collapse” state even while investment, though declining, is still positive. This lends urgency to the need for actions necessary to disable the link between the particular political economy of financial intermediation and capital formation. Given the hypothesis of the paper that the link is based upon the inadequacy of effective co-financing requirements of intermediaries, the recommended actions are oriented towards instilling commercial discipline into their current operations.

The predominant policy recommendation of the paper is that the involvement of the public sector in financial intermediation needs to end: simply put, public ownership is incompatible with market discipline. The two characteristics above, together, imply that privatisation is the only meaningful means for introducing commercial discipline, with a consequent effective mitigation of the moral hazard problem. Worse, gradual dilution by the government of its stake in financial intermediaries, without actually relinquishing management control, is meaningless. The most glaring example is the troubled IFCI, where government shareholding is down to 44 percent, but its board and decision-making is still dominated by the government. Even ceding management control directly might be insufficient - the government should ideally just exit from any control of these institutions. Allowing new domestic private and foreign banks to expand operations in India will perforce reduce the dominance of public sector intermediaries.

The second set of observations relate to the likely failure of measures that are being recommended to instil commercial discipline in publicly owned financial intermediaries. The most invidious action is the repeated failure of the government in closing down even one loss making intermediary. The consequent “destructive
unambiguity” that faces insolvent intermediaries dispels any incentives to manage the risk profile of their portfolios. A repeated lack of follow through on the initial denials of credit lines to these intermediaries has come to engender expectations of indirect lifelines, buttressing, in turn, expectations of depositors and investors in these institutions that they would not (at least fully) be exposed to the losses that would result from closing down the institution.

One of the most frequently debated issues relates to the processes that would ensure better due diligence by the intermediaries. Associated measures are the mooted methods of dealing with the past liabilities of intermediaries, like the proposed Asset Reconstruction Company. Unfortunately, in the absence of effective incentive structures for managers of intermediaries, as well as the presence of secondary oversight by various statutory bodies like the Comptroller and Auditor General (CAG), the Central Vigilance Commission (CVC) and sundry Parliamentary Committees, secondary distortions are likely to occur in the risk profile of the institutions’ portfolios. Moreover, the lack of effective foreclosure procedures blunt even the half-hearted attempts to deal with Non-Performing Assets, as is evident in the relative failure of the Debt Recovery Tribunals instituted a few years back.

More stringent regulatory oversight is announced in every budgetary and monetary policy notification. On paper, the regulatory frameworks in India, especially prudential norms, compare favourably with other countries. Despite this, new skeletons tumble out of the closets of intermediaries almost every day. The key vitiating factor in explaining this conundrum may be the same “destructive unambiguity” referred earlier. Complicating this oversight is the conflict of interest arising from the regulator also being a sponsor of intermediaries in India. Even if regulatory forbearance is not actually higher because of public sector ownership, the absence of hard budget constraints on financial intermediaries renders regulatory control ineffective.

We should point out at this stage that, in itself, relinquishing public sector control, i.e., privatisation, is not a sufficient condition for effectively mitigating moral hazard. The analytical framework underlying the paper indicates, however, that it is a necessary
condition. Allowing more private banks and intermediaries, subject to their fulfilling prudential requirements, should help. Independent credit rating agencies can play a large role in this process. The structure of ownership of some of the major rating agencies in India (e.g., IFCI’s sponsorship of ICRA) raises questions about the objectiveness of the current process, and these issues need to be addressed for effective market discipline of intermediaries.

Although we have not studied other countries in any detail, the experience of Japan suggests that regulatory forbearance, even born of causes other than public ownership, can lead to problems emanating from cascading moral hazard. Japan’s particular “cooperative” style of banking has been singled out as a major cause of the decade long slowdown in its economic activity.

