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Basel regulations and banks' efficiency: The case of the Philippines

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ABSTRACT

Using stochastic frontier analysis, this paper has examined the impact of Basel II on the cost efficiency of Philippine commercial banks from 2001 to 2011. The overall mean cost efficiency estimate is 0.75, indicating substantial inefficiencies in the banks averaging to 25% of total costs. Findings show that higher capital requirement tends to improve the cost efficiency but more powerful supervisors can adversely affect the efficiency of the banks. The other potential correlates that may help explain the efficiency of the banks are risk and asset quality and bank-specific variables. From a policy perspective, this study is informative to policymakers on the general direction in which to proceed with reforms (i.e., maintain higher capital requirements, curtail powerful supervisors, and enhance private monitoring) and in identifying factors that could contribute to banks' efficiency especially in light of the newly implemented Basel III in the country. In effect, this paper also assesses the readiness of the banks toward the implementation of Basel III.

1. Introduction

Regulatory change, due to unprecedented changes and reforms on financial institutions and markets around the globe, has greatly affected the efficiency of financial institutions in recent years. More particularly, the weaknesses in financial regulation and supervision have been pointed out by several studies as one of the factors leading to the recent global financial crisis that started in late 2007 (Dan, 2010; Lawrence, 2010; Levine, 2010; Merrouche & Nier, 2010; Barth, Caprio, & Levine, 2012). The recent global financial crisis, as a consequence, did not only bring up critical questions on the appropriateness of the current regulatory and supervisory approaches, but also prompted regulators to take into account the important changes in regulation and supervision. In response to the recent crisis, several countries are in the process of strengthening their regulatory and supervisory systems to improve crisis prevention and management.

Financial regulation and supervision, particularly in the banking sector, is often considered a controversial issue. However, since banks play a major role in the well-being of the economy, there is a substantial need for developing public policies that enhance bank operations. As such, most countries in the world are eager to adopt the "best practices" for the regulation and supervision of banks advocated by the Basel Committee on Bank Supervision (BCBS), making them almost universal standards for bank regulators. For example, virtually all countries adopted the 1988 Basel Capital Accord (Basel I) and in 2004, within three months of its official announcement, more than one hundred countries already signaled their

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intention to adopt Basel II (Barth, Caprio, & Levine, 2006). Basel II, which is the revised and extended version of Basel I, is based on three main pillars: minimum capital requirements, supervisory review and market discipline. Basel II was expected to produce significant benefits in helping banks and supervisors manage risks, improve stability and enable market participants to make better risk assessments (Molyneux, 2003). However, the recent global financial crisis has revealed many shortcomings of the Basel II Accord that prompted the urgency of a revised capital adequacy framework[1]. In 2010, the new proposed framework, Basel III, was issued. This new framework revises and strengthens the three pillars established by Basel II. However, as pointed out by Demirguc-Kunt, Detragiache, and Tressel (2008), upgrading bank regulation and supervision is a complex and difficult process especially in developing countries where the required expertise may be scarce, the legal environment weak and governance problems may lead to regulatory capture.

The efficiency of banking institutions has already been reported considerably in the literature, with most studies concentrated in the United States (US), and an increasing trend toward studies on European financial institutions. This increasing trend seems to be partly motivated by the existing literature on growth and finance that suggests that the overall economic success of a country is positively related to its financial sector development (e.g., Levine, 1997; Levine & Zervos, 1998; Rajan & Zingales, 1998, among others). The Philippine banking system is of particular interest for examining efficiency and risk issues since it experienced substantial banking reforms since the 1990s, after being a tightly regulated banking system. It is interesting to note that according to the series of World Bank surveys from 1999 to 2012, the Philippines is among the top countries that advocate regulatory changes particularly on bank capital regulation and at the same time, has the highest increase in restrictions on bank capital (Barth, Caprio, & Levine, 2008; Barth et al., 2012).

Using a stochastic frontier approach, the main objective of this study is to examine the impact of bank regulatory reforms, particularly the effects of the three pillars of Basel II on the cost efficiency of Philippine commercial banks with the goal of shedding light on how to prioritize efforts to improve supervision. More specifically, did the bank regulatory framework prescribed by the BCBS increase the efficiency of commercial banks? Answer to this question will help the country adjust its reforms and choose more appropriate reform strategies considering the significant increase in the demand for regulation after the recent global financial turmoil. Using the methodology proposed by Battese and Coelli (1995), this study will also identify possible determinants of efficiency of the banks.

From a policy perspective, this study is motivated by Barth et al. (2012) regarding what policy to pursue using data from the extensive survey available. To the author's knowledge, this is the first paper that uses the World Bank survey data by Barth, Caprio, and Levine (2004), Barth et al. (2006) and deals with evaluating the impact of implementing Basel II in the Philippines. In light of the newly implemented Basel III in the country last January 2014, it is imperative to know whether these regulations have positive impact on the efficiency of commercial banks. In effect, this paper also assesses the readiness of the commercial banks toward the implementation of Basel III in the country. Accordingly, this study will be informative to policymakers on the general direction in which to proceed with reforms (e.g., whether to emphasize capital requirements, bank supervision, or private monitoring) to improve and strengthen the country's commercial banking system. At the same time, this study is expected to help improve the regulatory and supervisory framework of the banking system in the country by identifying factors that could contribute to their efficiency. Moreover, this study uses comprehensive banking data compared to existing research on the effects of regulations on bank performance that typically relies on traditional measures of bank efficiency and performance derived from simple accounting ratios.

The rest of the paper is structured as follows: Section 2 reviews the literature on banking efficiency particularly relating to Basel regulations. Section 3 briefly describes the Philippine banking system and the major financial reforms it recently underwent with respect to Basel regulations. Section 4 presents the empirical design for efficiency estimation, while Section 5 discusses the empirical results of the estimation and their implications. Section 6 concludes the paper.

2. Review of literature

2.1. Bank efficiency and Basel regulations

Given the plethora of studies on the effects of regulatory and supervisory policies on banks' performance, this section highlights the emerging themes from the extant studies on the effects of the three pillars of Basel II (capital requirements, supervisory power, and market discipline) on banks' performance. Studies on this particular topic are still very limited in developing countries, in general and in Asian region, in particular.

Barth, Caprio, and Levine (2001) provide one of the first studies on the empirical evidence of the effects of the three pillars associated with Basel II on bank performance. Using a series of surveys[2] covering the period of 1999 to 2011, the authors' major findings remained consistent throughout the period covered: first, the stringency of capital regulations (pillar 1) and

[1] In 2009, to address the lessons of the crisis related to the regulation, supervision and risk management of global banks, the Basel Committee approved for consultation a package of proposals to strengthen global capital and liquidity regulations with the goal of promoting a more resilient banking sector (see BIS, 2009).

[2] The World Bank conducted an extensive survey of cross-country database on bank regulation and supervision. The first survey, Survey I, was done in 1999 covering 117 countries. This is followed by Survey II that described the regulation and supervision of 152 countries as of end-2002. Survey III characterized the regulatory situation of 142 countries as of 2005–2006. The last survey, Survey IV, was completed in 2011 covering more than 125 countries.