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Market concentration, risk-taking, and bank performance: Evidence from emerging economies☆,☆☆

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ABSTRACT

This paper investigates the relationship between market concentration, risk-taking, and bank performance using a unique dataset of the BRIC banks over the period 2003–2010. We find a negative association between market concentration and performance, in support of the "quiet life" hypothesis. We also find that banks taking a lower level of risks perform better, in favor of prudential practice. Moreover, the BRICs' banking sectors were all negatively affected by the 2007–2008 global financial crisis with China and Russia being the least and most affected, respectively. On average Chinese and Brazilian banks outperform Indian and Russian ones, indicating that China and Brazil have more favorable institutional infrastructure. These results are robust to alternative model specifications and estimation techniques. Our analysis may have important policy implications for bankers and regulators in the BRICs and other developing and transition countries.

1. Introduction

Banks are the cornerstone of a country's financial system, especially in the developing countries where capital markets are underdeveloped. The global financial crisis in 2007–2008 has caused great turmoil in the banking sectors of the developed world. In sharp contrast to the clustered collapses of international financial giants in advanced economies, there were fewer bank failures in Brazil, Russia, India, and China (hereinafter the BRICs). In fact, the 2007–2008 financial crisis has catalyzed the catching up process for banks in the developing world. According to Bloomberg, as of 31 July 2011, 4 of the world's top 10 banks by market capitalization were from the BRICs; and 44% of the world's top 100 banks belonged to developing countries, increased by 14 percentage points from 30% in 2007. Meanwhile, the 2007–2008 financial crisis has fuelled active public policy debates on issues such as bank performance, market concentration (market power), competition, risk-taking, financial stability, regulation, and so forth. The rapid recovery of the BRIC economies[1] and their relatively stable banking sectors provide a natural experiment and rare opportunity to study these issues.

The relationship between market concentration and performance has long been subject to theoretical debates. The Structure–Conduct–Performance (SCP) hypothesis from traditional industrial organization literature suggests a positive relationship between market concentration and performance base on the conjecture that in a concentrated market large banks collude to earn higher profits (Bain, 1956). Affirming this positive relationship, the efficient structure hypothesis, however, asserts a reverse causality that efficient banks are more profitable and gain market shares, resulting in a concentrated market (Demsetz, 1973). In contrast, the "quiet life hypothesis" predicts a negative association between market concentration and performance

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[1] All the BRIC economies were hit by the 2007–08 financial crisis and Brazil and Russia even experienced a negative growth rate of −0.64% and −7.81% in 2009, respectively. However, the BRIC economies recovered rapidly to a growth rate of 7.49% in Brazil, 4.03% in Russia, 8.81% in Indian, and 10.4% in China in 2010.

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arguing that firms with market power tend to operate inefficiently as managers may relax their efforts and enjoy the monopoly profit of a "quiet life" (Hicks, 1935). Empirical literature has achieved no unanimity. In the European banking sector, the "quiet life" hypothesis is rejected in Maudos and Fernández de Guevara (2007) but accepted in Delis and Tsionas (2009). In the US market, an early study of Berger and Hannan (1998) finds strong evidence for the "quiet life" hypothesis. A recent study by Koetter, Kolari, and Spierdijk (2012) presents a more complex picture with a negative association between market power and profit efficiency but a positive association between market power and cost efficiency.

On the other hand, bank intermediation involves a variety of risks. Excessive risk-taking could lead to bank failures, which in turn may cause bank runs and even costly financial crises. Motivated by more frequently occurring financial crises with disastrous damages to the economy, a growing body of research addresses the macro stability of the banking/financial systems with two contrasting views emerged. The competition-fragility view believes that competition may encourage banks to take more risks for higher return and thus undermine financial stability, while monopoly rents increase a bank's charter value and discourage risk-taking behavior (Allen & Gale, 2004; Keeley, 1990). The competition-stability view argues that monopoly allows banks to charge higher interest rates, which exaggerate the adverse selection effect and jeopardize banking/financial stability (Allen, Carletti, & Marquez, 2011; Boyd & De Nicolo, 2005; Schaeck, Cihak, & Wolfe, 2009).

Other researchers take a micro approach to gauging how risk-taking behavior interacts with bank performance. The "bad luck" hypothesis argues that an increase in problem loans caused by precipitated external events induces credit risk and banks may become inefficient due to greater efforts and expenses on those problem loans (Berger & De Young, 1997). Empirical studies have examined the relationship between performance and a wide range of risks, including credit risk, capital risk, liquidity risk, market risk, operational risk, and overall risk (Altunbas, Carbo, Gardener, & Molyneux, 2007; Berger & De Young, 1997; Brissimis, Delis, & Papanikolaou, 2008; Fiordelisi, Marques-Ibanez, & Molyneux, 2011). This strand of literature to date is primarily based on the US and European countries with, if any, fewer insights and discussions on the banking industry in emerging economies.

