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Mergers, acquisitions, and bank efficiency: Cross-country evidence from emerging markets☆

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ABSTRACT

In emerging countries, bank mergers and acquisitions (M&A) are frequently motivated by the objective of promoting stability in the banking industry. However, the evidence that M&A can lead to better performing banks is tenuous at best. In this article, we investigate if this tenuous relationship could be due to the treatment of target and acquiring banks as the same type in empirical analysis, which overlooks the possibility that M&A may affect these banks differently. Using panel data on six emerging countries, our results confirm that the effect of M&A is generally weak except when our regressions are implemented separately for target and acquiring banks. For the latter, we find that target banks tend to be more efficient after an M&A but no efficiency improvements are found for acquiring banks. These results suggest that in emerging countries, bank M&A can lead to efficiency improvements for the combined entity, although target banks are mainly the ones to benefit from it. They also highlight the importance of distinguishing between target and acquiring banks so as to obtain sharper estimates of how M&A might affect bank performance.

1. Introduction

The perception that the mergers and acquisitions (M&A) of banks can lead to better bank performance has strong intuitive appeal but lacks empirical support. In principle, firms may benefit from M&A through the transfer of new management technologies and best practice during consolidation, and from having a larger market share, greater market power, and economies of scale post-M&A.[1] Given the potential benefits that M&A may bring, it is perhaps not surprising that M&A activities have in recent years proliferated in the global banking industry, especially in emerging economies. However, the evidence that M&A can actually improve bank performance and efficiency remains somewhat limited in academic research. This apparent paradox is best summed up by Piloff and Santomero (1998), who note that empirically, there is "*no statistically significant gain in value or performance from merger activity... Yet, mergers continue.*"

One possible hypothesis for the tenuous empirical relationship between bank M&A and bank performance is that acquiring and target banks are different, and therefore, react differently following an M&A. For example, there is evidence that acquiring

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[1] Much has been written about the advantages and disadvantages of M&A in both academic and popular press. See, for example, http://www.moneymatters360.com/index.php/how-mergers-and-acquisitions-impact-businesses-17067/.

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firms (i.e. firms that acquire) tend to underperform after an M&A, either in the form of generating negative abnormal returns for stockholders (Andrade et al., 2001)[2] or a decline in efficiency levels (Avkiran, 1999).[3] On the other hand, as target firms are usually less efficient than acquiring firms before the merger,[4] there is room for them to capitalize on the traditional advantages of M&A. Consequently, if it is mainly the target banks that benefit from M&A, an empirical analysis that does not differentiate between acquiring and target banks could create an impression that the link between M&A and bank efficiency is weak, even if M&A were indeed beneficial for target banks.

In this paper, we examine some cross-country evidence on whether the effect of M&A on bank efficiency differs for target versus acquiring banks. For this study, we obtain data on six emerging countries – China, India, Indonesia, Malaysia, Russia and Thailand – and assemble a panel dataset on individual banks from 2002 to 2009. To estimate efficiency, we employ the data envelopment analysis (DEA) approach to construct an efficiency index, known as the DEA score, for each bank.[5] Using the DEA score as a measure of bank efficiency has the following advantages. First, the DEA approach estimates bank efficiency based on a production function with an unknown form. This nonparametric approach is sensible for our study as the alternative of specifying the production process for banks can be challenging,[6] given that the manner in which banks in different countries operate is not easy to capture parametrically. Second, the DEA score is a broader and more adequate measure of bank efficiency than measures such as financial ratios, which has been considered by the literature as well.[7]

Our focus on cross-country analysis facilitates the use of panel regression with interactive country-year fixed effects. By employing interactive country-year fixed effects, we can purge all country-specific factors that may affect the link between M&A and bank performance, regardless of whether they are time-varying or time-invariant, observed or unobserved.[8] These factors may be related to market structure, institutions, government regulations and policies, and macroeconomic covariates, which cannot be eliminated by descriptive analyses (e.g. Rhoades, 1998), event studies (e.g. Cummins and Rubio-Misas, 2006; Cummins and Xie, 2008), and pooled regression analyses (e.g. Buch and DeLong, 2004; Delis et al., 2011) that have been considered before in the literature.