Work on constructing indices similar to those derived in this paper for other countries is also in progress. By way of extending the intuitive appeal of the indices used here, the use of appropriate proxies for some of the relevant variables that we have not included in the indices will enable a sharper definition of abstract concepts like “diminishing effective co-financing” and even of relatively more concrete ones like “density of government involvement”. Preliminary indications of these variables and their potential proxies are scattered through the paper.
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IDBI Report(s) on Development Banking in India, various annual issues, latest 1999-2000.


Reserve Bank of India (a), various Report(s) on Trend and Progress of Banking in India, (latest 2000-01).


Reserve Bank of India (c), various Annual Report(s), (latest 2000-01).

Reserve Bank of India (d), various Report(s) on Currency and Finance, (latest 1999-2000).


APPENDIX 1

Tables

Table A1: Financial performance of banks and select financial institutions
(as percent of total assets)

<table>
<thead>
<tr>
<th>Year</th>
<th>SCBs</th>
<th>PSBs</th>
<th>FIs*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999-2000</td>
<td>10.4</td>
<td>10.2</td>
<td>10.5</td>
</tr>
<tr>
<td>2000-01</td>
<td>10.2</td>
<td>10.0</td>
<td>10.5</td>
</tr>
<tr>
<td>Net Profits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999-2000</td>
<td>0.7</td>
<td>0.6</td>
<td>1.4</td>
</tr>
<tr>
<td>2000-01</td>
<td>0.5</td>
<td>0.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Reserves and Surplus**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998-99</td>
<td>3.9</td>
<td>3.6</td>
<td>--</td>
</tr>
<tr>
<td>1999-2000</td>
<td>3.9</td>
<td>3.6</td>
<td>--</td>
</tr>
<tr>
<td>Spread (Net Interest Income)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1999-2000</td>
<td>2.7</td>
<td>2.7</td>
<td>1.7</td>
</tr>
<tr>
<td>2000-01</td>
<td>2.8</td>
<td>2.8</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Notes: SCBs refers to Scheduled Commercial Banks, PSBs to Public Sector Banks
* Pertains to IDBI, ICICI and IFCI, NABARD, SIDBI, EXIM and NHB.
** Percentage of reserves and surplus pertain to total liabilities.

Table A2a: Trends in Government ownership of listed public sector banks
(per cent; end of period)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>66.7</td>
</tr>
<tr>
<td>Bank of Baroda</td>
<td>77.1</td>
<td>66.9</td>
<td>66.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of India</td>
<td>81.9</td>
<td>76.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporation Bank</td>
<td></td>
<td></td>
<td>68.4</td>
<td>68.3</td>
<td></td>
</tr>
<tr>
<td>Dena Bank</td>
<td>71.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indian Overseas Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75.0</td>
</tr>
<tr>
<td>Oriental Bank of Commerce</td>
<td>66.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punjab National Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>84.0*</td>
</tr>
<tr>
<td>SBI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>59.7</td>
</tr>
<tr>
<td>SB Bikaner &amp; Jaipur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75.0</td>
</tr>
<tr>
<td>SB Travancore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>76.0</td>
</tr>
<tr>
<td>Syndicate Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>74.5</td>
</tr>
<tr>
<td>Vijaya Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>72.2</td>
</tr>
</tbody>
</table>

Note: *PNB had an IPO issue in April 2002. The share of the government is an estimate. The other 14 Public Sector Banks are fully owned by the Government of India. In the case of SBI, holdings include those of the RBI.

