Does Basel compliance matter for bank performance?

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ABSTRACT

The global financial crisis underscored the importance of regulation and supervision to a well-functioning banking system that efficiently channels financial resources into investment. In this paper, we contribute to the ongoing policy debate by assessing whether compliance with international regulatory standards and protocols enhances bank operating efficiency. We focus specifically on the adoption of international capital standards and the Basel Core Principles for Effective Bank Supervision (BCP). The relationship between bank efficiency and regulatory compliance is investigated using the Simar and Wilson (2007. J. Econ. 136 (1), 31) double bootstrapping approach on an international sample of publicly listed banks. Our results indicate that overall BCP compliance, or indeed compliance with any of its individual chapters, has no association with bank efficiency.

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1. Introduction

In this paper, we assess whether compliance with international regulatory standards and protocols affects bank performance. We focus on the adoption of international capital standards and the Basel Core Principles for Effective Bank Supervision (BCP). These principles, issued in 1997 by the Basel Committee on Bank Supervision, have since become the global standards for bank regulation, widely adopted by regulators in developed and developing countries. The severity of the 2007–2009 financial crisis has cast doubt on the effectiveness of these global standards to foster bank stability and regulatory reforms are under way in several countries. The initial crisis-induced assessment of regulatory failure is now giving way to a more complex regulatory dialogue and detailed evaluation of the principles underlying international regulatory standards as well as the implications of their adoption, in terms of banks' safety and soundness. In addition, the burden of compliance with international regulatory standards is becoming increasingly onerous, and financial institutions worldwide are developing compliance frameworks to enable management to meet more stringent regulatory standards. As regulators refine and improve their approach and methodologies, banks must respond to more stringent compliance requirements. This has implications for risk management and resource allocation, and, ultimately, on bank performance[1].

The goal of this paper is to advance the existing literature by examining the relationship between the observance of international regulatory standards and the performance the banking sector. To evaluate bank performance we follow a structural approach, which relies on a model of the banking firm and a concept of optimization (Hughes and Mester, 2014). The traditional structural approach relies on the economics of cost minimization

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[1] By the end of 2014, Citigroup had nearly 30,000 employees working on regulatory and compliance issues (an increase of 33 percent since 2011). This trend is compounded by the fact that compliance staffing is increasing at a time when the bank has been shrinking assets and staff (The Tell, *Wall Street Journal*, July 2014). Similarly, JPMorgan Chase expanded its risk control staff by 30 percent since 2011. In Europe, Deutsche Bank is doubling its compliance spending and adding at least 500 additional resources (Bloomberg, 9 July 2014). In 2013, HSBC announced plans to add approximately 3000 compliance staff. This would bring its total compliance staff to more than 5000, almost 2 percent of its global workforce, which has shrunk by over 40,000 in the past two years. (*The Times*, 25 September 2013).

or profit maximization; bank technical or operating (in)efficiency is broadly defined as the distance between an actual production process and the "best practice" or the optimal standard[2].

From a theoretical perspective, scholars' predictions as to the effects of regulation and supervision on bank performance are conflicting. Given the unresolved conflicting theoretical views on regulation and, hence, on supervision, in the aftermath of the 2007–2009 financial crisis, at a time when significant regulatory reforms are under way, it is important to shed more light on the effects of the existing approach to regulation in general and, ultimately, to propose policy avenues for improvements. Despite the fact that bank regulation and supervision have been a key focus of the post-crisis regulatory debate, there is no evidence that any common set of best practices is universally appropriate for promoting well-functioning banks. As a consequence, the question of how regulation affects bank performance remains unanswered. Regulators around the world are still grappling with the issue of what constitutes good regulation and which regulatory reforms they should undertake.

In this paper, we contribute to the ongoing policy debate by assessing whether compliance with international regulatory standards and protocols on supervision enhances banks' operating efficiency. We focus on regulatory compliance, because it can affect bank performance through several channels: (a) lending decisions; (b) asset allocation decisions; (c) funding decisions. Regulatory compliance is costly. Ultimately, these costs are borne not by regulators or banks, but by bank customers, in terms of lower saving rates and higher lending rates. This, in turn, may lead to an inefficient allocation of resources in the economy. As Haldane (2013) indicates, if systemic stability can be achieved in other ways, these are deadweight costs to society.

