Executive Summary

Introduction

Over the past decade, the macroeconomic consequences of asset quality of banking institutions have been the subject matter of much attention of policy makers. As Lindgren *et.al.* (1996) have observed, since 1980, over 130 countries, comprising almost three fourths of the International Monetary Fund's member countries, have experienced significant banking sector problems, with 41 instances of crisis in 36 countries and 108 instances of significant problems. Added to this, the worldwide trend towards deregulation of financial sectors and the widespread banking problems of many countries arising largely in consequence of this trend have raised a host of questions relating to the linkages between de-regulation, risk behaviour of banks and banking crises. Consequently, the banking sector, or for that matter, the financial sector in general, in most emerging economies are passing through challenging yet exciting times.

Concerns about banking crises are hardly surprising. Bank failures generate serious negative externalities for the economy as a whole. These externalities take a wide variety of forms. The use of public money to bail-out insolvent banks can endanger efforts to rein in budget deficits. And even if budget deficits are viewed as (domestic) transfers rather than as real economic costs, such recapitalisation can compel the authorities towards less benign ways of deficit financing (e.g., an inflation tax); the rescue process itself can weaken the incentives for creditors to monitor the behaviour of banks in the future.

One of the classical measures of reducing the probability of bank failures has been recapitalisation. If recapitalisation takes the form of weak banks cutting back lending and widening spreads, the lower availability and the increased costs of bank credit can impinge seriously on an economy's real prospects by rationing credit, especially for borrowers with few avenues to alternative sources of financing. Banking problems can also create difficulties for monetary policy. Not only can they distort the normal relation between monetary instruments and the intermediate and final targets of monetary policy, but they may also compromise the overall stance of monetary policy (Sundararajan and Balino, 1991). Banking crises can often trigger concomitant problems for balance-of-payments policy. In fact, recent theoretical advances have demonstrated that banking crises are often an important precursor of a balance-of-payments crisis (Kaminsky and Reinhart, 1995). Finally, banks in developing countries typically operate the payments system, hold the bulk of the financial assets in the economy and are significant players in the government securities market. A crisis in the banking sector therefore, often delimits the efficiency of the payments mechanism, reduces the overall quality of the asset portfolio and constrains the depth and liquidity of the securities market with damaging consequences for macroeconomic policy-making.

Banking crises in LDCs and NICs can have costly repercussions for industrial economies as well. About a quarter to a third of industrial country exports are absorbed by the developing countries. Such crises can reduce absorption by developing countries, disrupt the payments mechanism and curtail portfolio investment flows into developing countries, reducing overall growth[i]. The recent crises in South-East Asia, for instance, is projected to slowdown the growth in the world economy from 4 per cent in 1997 to 3 per cent in 1998 (International Monetary Fund, 1998). In short, to the extent that banking crises depress developing countries growth and foreign trade, constrain their ability to service and to repay private capital flows, and eventually augment the liabilities of developing country governments, industrial countries are also unlikely to be immune from their after-effects.

As a consequence, a lot of discussion consequently has been generated about banking crisis prevention and crisis management. Pertinent from the point of view of the present exercise is the prevention of banking distress and the forms such crisis-resolution methods should take. Several methods apropos have been suggested in the literature and their relative efficacy discussed at length, depending, to a large extent, on the differences in the legislative framework and the macroeconomic and socio-politico constraints in each individual case. These measures, broadly classified, take the form of emergency (short-term) measures and regulatory reforms (long-tem) measures. The present Study focuses on the latter.

Objectives of the Study

The introduction of prudential regulations in India since 1992-93, consequent upon the recommendations of the Committee on the Financial System (1991) has ushered in a sea change as regards the regulatory framework for the financial sector. Although the regulatory structure has gradually been tightened over the years with the avowed objective of moving towards international best practices, relatively little attention has been paid towards assessing the effectiveness of regulations. This gap cries out to be supplemented with rigorous empirical research with a view to act as a guiding force for any further modification of the existing regulatory mechanism. It is our belief that the current system of recapitalisation followed in India represents an over-reliance on the Basle norms and presents several lacunae. In particular, the 'one-cap-fit-all' theology inherent in the Basle system may introduce an unacceptable amount of inflexibility in the Indian context. While it remains that high enough capital adequacy standards may discourage gambling behaviour and provide effective cushion in an upswing, they might prove to be inadequate in downturns, as firms find it difficult to service their loans. In the face of such vicissitudes in the operating environment, as each bank attempts to satisfy their capital adequacy standard, the whole system may find itself completely undermined, eventually resulting in a worsening of capital adequacy standards (Stiglitz, 1999 b)[ii].

The widespread criticism in respect of the old Accord seems to have led the Basle Committee on Banking Supervision (BCBS) to propose the new Consultative Paper on Capital Adequacy Framework in June 1999 which aims to further strengthen the soundness of the financial system. The primary objectives of the new Accord are (a) the promotion of safety and soundness of the financial system, (b) the enhancement of competitive equality and (c) the constitution of a more comprehensive approach to addressing risks. These objectives are sought to be attained *via* three cardinal principles: (a) minimum capital requirements, (b) supervisory review of capital adequacy and (c) effective use of market discipline[iii].