Table A2b: Government ownership of financial institutions
(as of 1999-2000) (per cent; end of period)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ICICI</td>
<td>32.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDBI</td>
<td>76.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IFCI</td>
<td>44.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UTI</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIC</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: RBI Report(s) on Currency and Finance, 1998-99, 2000-01;
*ICICI SEC Form 20F.
### Table A3: Resource mobilisation by financial intermediaries (Rs bn)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incr. Deposits of Scheduled Commercial Banks</td>
<td>536.3</td>
<td>987.2</td>
<td>1155.4</td>
<td>993.2</td>
<td>1492.7</td>
</tr>
<tr>
<td>Public Sector Banks (PSBs)</td>
<td>638.4</td>
<td>869.4</td>
<td>1050.8</td>
<td>1004.7</td>
<td>1220.9</td>
</tr>
<tr>
<td>Resource Mobilisation by DFIs</td>
<td>--</td>
<td>194.0</td>
<td>290.4</td>
<td>163.1</td>
<td>188.7</td>
</tr>
<tr>
<td>Public issues of bonds and debentures</td>
<td>--</td>
<td>27.2</td>
<td>74.1</td>
<td>46.5</td>
<td>40.6</td>
</tr>
<tr>
<td>Private placement of bonds and debentures</td>
<td>--</td>
<td>166.9</td>
<td>216.3</td>
<td>116.6</td>
<td>148.1</td>
</tr>
<tr>
<td>Inflows into Public Sector Mutual Funds*</td>
<td>99.5</td>
<td>33.2</td>
<td>6.3</td>
<td>50.6</td>
<td>36.2</td>
</tr>
<tr>
<td>Inflows into UTI</td>
<td>86.1</td>
<td>28.8</td>
<td>1.7</td>
<td>45.5</td>
<td>20.0</td>
</tr>
<tr>
<td>Incremental inflows into LIC schemes</td>
<td>155.0</td>
<td>185.1</td>
<td>228.1</td>
<td>136.0</td>
<td>291.3</td>
</tr>
</tbody>
</table>


Note: * Pertains to funds sponsored by PSBs (6), financial institutions (3) and UTI.

### Table A4: Financial performance of select development financial institutions

<table>
<thead>
<tr>
<th></th>
<th>IDBI 1999-00</th>
<th>2000-01</th>
<th>ICICI 1999-00</th>
<th>2000-01</th>
<th>IFCI 1999-00</th>
<th>2000-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanctions Rs Bn</td>
<td>270</td>
<td>287</td>
<td>435</td>
<td>560</td>
<td>20.8</td>
<td>18.6</td>
</tr>
<tr>
<td>Disbursements Rs Bn</td>
<td>171</td>
<td>175</td>
<td>258</td>
<td>319</td>
<td>32.7</td>
<td>21.2</td>
</tr>
<tr>
<td>Income Rs bn</td>
<td>78.6</td>
<td>78.4</td>
<td>84.7</td>
<td>93.0</td>
<td>29.0</td>
<td>28.9</td>
</tr>
<tr>
<td>PAT Rs Bn</td>
<td>9.5</td>
<td>6.9</td>
<td>12.1</td>
<td>5.4*</td>
<td>0.6</td>
<td>-2.6</td>
</tr>
<tr>
<td>PAT / Net Worth (RONW)%</td>
<td>10.7</td>
<td>7.3</td>
<td>16.8</td>
<td>16.4*</td>
<td>0.5#</td>
<td>-31.5#</td>
</tr>
<tr>
<td>Net NPAs Rs Bn</td>
<td>76.7</td>
<td>83.7</td>
<td>39.6</td>
<td>29.8</td>
<td>41.0</td>
<td>39.4</td>
</tr>
<tr>
<td>Net NPAs / Assets %</td>
<td>10.6</td>
<td>11.7</td>
<td>6.1</td>
<td>4.1</td>
<td>17.6</td>
<td>17.3</td>
</tr>
<tr>
<td>EPS %</td>
<td>10.3</td>
<td>9.4</td>
<td>14.0$</td>
<td>17.0$</td>
<td>0.1</td>
<td>-4.2</td>
</tr>
<tr>
<td>Capital adequacy %</td>
<td>14.5</td>
<td>15.8</td>
<td>17.2</td>
<td>14.6</td>
<td>8.8</td>
<td>6.2</td>
</tr>
<tr>
<td>D/E ratio x times</td>
<td>6.8</td>
<td>6.7</td>
<td>4.1</td>
<td>4.7</td>
<td>12.2</td>
<td>15.6</td>
</tr>
</tbody>
</table>


Notes: $ After adding back accelerated provisions and write-offs to net profits.
  * After deducting accelerated provisions of Rs 8 bn.
  # Excluding preference capital.