On the regulators' side, excessive reliance on systematic adherence to a checklist of regulations and supervisory practices might hamper regulators' monitoring efforts and prevent a deeper understanding of banks' risk-taking. More specifically, to shed some light on the aforementioned issues, we aim to answer the following questions: (i) Does compliance with international regulatory standards affect bank operating efficiency? (ii) By what mechanisms does regulatory compliance affect bank performance? (iii) To what extent do bank-specific and country-specific characteristics soften or amplify the impact of regulatory compliance on bank performance? (iv) Does the impact of regulatory compliance increase with level of development?

Building on the IMF and the World Bank Basel Core Principles for Effective Bank Supervision (BCP) assessments conducted from 1999 to 2014, we evaluate how compliance with BCP affects bank performance for a sample of 1146 publicly listed banks drawn from a broad cross-section of countries. We focus on publicly listed banks, on the assumption that these institutions are subject to more stringent regulatory controls and compliance requirements. This focus should also enhance cross-country comparability because these banks share internationally adopted accounting standards. Furthermore, we categorize the sample countries by both economic development and geographic region. Following Demirgüç-Kunt and Detragiache (2011), to assess the level of bank compliance

we use an aggregate BCP compliance score and a disaggregated approach, to differentiate among various dimensions of regulation and supervision. To measure bank performance we begin with the estimation of a common global frontier by means of Data Envelopment Analysis (DEA), a widely used nonparametric methodology. Unlike previous studies, we explicitly account for cross-country heterogeneity in bank efficiency analysis, by adopting a two-stage double bootstrapping procedure: the first stage produces (bias-corrected) efficiency estimates which are then used in the second-stage truncated regressions to infer how various (bank-specific and country-specific) factors influence the (bias-corrected) estimated efficiency (Simar and Wilson, 2007). Earlier studies suggest that the impact of regulation and supervision increases with the level of development (Barth et al., 2004; Demirgüç-Kunt et al., 2008). To assess whether regulatory compliance affects banks differently in countries at different levels of development, we re-run the estimations focusing on a subsample of emerging markets.

Our results indicate that overall BCP compliance – or indeed compliance with any of the individual chapters – has no association with bank operating efficiency. This result holds after controlling for bank-specific characteristics, the macroeconomic environment, institutional quality, and the existing regulatory framework. It adds further evidence to the argument that compliance per se has little effect on bank efficiency. Conditional on being a good bank (that is, a bank complying international regulatory and supervisory standards) regulation has no impact on bank performance. Nevertheless, increasing regulatory constraints may prevent banks from efficient allocation of resources. When only banks in emerging and developing countries are considered, a relationship is revealed. The extent of ongoing supervision is negatively associated with input efficiency. On the other hand, the extent to which supervisors apply international global standards is positively associated with bank input efficiency. This difference indicates that in emerging markets, adherence to international standards of best practice may have a positive effect on bank performance. However, these results need to be treated with caution, because they may also reflect the inability of assessors to provide a consistent cross-country evaluation of effective banking regulation.

The remainder of the paper is organized as follows: Section 2 presents a review of the relevant literature. Section 3 presents the data and the methodology; Section 4 contains the results, and Section 5 concludes.

2. Literature review

Financial regulation and supervision are considered key to financial stability as a well functioning regulatory and supervisory framework can help minimize moral hazard and discourage excessive risk-taking. Post crisis, questions were raised about the appropriateness of the existing regulatory setting, with a number of studies indicating weaknesses in regulation and supervision as one of the key causes of the severity of the crisis (Cihak et al., 2013; Merrouche and Nier, 2014). While efforts to strengthen regulation and supervision are well under way in many countries, there is no evidence that any common set of rules is universally appropriate for promoting well performing and safe banks. Regulatory structures that will succeed in some countries may not constitute best practice in other countries that have different institutional settings. As pointed out by Barth et al. (2013), there is no broad cross-country evidence as to which of the many different regulations and supervisory practices employed around the world work best to promote financial stability. Regulators are still grappling with the question of what constitutes good regulation and which regulatory reforms they should undertake. A recent review of the FSAP program (International Monetary Fund, 2014) includes an

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[2] Traditionally, structural approaches to the evaluation of bank performance have assumed that all banks are equally efficient at either minimizing costs or maximizing profits, subject to a random error (ε_i), which is assumed to be normally distributed. Alternatively, structural approaches rely on the estimation of a frontier to capture the best practice, and estimate inefficiency as the difference between the best practice performance and the actual performance. In this study we follow the latter. There are four main methodologies for estimating the frontier: stochastic frontier; the distribution-free approach; the thick frontier and data envelopment analysis (see Hughes and Mester (2014) for a detailed discussion of the relative merits of the different methodologies).