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Changes in ownership structure and bank efficiency in Asian developing countries: The role of financial freedom

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ABSTRACT

This paper investigates the effect of the changes in bank ownership on cost efficiency across twelve Asian developing economies. We also evaluate how financial freedom shapes the effect of the changes in bank ownership on cost efficiency. Using stochastic frontier approach to estimate bank efficiency scores during the period 2003–2012, we find that foreign presence improves bank efficiency, primarily in countries with high financial freedom. In addition, our results also show that increased government (domestic) ownership of bank appears to improve (impede) bank efficiency in countries with more financial freedom after financial crisis.

1. Introduction

In recent years, financial markets have become increasingly integrated as governments have liberalized domestic financial sectors and capital accounts. One facet of the larger process of financial globalization is the increased participation of private financial institutions in local banking sectors, especially in Asian developing economies after the 1997 financial crisis. The growth in bank privatizations in Asian developing countries has fostered an increased interest in this worldwide phenomenon. Recent studies focus on the causes and consequences between ownership structure and performance. For example, Micco, Panizza, and Yanez (2007) and Cornett, Guo, Khaksari, and Tehranian (2010) show that state-owned banks operating in developing countries tend to have lower profitability than the private banks, and foreign ownership banks tend to be represented by higher profitability than other counterparts. Similarly, focusing on the China banking sectors, Berger, Hasan, and Zhou (2009); Ferri (2009) and Lin and Zhang (2009) showed a significantly higher performance by private and foreign-owned banks relative to state-owned commercial banks.

With this growing literature on ownership structure in Asian developing economies, some studies further to compare the bank efficiency in different ownership structure but are inconclusive (see Laeven, 1999; Williams & Nguyen, 2005). For example, Laeven (1999) shows that state-owned and foreign-owned banks as well as Korean and Malaysian banks took little risk relative to other banks, while family-owned and company-owned banks and Indonesian and Philippine banks were among the highest risk-takers. Unite and Sullivan (2003) show that foreign entry in the banking market in the Philippines corresponds to an improvement in operating efficiencies, but with deterioration in the quality of loan portfolios. Williams and Nguyen (2005) find that, as a result of bank privatization programs, banks selected for domestic mergers and acquisitions (M&As) exhibited relatively low rank order profit efficiency before the governance change, which improved in the short-term but deteriorated in the long-term implying a temporary efficiency gain using five East Asian countries (Indonesia, South Korea, Malaysia, Philippines, and

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Thailand) between 1990 and 2003. Although the impact of ownership structure has received a lot of attention recently, the consequences of the resulting changes in bank ownership structure on efficiency have yet to be adequately explored. We expect that using a real ownership change instead of dummy variable can provide a better insight into how bank efficiency changes as ownership changes.

Moreover, the recurrent episodes of the 2008 Global Financial Crisis associated with financial liberalization motivated a number of researchers to investigate between deregulations and bank performance. One approach points to the deregulation of financial services and institutions as a fundamental reason that led to the crisis (Keeley, 1990), while other approaches suggest that the seeds of the crisis were sown by a particular set of capital regulations because the cap rate tends to have positive association with the amount of risky assets, and then increase in the bank's default probability (Tsai & Hung, 2013). So, an emerging question in the midst of this debate is if and how economic and financial liberalization may affect the performance of financial institutions (e.g. Claessens & Laeven, 2004; Goddard, Liu, Molyneux, & Wilson, 2011). Although research is increasingly using the indexes of economic freedom to proxy liberal effect as explanatory variables in their regressions (e.g. Powell, 2003; Altman, 2008; Heckelman & Knack, 2009), these studies have just assessed the impact of economic freedom on economic growth. Nevertheless, in the banking literature the indexes of economic freedom have been used only as control variables and/or have been inaccurately interpreted as regulation indexes. Recently, some studies try to include indicators that examine the degree of financial liberalization in bank efficiency. For example, Fries and Taci (2005) consider the role of banking sector reform and liberalization in the transition countries to capture the effect on bank cost efficiency. The key explanatory variable of interest is an index of banking sector reform published by the European Bank for Reconstruction and Development (EBRD) Transition Reports. Their results show that progress in banking reform is significantly associated with a decrease in banks' costs. Hence, financial liberalization must take account of the interactions between bank ownership and efficiency.