### Table A5: Comparative country-wise banking parameters

<table>
<thead>
<tr>
<th>Units</th>
<th>Spread</th>
<th>Intermediation cost</th>
<th>Net Profit</th>
<th>Net Profit Margin (% of gross income)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1999-00</td>
<td>2000-01</td>
<td>1999-00</td>
<td>2000-01</td>
</tr>
<tr>
<td>Australia</td>
<td>2.22</td>
<td>2.50</td>
<td>0.93</td>
<td>24.12</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>2.54</td>
<td>14.38</td>
<td>-0.35</td>
<td>-2.26</td>
</tr>
<tr>
<td>France</td>
<td>0.84</td>
<td>1.24</td>
<td>0.19</td>
<td>10.69</td>
</tr>
<tr>
<td>Japan</td>
<td>1.31</td>
<td>0.99</td>
<td>-0.57</td>
<td>-41.27</td>
</tr>
<tr>
<td>Korea</td>
<td>2.11</td>
<td>2.18</td>
<td>-1.06</td>
<td>-37.31</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.77</td>
<td>4.42</td>
<td>0.07</td>
<td>1.17</td>
</tr>
<tr>
<td>Poland</td>
<td>5.31</td>
<td>4.05</td>
<td>2.02</td>
<td>27.45</td>
</tr>
<tr>
<td>Turkey</td>
<td>10.95</td>
<td>5.44</td>
<td>3.41</td>
<td>31.34</td>
</tr>
<tr>
<td>UK</td>
<td>2.09</td>
<td>2.08</td>
<td>0.80</td>
<td>23.37</td>
</tr>
<tr>
<td>USA</td>
<td>3.52</td>
<td>3.77</td>
<td>1.20</td>
<td>19.93</td>
</tr>
<tr>
<td>Indian PSBs</td>
<td>3.16</td>
<td>2.88</td>
<td>0.56</td>
<td>5.05</td>
</tr>
</tbody>
</table>

### Table A6: Cost of banks’ rescue (Rs bn)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital infusion</td>
<td>57.0</td>
<td>52.9</td>
<td>8.5</td>
<td>15.1</td>
<td>27.0</td>
<td>4.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Cumulative infusion</td>
<td>97.0*</td>
<td>149.9</td>
<td>158.4</td>
<td>173.5</td>
<td>200.5</td>
<td>204.5</td>
<td>222.5</td>
</tr>
</tbody>
</table>

Source: RBI Report on Trend and Progress of Banking in India, 2000-01.
Note: * Includes Rs 40 bn injected prior to 1993.

### Table A7: Component-wise disbursements by development financial institutions (Rs bn)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupee loans</td>
<td>137.1</td>
<td>238.0</td>
<td>248.1</td>
</tr>
<tr>
<td>Foreign Currency loans</td>
<td>47.9</td>
<td>42.3</td>
<td>38.9</td>
</tr>
<tr>
<td>Direct subscriptions to equity</td>
<td>77.0</td>
<td>36.0</td>
<td>71.6</td>
</tr>
<tr>
<td>Guarantees</td>
<td>3.4</td>
<td>5.6</td>
<td>8.1</td>
</tr>
</tbody>
</table>

APPENDIX 2

ASSET PORTFOLIO OF THE LIFE INSURANCE CORPORATION OF INDIA (LIC): AN OVERVIEW

This Appendix provides an overview of the composition of LIC’s asset portfolio, with an emphasis on the magnitude of “socially oriented investments”. These investments are intended to “channelise the savings mobilized for the welfare of people at large” and are defined as investments that “help to improve the quality of life of the people at large through improvements of basic amenities like potable water, drainage, housing, electrification and transport”. Assets under this head include investments in central and state government securities (as well as those guaranteed by these governments) and loans to various socially oriented schemes. It is noteworthy that LIC’s asset portfolio is large (to provide a perspective, it amounted to 8.4 percent of India’s GDP in 2000-01).

