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# The conundrum of profitability versus soundness for banks by ownership type: Evidence from the Indian banking sector☆

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ABSTRACT

Banks pursue profit like any business, but in their role as custodians of domestic savings, they are required to be cautious. Riskier but profitable advances may cause asset quality deterioration, thus affecting the long-term viability of the entity. Financial sector reforms in India from the early 1990s, have raised the level of competition for banks of different ownership types — public sector (PSB), old private banks, new private banks, and foreign banks. We use panel data on 75 banks across the ownership spectrum, for the period 2000–13, to examine their performance vis-à-vis these two measures — profitability and soundness. We find evidence of significant heterogeneity in performance across ownership type. Overall, we find that there is a negative association between the profitability and soundness measures, though these effects vary by ownership type. PSBs, constrained by social outreach commitments, perform comparatively worse. A reluctance to increase commercial loans implies a lack of investment in the knowledge capital necessary for effective risk management. The smaller old private banks have a dedicated client base; despite the pressure of non-performing assets, they remain profitable. Foreign banks maintain high capital adequacy ratio and relatively higher return on assets. The results also provide evidence that good human resource policy is vital for bank performance.

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## 1. Introduction

Banks pursue profit like any business. But as custodians of the nation's savings and primary intermediary in the financial sector, they are required to tread cautiously, maintaining a delicate balance between profitability and stability. Minimizing cost and maintaining healthy revenues without asset quality deterioration is a universal challenge for banks in a competitive setting. The ongoing global financial crisis (GFC) underscores the need to assess banks' operations not merely from the limited lens of profitability but also in terms of long-run sustainability.

There is a substantial international literature linking financial market deregulation with increased risk-taking behavior by firms in the financial sector. Hellman, Murdock, & Stiglitz (2000) develop a theoretical model where the opening up of the financial sector increases competition, which in turn erodes profits. The pressure from reduced profits induces banks and financial firms to make risky advances. Easterly, Islam, & Stiglitz (2000) and Giannone, Lenza, & Reichlin (2011) empirically support this argument. Their cross-country regression analysis reveals that policies that favor liberalization in credit markets are negatively correlated with countries' resilience to the 2008 global financial crisis, as measured by output growth in 2008 and 2009. Thus, there exists evidence of financial market liberalization being associated with increased risk of financial crises.

Historically, India's financial sector did not offer a level-playing field for all the players. While public sector banks (PSBs) were constrained in some ways, they also enjoyed some privileges, and dominated the banking sector for several decades (Rajan, 2009). The liberalization and deregulation of the banking sector since 1990–91 has significantly changed this sector's operational environment. The thrust of these reforms was market orientation with a shift to market-determined interest rate from the earlier administered rate regime, and opening up the sector further to private sector participation through new licenses, and to foreign banks. Hence the establishment of new large private sector banks to usher in competitiveness in the banking industry was a dramatic shift in the regulatory regime.

In the current liberal regime, PSBs have to compete with three other groups of banks: old private banks, new private banks, and foreign banks. All banks are subject to the same prudential norms and regulatory requirements like the cash-reserve ratio, statutory liquidity ratio etc. They are allowed to operate freely in domestic markets, and earlier controls on products and pricing were lifted. Importantly, there is a

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significant decline in the extent of support that PSBs received from the government. Despite such efforts to create a level-playing field, the banks of different ownership structure are still fairly diverse.

Of the four types of banks the PSBs have majority shareholding by the government. They play a social role by providing loans at discounted interest rates under priority sector lending to disadvantaged members of the society. The PSBs are required to have branches in remote rural areas for financial inclusion and outreach, raising their cost of operations. The old private sector banks have survived for almost a century, but are much smaller than the PSBs. They largely cater to the different business communities that have promoted them. The new private banks are diametrically different, having been promoted by large financial institutions. Presently there are only 7 such banks, which are large, modern, and technology oriented with a sizeable branch network. The foreign banks operate as subsidiaries created by the parent bank in the home country. Presently 43 foreign banks are operating in India. These banks face some additional restrictions such as a ceiling on the number of branches they can operate. The obvious diversity across the ownership is likely to be reflected in their operational efficiency.

There is a strong consensus in the international literature that private banks or newly privatized banks, are more cost efficient than public banks. Papers that document this include Villalonga (2000) for Spanish banks, Yildirim & Philippatos (2003), Bonin, Hasan, & Wachtel (2005), and Fries & Taci (2005) for European banks in transition economies, Hasan & Marton (2003) for Hungarian banks, Berger et al. (2005) for Argentinian banks, Nakane & Weintraub (2005) for Brazilian banks, Berger et al. (2009) for Chinese banks, Anis & Yosra (2012) for Tunisian banks, and Li, Hu, & Chiu (2004) for Taiwanese banks.