In our empirical analysis, we have found it important to separate target from acquiring banks. In particular, we find that the effect of M&A on bank efficiency is statistically insignificant when both targets and acquirers are regarded as the same. However, when a distinction is made between them, we find that the targets – not the acquirers – are more efficient on average after a merger. This conclusion is not sensitive to sampling (such as omitting Russia and China, or the years coinciding with the global financial crisis "GFC"), alternative regression approaches (truncated versus OLS regressions), or even in the absence of country-year fixed effects and bank level controls.

To be clear, there are existing studies on how the effect of M&A on firm performance might differ for targets and acquirers – ours is not the first in this broader literature.[9] However, research on this question in the context of banks is somewhat limited. Among the papers that have done so, Goddard et al. (2012) look at how bank M&A in Asian and Latin American emerging countries may influence bank performance. However, unlike our paper, they focus on the effect of M&A on abnormal returns to the bank but not on bank efficiency, which is perhaps a broader indicator of bank performance. Using pairwise comparisons and cross-sectional regressions, Beccalli and Frantz (2009) examine the effect of bank performance in M&A between EU acquirers and worldwide targets. Shaffer (1993) and Focarelli and Panetta (2003) consider, among other issues, the implication of M&A in the US banking industry for target and acquiring banks. However, Beccalli and Frantz (2009), Shaffer (1993) and Focarelli and Panetta (2003) employ various measures of bank performance but not the DEA score, which has the advantage of being based on a flexible, nonparametric approach (i.e. the DEA approach). In fact, few have looked at the relationship between M&A and DEA-based bank efficiency compared with a larger, more general literature on M&A and bank performance.[10]

To our best knowledge, our paper is the first to utilize panel structures, particularly interactive country-year fixed effects, to deal with unobserved confounding factors when estimating the relationship between bank M&A and bank efficiency. Our paper is also one of the few to study this relationship in the context of emerging countries. This is relevant as policy makers

[2] See Bruner (2002) for a survey.

[3] There is little consensus on why acquiring firms may underperform after an acquisition. The main reasons given are related to non-value maximizing motives of executives in acquiring firms. For example, the managerial discretion hypothesis put forward by Jensen (1986) and Morck et al. (1990) postulates that M&A may be driven by managerial efforts to pursue personal gains at the expense of shareholders' interest. The hubris hypothesis of Roll (1986) suggests that managers of acquiring firm may be overconfident in his or her ability to manage the acquired assets, and this could lead to them having inflated perspectives about the value of the target firm.

[4] See, for example, Rhoades (1998).

[5] The ranges from one to infinity, where a score of one is assigned to the most efficient banks. See Appendix for further discussion.

[6] For example, the Stochastic Frontier Analysis (SFA) is a parametric approach.

[7] Rhoades (1998) employs 16 financial ratios to examine the impact of M&As on banks' profitability and balance sheet structure in the US banking industry, e.g. the ratio of various expenses to assets or operating revenue; the ratio of net income after taxes to average assets; the ratio of off-balance sheet items to total assets; and the net income-to-equity ratio. However, Halkos and Salamouris (2004) argue that the comparative advantage of frontier models in estimating efficiency, over simple ratio analyses, is that the frontier approach forms a comprehensive measure of bank efficiency that combines information on various financial ratios simultaneously. In fact, financial ratios may not capture efficiency adequately. For example, Avkiran (2011) finds that the correlation between financial ratios and efficiency scores is weak.

[8] For example, Beccali and Frantz (2013) find that the likelihood of M&A activities are associated with institutional determinants such as economic freedom, regulatory quality and industry size.

[9] See, for example, Andrade et al. (2001) and Bruner (2002).

[10] The broader literature on M&A and bank performance includes Drake (2001), Cuesta and Orea (2002), and Behr and Heid (2011).