The book value of LIC’s “socially oriented investments” at end-March 2001 amounted to Rs 1,253 bn, of a total portfolio value of Rs 1,750 bn. The increment to these assets in the portfolio during 1999-2000 was Rs 196 bn. LIC has issued loans to 1960 Urban Local Bodies for their water supply and sewerage schemes and to 507 Zila Parishads for their Rural Piped Water Supply Schemes. Table A8 below provides a decomposition of LIC’s asset portfolio into loan and investment sub-components.

### Table A8: Utilisation of LIC funds

(Amounts in Rupees bns at book value as of March 31, 2000)

<table>
<thead>
<tr>
<th>I</th>
<th>Loans</th>
<th>1999-2000</th>
<th>2000-2001</th>
<th>% of sub-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>State Electricity Boards / Power Corporations</td>
<td>70.7</td>
<td>75.6</td>
<td>6.9%</td>
</tr>
<tr>
<td>Ib</td>
<td>State Government Housing (including DDA and Police Housing Corp.)</td>
<td>27.3</td>
<td>31.4</td>
<td>15.0%</td>
</tr>
<tr>
<td>Ic</td>
<td>National Housing Bank</td>
<td>10</td>
<td>9.3</td>
<td>-7.0%</td>
</tr>
<tr>
<td>Id</td>
<td>Apex Coop Housing Finance Societies (LIC HFL, HUDCO, HDFC, etc.)</td>
<td>63.7</td>
<td>74.9</td>
<td>17.6%</td>
</tr>
<tr>
<td>Ie</td>
<td>Municipalities / Zila Parishads / Water Supply and Sewerage Boards</td>
<td>20</td>
<td>24.3</td>
<td>21.5%</td>
</tr>
<tr>
<td>If</td>
<td>State Road Transport Corporations</td>
<td>3.8</td>
<td>3.9</td>
<td>2.6%</td>
</tr>
<tr>
<td>Ig</td>
<td>Power generation</td>
<td>1.1</td>
<td>1.5</td>
<td>36.4%</td>
</tr>
<tr>
<td>Ih</td>
<td>Joint Stock Companies (including PSUs) and Co-op societies</td>
<td>28.3</td>
<td>26.6</td>
<td>-6.0%</td>
</tr>
<tr>
<td></td>
<td>Total loan portfolio (as percent of advances)</td>
<td>289.3</td>
<td>321.6</td>
<td>11.2%</td>
</tr>
<tr>
<td>II</td>
<td>Investments in securities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIA</td>
<td>Govt. of India securities</td>
<td>705.3</td>
<td>851.4</td>
<td>20.7%</td>
</tr>
<tr>
<td>IIB</td>
<td>State Govt. securities</td>
<td>119.2</td>
<td>143.7</td>
<td>20.6%</td>
</tr>
<tr>
<td>IIC</td>
<td>Other govt. guaranteed securities (including Kisan Vikas Patras)</td>
<td>35.6</td>
<td>35</td>
<td>-1.7%</td>
</tr>
<tr>
<td></td>
<td>Roadways, ports, railways</td>
<td>0.9</td>
<td>3.3</td>
<td>266.7%</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>IId</td>
<td>Private sector power generation</td>
<td>13.7</td>
<td>14.6</td>
<td>6.6%</td>
</tr>
<tr>
<td>IIf</td>
<td>Shares (including LIC MF)</td>
<td>114.8</td>
<td>149.9</td>
<td>30.6%</td>
</tr>
<tr>
<td>IIg</td>
<td>Debentures &amp; Bonds (including IRBL, SIDBI, REC, SFCs, State Level Land Development Banks, Port Trusts)</td>
<td>150.8</td>
<td>202.7</td>
<td>34.4%</td>
</tr>
<tr>
<td></td>
<td><strong>Total Investments (as percent of advances)</strong></td>
<td>1140.3</td>
<td>1401.1</td>
<td>22.9%</td>
</tr>
<tr>
<td>III</td>
<td>Special Deposits with Govt. of India</td>
<td>20.4</td>
<td>18.6</td>
<td>-8.8%</td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td>1459.1</td>
<td>1750.1</td>
<td>19.9%</td>
</tr>
</tbody>
</table>

