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Macroprudential Regulation and Bank Performance: Evidence from India

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8.1 Introduction

In recent years, countries have put considerable emphasis on financial sector reforms as a means to improve the overall functioning of the sector. Such reforms have encompassed a significant gamut of measures, including lowering of statutory reserve requirements, deregulation of interest rates, introduction of measures relating to income recognition, loan classification and provisioning, allowing more liberal entry of foreign banks and diversifying the ownership base of state-owned banks. The evidence emanating from empirical research is admittedly mixed. One set of studies finds that financial deregulation leads to an increase in the resilience and performance of the banking sector (Boyd and De Nicolo, 2005; Das and Ghosh, 2006, 2009; Yeyati and Micco, 2007), while others find that the net effect of financial deregulation on the banking sector to be negative (Keeley, 1990; Grifell-Tatje and Lovell, 1996; Wheelock and Wilson, 1999).

The existing literature tends to look at each macroprudential measure in isolation, thereby ignoring the effect of these measures in totality on bank performance. For instance, there are studies that examine the impact of removal of interest rate ceilings on the banking sector (Kwan, 2002; Feyzioglu et al., 2009). Several others consider the effect of prudential regulations on bank risk and performance (Matutes and Vives, 2000; Hellmann et al., 2000; Claessens and Laeven, 2004; Agoraki et al., 2011). None of the studies takes a holistic view on the different macroprudential measures on bank performance. As Allen and Gale (2004) observe, since the aspects of performance, stability, efficiency and soundness of banks are interrelated, careful consideration of all important prudential measures is important for sound empirical analysis.

In this context, the chapter investigates how various measures of macroprudential regulation affect the performance of the banking sector. More specifically, we consider the impact of three major dimensions of macroprudential regulation – capital adequacy ratio, provisioning norms and loan
classification requirements – on the performance of the Indian banking system. We employ four indicators on which to assess the impact: return on asset (RoA) as the profitability measure, net interest margin (NIM) as the measure of economic efficiency, Z-score as the measure of bank stability and finally, advances growth (Gr_Advances) as a measure of bank business.

India provides a compelling case among emerging markets to examine this issue in some detail. First, beginning from the early 1990s, the country has experienced significant liberalization of the banking sector. These liberalization measures were premised on the objectives of enhancing efficiency, productivity and profitability of banks (Government of India, 1991; 1998). Second, India is one of the largest and fastest-growing emerging economies with a gamut of banks across different ownership categories. It would be of interest to examine the impact of different regulatory measures on the performance of banks across different ownership groups. Third, a comprehensive and reliable banking database for an extended time span is available for Indian banks. The time-series and cross-sectional variation in the data makes it amenable to rigorous statistical analysis. Additionally, the time period of the study, beginning 1992, coincides with the inception of economic reforms. As a result, it permits us to clearly ascertain the impact of regulatory reforms on the performance of Indian banks. These findings might provide useful leads to other emerging market banks to examine the impact of relevant measures on bank performance across different ownership groups.

The chapter combines several strands of literature. The first strand is the effect of macroprudential measures on bank performance. Several papers have analyzed the impact of capital requirements on bank risk and performance variables. Employing a partial adjustment framework, Shrieves and Dahl (1992) uncovered evidence to suggest that regulation was effective in the sense that undercapitalized banks (i.e., with capital ratios of less than 7%) increased their capital ratios by more than 100 basis points per annum as compared to other banks. Studies for non-US banks, including the UK (Ediz et al., 1998), Switzerland (Rime, 2001) and India (Ghosh et al., 2003) also provide support to the efficacy of capital regulation. In contrast to these studies, we examine the impact of a whole gamut of macroprudential measures on bank behavior. To the best of our knowledge, this is one of the earliest studies to systematically study the impact of macroprudential regulations on bank behavior.

Second, the chapter is related to the literature on the evolution of the Indian banking sector in the post-deregulation era and on the characterization of the state-owned banks in India (Banerjee et al., 2003; Berger et al., 2008; Gormley, 2010; Zhao et al., 2010; Cole, 2011). The analysis by Banerjee et al. (2003) appears to suggest that Indian state-owned banks do not provide adequate credit to the private sector. Berger et al. (2008) examine relationship lending across bank ownership and find state-owned banks to be the