The revised framework places an explicit emphasis on rating. Risk differentiation between counterparts, be they sovereigns, banks, corporates, public sector enterprises or securities firms, are to be based on either external or internal ratings. In view of its overt reliance on the ratings process, it is expected that, in the near future, the ratings mechanism will play a critical role in risk evaluation of banks.

The question therefore arises: if the present CAR approach is inadequate, how do we operationalise an alternative approach? Such an alternative approach would have to take cognizance of the external/internal ratings methodology or alternately, it would have to take into account the supervisory ratings and devise a framework for detecting warning signals of incipient crises. Such structured intervention, popularly referred to as Prompt Corrective Action or PCA, have been widely used in several developed economies. Keeping the Indian

realities in mind, one might explore the feasibility of operationalising such a framework and its efficacy. It is also important to recognize that there might be several variables that act as a conduit for streamlining the regulatory framework. Identification of these variables (or proxies thereof) is an important element of the present Study.

Broadly defined therefore, the primary objective of the present study would be to investigate the relationship between changes in attitudes to risk and the level of capital in the banking sector, and, in particular, those of public sector banks (PSBs) in India. In a recent article, Nachane (1999) has been critical of the applicability of CAR in the Indian context. According to him, "…headlong rush along the Basle path of inflexible CRARs, which the Narasimham II Committee seems to advocate is …inadvisable". Several reasons have been adduced for such concern. Firstly, the predominantly public sector character of banking in India implies that the incentive structure might differ significantly from those prevailing under private banking. Secondly, directed credit often constricts risk-taking activities, so that market risks are not accurately reflected in interest spreads. Thirdly, accounting norms are in a state of evolution, so that sophisticated monitoring mechanisms might pose problems. As a result, taking the cue from there and related considerations, the major contours of our study can be delineated in terms of the following set of arguments:

(a) Identification of the key variables (and the magnitudes thereof) that impinge upon the capital adequacy of banks;

(b) Examination of whether there has been a shift in portfolios towards riskier assets after the introduction of the capital adequacy norms;

(c) Implications of the New Capital Adequacy Framework with special emphasis on credit rating;

(d) Whether alternative regulatory arrangements *viz*., the Value at Risk (VaR) or the Pre-Commitment Approach (PA) can complement the extant regulatory framework.

Methodology of the Study

Building upon a review of the received literature and the evolution of the regulatory framework for banks in India since 1992-93, the Study would undertake an exploration of the inter-linkages between capital and risk for Indian public sector banks with a view to examining the implications on the banking system of changes in the regulatory framework (more specifically, those aspects of this framework impinging on capital adequacy). Towards this end, the Study would utilize several periods of cross-section data on commercial banks in a simultaneous equation framework to estimate the effect of capital changes on risk. An important aspect of the methodology would be its recognition of the fact that changes in both capital and risk have endogenous (i.e., discretionary) and exogenous (i.e. non-discretionary) components. Consequently, the focus would be on determining the effects of discretionary changes in capital (i.e., risk), which are induced by either endogenous or exogenous changes in risk (i.e., capital). Finally, with the new Capital Accord expected to be operational in the near future and given its emphasis on the ratings methodology, to what extent do capital levels of banks impact the ratings process? As an added exercise, an attempt will be made to address the related issue that if the CAR is inadequate as a regulatory framework, to what extent can alternative models of market risk induce banks to move from initial conditions along the learning curve to achieve desirable levels of capital provisioning for varying levels of risk.

Areas of Policy Action

The study would make an attempt to offer concrete policy suggestions in the context of

(a) Efficacy of Capital to Risk Assets Ratio (CRAR) for the banking sector and implications of such levels of CRAR for risk-taking behaviour of banks;
(b) The viability of alternative approaches like the Prompt Corrective Action;
(c) Implications of the (domestic) ratings process for capital adequacy; and,
(d) Prospects for the use of newer models like Value-at-Risk (VaR) and Pre-commitment Approach (PA) in the Indian context.

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i Honohan (1997) has estimated that since 1980, the resolution costs of banking crises in all developing and transition economies have approached a quarter of a trillion dollars.

ii Stiglitz (1999a) has observed that, while capital adequacy standards are important, it is important to remember that (a) behaviour is affected by franchise value as well as standard capital, increasing capital requirements will lower franchise values and consequently encourage risk-taking and (b) high capital requirements by themselves can even increase risk-taking, especially given the crude and imperfect risk adjustments made (e.g., they do not take into account correlations between assets and do not uniformly take account of the correlation between credit and market risks). For developing countries, Stiglitz therefore advocates a "dynamic portfolio approach". This approach approaches financial sector regulation from the perspective of risk management-managing the incentives *and* the constraints which affect financial entities' exposure to and its ability to cope with risk.

iii The new Accord implies a shift away from stipulation of prescriptive capital adequacy standards (rule-based capital regulation) towards specification of capital adequacy based on quality and character of bank assets, competence of its management and the stability of the operating environment (process-oriented capital regulation) (Karacadag and Taylor, 2000). This assumes importance in the light of Greenspan's (1998) observation that a bank with a nominally high capital ratio of 12 per cent normally would be characterised as "well capitalised", given the Basle minimum CAR of 8 per cent. Yet, a 12 per cent ratio may be inadequate for the bank's operating environment and risk profile, which may warrant a capital ratio of 15 or 20 per cent in the economic sense.