**Note:** Sub-components may not add up to total, due to omission of certain items.

Although the classification of investments in securities available from LIC does not clearly indicate the break-up into equity and debt, the explicit categories IIf and IIg in Table A8 shows that incremental investments in equities and debt in 2000-01 increased by 31 and 34 percent respectively.

**Figure 4 : LIC asset (loan + investment) portfolio (% of total)**

- Central & State Govt. securities: 13%
- Social Sector Investments: 54%
- Housing development loans: 20%
- Corporate sector investments: 6%
- Other assets: 6%

**Figure 5 : Sectoral exposure of LIC asset (loan + investment) portfolio (% of total)**

- Public Sector: 84%
- Cooperative sector: 2%
- Private sector: 14%

Source: LIC Annual Report, 2000-01

67 percent of LIC’s asset portfolio, mainly comprising of holdings of government securities and social sector investments (see Figure 4 above), is to socially oriented investments. Figure 5 provides a sectoral breakup of the portfolio and shows that it comprises of a staggering 84 percent exposure to the public sector.
APPENDIX 3

A HEURISTIC DESCRIPTION OF A MODEL OF AN ENDOGENOUSLY SWITCHING FINANCIAL LEVERAGE COEFFICIENT

This Appendix gives a brief, mostly heuristic, overview of the model structure proposed in Bhattacharya and Patel [2001]. The investment decision of a firm is determined by a production function and an investment rule for the capital stock. A co-financing requirement of the lenders to the firm, i.e., shareholder equity, determines the bank’s incremental lending decision.

The paper distinguishes “effective” co-financing from the notional requirements of standard profit-maximising models. The distinction is derived from an effective co-financing factor, which is a formal device to capture the distortions in the sponsor equity requirement for the nominal loan component given by the bank with a public sector ownership. The “effective” loan is larger than the nominal credit facility. Under private ownership, the effective and notional co-financing requirements converge (to the full profit maximising one). This is the case where “pure” moral hazard dominates.

The paper uses this effective co-financing requirement to derive a modified version of the Financial Accelerator, which is being increasingly used in the literature. This modification is termed the Financial Leverage Coefficient, which determines the equation of motion for the firm’s capital stock and is the key transmission mechanism for propagation of shocks across the real and financial sectors. The coefficient is designed to account for government ownership of intermediaries. The paper endogenises the evolution of this coefficient by incorporating, inter alia, a feedback loop of economic activity.

The paper postulates the existence of a threshold level of government involvement and consequently, a critical effective co-financing factor on crossing which the Financial Leverage Coefficient switches signs (Figure 6 below), thereby triggering a change of regime for capital formation.

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74 This holds, for instance, if a loan is sanctioned at a rate of interest lower than the one commensurate with the associated level of risk.
75 See Bernanke and Gertler [1999] and Dekle and Kletzer [2001].
Figure 6: Characteristics of the Financial Leverage Coefficient

Note: FL: Financial Leverage Coefficient; GI: Govt. Involvement

We model the effective co-financing factor as a function of two parameters: (i) the “density” of government involvement in banks, which varies over time (Figure 7 below); and (ii) aggravated moral hazard.