There is also evidence of a positive association between foreign ownership and profitability. Hasan & Marton (2003) find that Hungarian banks with higher foreign ownership are more profitable. Moreover, most foreign banks have a higher level of profitability compared to public banks (Fries & Taci, 2005). Claessens, Klingebiel, & Laeven (2001), examining the performance of domestic and foreign banks both in developed and developing economies in the late 1900s, find that foreign participation improves the profit efficiency of domestic banking.

Given the weight of evidence in favor of more competition, policy-makers, researchers, and commentators are interested in learning how different types of banks would perform in the new liberalized environment in India. Would PSBs cope with the challenge of competing in a market-oriented environment, pursuing profits without jeopardizing their asset portfolio? Would the new comers — new private and foreign banks — be able to overcome the historical advantages enjoyed by the incumbent banks? The evidence thus far answers this question only partially.

Bhaumik & Dimova (2004), using Indian banking data from 1995–96 to 2000–01, find that while private sector and foreign banks were performing better than PSBs in 1995–96, the latter had closed the gap by 1999–00, suggesting that PSBs outperformed their private sector and foreign counterparts in the newly unleashed competitive environment. The authors concluded that ownership was not an important determinant of performance by the end of the 1990s. They used return on assets (RoA) as the performance measure.

Das, Nag, & Ray (2005) apply the data envelope analysis (DEA) to analyze various efficiency scores for Indian banks during the 1997–03 period. They find that PSBs improved considerably in terms of profit efficiency over this time. Foreign banks, while having higher average profit efficiency scores compared to PSBs, did not show much improvement, while private banks' performance on this score was inconsistent. The authors did not find a strong ownership effect with respect to cost, revenue, and technical efficiencies.

Sathye (2003) also uses a DEA to examine productive efficiency of banks in India using data from 1997–98. He finds that while the mean efficiency score of Indian banks compares well with the world average, private sector banks are less efficient than PSBs and foreign banks. The author attributes the efficiency gains of PSBs to their successful effort in reducing non-performing assets, and to the policy of rationalizing staff and branches.

Much has changed in the banking sector since the evidence presented above — most notably, regulatory changes introduced since the Basel Capital Accord and the impact of the GFC. This provides a strong motivation for re-examining banks' performance in India over this turbulent period. Moreover, there is very little evidence on what impact the pursuit of profitability by banks has had on the their soundness or sustainability, where the latter may be defined as a situation where the bank is solvent, and is expected to remain so. This seems particularly relevant now, as non-performing assets (NPAs) have increased sharply in recent years; during 2009–12, the ratio of NPAs to total loans rose from 2.3% to 3.6%. Notably, the PSBs accounted for about 85% of the NPAs in the banking sector in 2013 (Gynedi, 2014). The government of India pledged over $1 billion in 2015, to recapitalize PSBs.[1]

In this paper, we estimate the operational efficiency of banks in India using a sample of data on public sector, private sector, and foreign banks over the period 2000–13. We segregate operational efficiency into three aspects: competitive efficiency, profitability, and financial stability. Banks of different ownership types are subject to different constraints that have a direct impact on their cost efficiency, profitability, and stability. For instance, PSBs have more social objectives such as financial inclusion and outreach, relative to other types of banks. Foreign banks may be constrained by directives from their parent body. Moreover, most public sector and some private sector banks have been operating in the country for a very long time, while foreign banks are a relatively more recent phenomenon. For all these reasons, we estimate our relationships of interest separately by ownership type. Our contribution lies in highlighting the dilemma of banks in maintaining robust profit profile without eroding their asset base. We use a diverse set of criteria for evaluating bank performance in terms of the two criteria of profitability and soundness. The basic hypothesis we are testing is whether there is an inverse relationship between profitability and financial stability of banks.

Our data covers a period (2000–13) when many notable changes in international banking regulations were introduced (in the Basel rounds). More importantly, it covers one of the most turbulent phases in the international financial sector — GFC — that continues to have a significant impact in the real and financial sectors in many developed as well as developing countries. Therefore, our findings have important implications for enhancing banks' performance in India, in a backdrop of dynamic changes in both domestic and international financial sectors. Our findings can offer insights for other countries that have a similar banking structure and have launched major regulatory reforms in their financial sector.

To our knowledge, our paper is the first to analyze determinants of both profitability and stability for Indian banks by type of ownership. We take a holistic approach, keeping in mind a competitive scenario where profit is a driving force that may push banks into adopting a risky business strategy that can have serious consequences for soundness. It also provides useful tool for policy makers of banks and the Central Bank.

We use accounting ratios that are routinely used by researchers and policy-makers, to capture our outcomes of interest. We use cost-to-income ratio (CIR) as a measure of overall competitiveness, return on equity (RoE), and return on assets (RoA) as measures of profitability, and the capital adequacy ratio (CAR) and net non-performing assets (NNPA) to evaluate soundness. We define these ratios and discuss their aptness as our outcome measures in the following section. We use panel data models to estimate our relationships of interest, while accounting for unobserved heterogeneity.

The rest of the paper is organized as follows: the following section discusses our sample data and presents some summary statistics,

[1] See Financial Express, New Delhi, Feb 8, 2015.

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