Over the past decade or so, the banking sectors in developing and transition economies have received great research attention. Existing literature has examined bank capital buffers (Fonseca & Gonzalez, 2010), bank distress and financial crisis (Bongini, Claessens, & Ferri, 2000; Mannasoo & Mayes, 2009), banking problems in Asian and South American in the 1980s and 1990s (Arena, 2005), and bank performance in individual countries (Berger, Clarke, Cull, Klapper, & Udell, 2005; Jiang, Yao, & Zhang, 2009) or a group of countries (Fries & Taci, 2005; Williams & Nguyen, 2005). There is a big gap in the banking literature in that there is no empirical comparative study across the BRIC banks despite their increasingly important role and rising status in the world financial marketplace.

In this context, this paper attempts to reveal how market concentration and risk-taking behavior affect bank performance in the BRICs, enriching our understanding of how BRIC banks withstood the storm wave of the 2007–2008 global financial crisis. Our main goal is to fill in the gap and contribute to existing literature in the following dimensions. First, we evaluate bank performance and examine the impact of the 2007–2008 financial crisis across the BRIC banks while controlling for the effects of country-, industrial-, and bank-level differences to address the heterogeneity of the sample. Second, we test for the "quiet life" hypothesis and present new empirical evidence to theoretical debates in the existing literature from an emerging market perspective. Given the high policy relevance of the concentration–performance relation, this paper provides insights into banking industries in the BRICs with important implications for policy makers engaging in formulating banking policies not limited to the BRIC countries but also other developing countries. Finally, this paper follows the micro approach to examining the risk–performance relation in the BRICs' banking markets. The results will be of particular interests to bankers, practitioners, and regulators.

Using a unique sample of major domestic commercial banks in the BRICs over 2003–2010, we find a negative association between market concentration and performance, in support of the "quiet life" hypothesis. We also find that banks with a lower level of risks perform better, in favor of prudential practice. Moreover, the banking sectors in the BRICs were negatively affected by the 2007–2008 global financial crisis with China and Russia being the least and most affected, respectively. On average Chinese and Brazilian banks outperform Indian and Russian ones, indicating that China and Brazil have more favorable institutional infrastructure.

The remainder of the paper proceeds as follows. Section 2 introduces the evolutionary background of the BRICs' banking systems. Section 3 reviews the literature. Section 4 describes the research methodology and data. Section 5 discusses the empirical results, and Section 6 concludes.

2. The evolutionary background of the banking systems in the BRICs

The banking systems in the BRIC countries have experienced rather different evolutionary processes. The Brazilian banking system did not start from a Central Bank and the first commercial bank dated back to the early 19th century. The Central Bank of Brazil was established in 1964 as part of the financial reform to support the industrialization plan and fight against inflation. The reform specialized financial institutions and laid the foundation for the Brazilian Financial System referencing to the American financial model. The Brazilian banking system has two distinct features. First, Brazil experienced historical hyperinflation – three digits in the 1980s and well over 1000% in the 1990s. Brazilian banks survived and benefited from inflation by raising low-cost liabilities that were invested in short-term securities at much higher interest rates. The high returns from this kind of transactions (known as the "float") covered up the deficiencies of the banking system and disincentivized the development of normal banking practice. Second, Brazilian banking market has the highest cost of financial intermediation in the world in terms of both absolute interest rates and spreads (Miccolis-Anwar, 2007). For instance, over 2003–2010, the average net interest spread is 38% in Brazil, which is more than six times of Russia (6%), seven times of India (5%), and twelve times of China (3%).

State banks in Brazil played a critical role in financing state-level developments and deficits. In the 1980s, most state banks became rather weak, which was hampered by the worsening economic condition and public sector deficits. In 1994, the Brazilian government implemented the Real Plan to stabilize the economy and control inflation. Without inflationary gains some banks went bankrupt. To avoid a systemic banking crisis, the federal government launched the "Program of Incentives for the Restructuring and Strengthening of the National Financial System – PROER" and the Credit Guarantee Fund to assure public confidence. Subsequently state banks underwent significant reforms of restructuring, privatization, or liquidation (Beck, Crivelli, & Summerhill, 2005).

The Russian banking system emerged only in the early 1990s after the collapse of the Union of Soviet Socialist Republics (USSR) in the late 1980s. The Bank of Russia (the Central Bank of the Russian Federation) assumed central banking functions and five state banks were commercialized to serve enterprises in their assigned sectors in the economy.[2] Without much surprise, the sudden death of the centrally-

[2] Five state banks were created in 1987 by taking over commercial operations from the State Bank, namely USSR Promstroybank (industry), USSR Agroprombank (agriculture/industrial), USSR Zhilsotzbank (housing and social security), USSR Vnesheconombank (foreign trade) and USSR Sberbank (the savings bank).