The purpose of this paper is to investigate the relationship between ownership changes and bank efficiency. Specifically, we question whether the financial freedom strengthens or weakens the relationship between the changes in bank ownership and efficiency before and after Global Financial Crisis. We regress the efficiency estimates on the interaction between the changes in ownership and financial freedom indexes from the Foundation (2010), which aim at capturing the "greater independence in financial and banking markets from government control". We employ parametric stochastic frontier approach (SFA) to measure the bank efficiency. We then use these measures to examine whether bank ownership and financial freedom enhance or impede bank efficiency.

The paper makes a number of contributions to the literature. First, our paper is related in spirit to recent studies that provide international evidence on the impact of ownership on banks' performance (e.g. Barth, Dopico, Nolle, & Wilcox, 2002; Demirguc-Kunt, Laeven, & Levine, 2004). In contrast to these studies, which mainly use financial ratios as indicators of performance, we measure bank efficiency using an efficient frontier technique. Berger and Humphrey (1997) emphasize that efficient frontier approaches are superior when compared to traditional measures of performance (e.g. return on assets, cost/revenue), since they account simultaneously for relevant inputs and outputs of a bank, as well as for differences in the input prices. Second, our paper extends on previous studies by using a real percentage to capture the changes of block shareholders' ownership, and provide evidence for the impact of changes in ownership structure on bank efficiency. For example, Iannotta, Nocera, and Sironi (2007); Berger et al. (2009) and Shen and Lin (2012) have only used a dummy variable with a twenty or fifty percent ownership threshold to classify as government or private domestic banks. Indeed, a dummy variable does not measure degrees of large shareholders above the specific threshold as well as the dynamic effect that bank ownership over time may have on bank efficiency.

Third, we explicitly analyze the influence of financial liberalization using the economic freedom indexes and we distinguish between the concepts of financial freedom and regulation. This definition of financial freedom indexes we used is closely related to the broad concept of deregulation that is, the removal of artificial barriers that prevent entry and/or competition between products, markets and institutions. Thus one may expect that the financial freedom counterparts of the economic freedom indexes can inversely correlate with the degree of regulatory tightness in banking.[1] However, Chortareas, Girardone, and Ventouri (2013) argue that regulatory tightness and measures of financial freedom can be closely associated but they do not identify with each other, either in scope or in terms of measurement. Because financial freedom indicates limited government influence/control in financial and banking markets and, in addition to the regulatory framework, it takes into account the extent of state intervention in banks and in the allocation of credit, as well as the possible obstacles in opening and operating financial services firms (for both domestic and foreign individuals). Finally, unlike most previous studies that consider the effects of economic freedom on bank performance typically treat the freedom index as one of the control variables (e.g. Claessens & Laeven, 2004; Goddard et al., 2011), and include other aspects of bank performance than efficiency such as the interest rate margins (Demirguc-Kunt et al., 2004). Despite the extensive literature on bank efficiency used European bank sample (Chortareas et al., 2013), a comprehensive study on whether the changes in bank ownership and financial freedom enhance or impede efficiency in Asian developing countries not yet exist.

We examine the effects of financial freedom on the relation between the changes in ownership structure and bank efficiency before and after 2008 Global Financial Crisis, and use data for more than 2113 bank-year observations in 12 Asian developing countries over the period 2003–2012. We obtain the following main findings. First, we find that increases in large government and foreign shareholders are positively associated with bank efficiency in countries with high financial freedom, while an increase in domestic ownership shows a negative impact on bank efficiency. Second, the changes of bank ownership do not have any

[1] For example, the freedom indexes inversely relate with the measures of activity restrictions and official supervisory power provided by Barth et al. (2006).