Figure 7: Behaviour of the Government Involvement Function

Note: GI: Govt. Involvement

There are two sources of the stochasticity in the switching process for the density of government involvement (and consequently for the financial leverage coefficient) -
modelled by a Markov process. One is endogenous, (partially) driven by the capital formation and production processes of the system, arising from the stochastic productivity of capital. The second is an inherent degree of uncertainty, arising exogenously, from the policies and behaviour of the government itself: the possibility and extent of government bailouts of financially insolvent intermediaries.

Since many danger signals are not explicitly observable and are only one of the many influences governing the dynamic process of investment decisions, an implication of the random component is that the economy might already have crossed the critical switching threshold and be in the “collapse” state even while investment is still positive, though declining.
APPENDIX 4

METHODOLOGY OF THE INDEX OF EFFECTIVE CO-FINANCING (IEC-F).

This appendix is an enumeration of the constituent groupings of the Index of Effective Co-Financing (and of its underlying components) and an associated weighting system. As explained in the main body of the paper, the weights are uniform, and are simply +1 or –1 depending on the appropriate definition of the respective series vis-à-vis the paper’s definition of effective co-financing.

I. Index of Effective Co-Financing

The IEC-F is a derived Index, based on the constructs of the analytical model. The IEC-F itself, as is evident from Table 7 and the description of the analytical model in Section IV, consists of two components: a measure of the density of government involvement in the financial sector (captured through the Index of Density of Government Involvement in the Financial Sector (IDGI-F)), and another of aggravated moral hazard.

I.1 Methodology for construction of IEC-F

The construction of the IEC-F is based on the functional specification in Bhattacharya and Patel [2001]. The IEC-F is defined as the measure of aggravated moral hazard with the IDGI-F as its exponent.

II. Index of Density of Government Involvement in the Financial Sector (IDGI-F)

II.1 Constituents

A. Set of measures indicating trends in the government’s pre-emption of financial resources.

1. Share of public investment in overall investment (e.g., 7.7 percent of 26.8 percent in 1995-96 and 7.1 percent of 23.3 percent in 1999-2000).
3. Public sector fiscal / resource gap (a proxy for PSBR).
4. Outstanding liabilities (internal and year-end external debts, plus small savings, provident funds, etc) of the (central and state) governments.
5. Outstanding contingent liabilities (guarantees and other off-balance sheet items) of the (central and state) governments.

B. Share of public sector banks and financial institutions in total financial intermediation.

1. Share in resource mobilisation.
   a. Net domestic and time liabilities in banks (as % of financial savings).
b. Resources mobilised by FIs through bond issues (as % of GDP & financial savings).

c. Premia of LIC / Amounts mobilised by MFs (including UTI) (as % of GDP & financial savings).

d. Small savings mobilised by the government.

2. Use of funds.

a. Investments in government securities by banks and financial institutions.


a. Number of banks and FIs under public ownership as a percent of total banking intermediaries.

b. Share of financial assets intermediated by public sector institutions.

II.2 Methodology for construction of the IDGI-F

The IDGI-F is a simple weighted average of the rates of change of “synthetic” (sub-index) constituent series. These synthetic sub-index series are constructed using the (observed) rates of change of the constituent variables (detailed above), with the values of variables of the individual series being normalised to 100 each in 1990-91.

III A measure of aggravated moral hazard

III.1 Constituents

A. Diminishing notional co-financing

Mobilisation through public equity issues as a % of total advances of banks and financial institutions.

B. Diminishing effective co-financing

Regulatory forbearance: Recapitalisations / Write-offs of banks / FIs (logit representation as indicator function I(R(t)) = 1 if R(t) > 0 and I(R(t)) = 0 if R(t) = 0).

It might be worthwhile to elaborate on the rationale of the proxy used for calibrating increasing moral hazard. We know of no study that has directly measured moral hazard: the measures are typically of variables that are employed to mitigate the consequences. The most widely used one is of co-financing, originating in the literature on insurance and used extensively in credit risk management. Decreasing levels of co-financing serves to increase moral hazard and thereby increase the risk profile of a portfolio or loan package.