Performance Changes of EU Bank M&As: Key Determinants and Relationships with Banking Market Integration

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Abstract: Using the panel data of bank M&As in EU 28 countries between 1997 and 2015, this paper applies fixed-effect model and Granger-causality test to analyze the determinants of performance changes of EU bank M&As and the relationship between performance changes and banking market integration. This study finds that (1) cross-border M&As results in the decrease of acquirers' long- and medium-term performance; (2) acquirers with higher safety, whose banking markets are less concentrated, and who only participate in domestic M&As are more likely to have higher performance in the long- and medium-term; (3) the increase of EU banking market integration leads to the increase of acquirers' performance in the long- and medium-term.

Keywords: Bank M&As; Performance Changes; Banking Market Integration

1. Introduction

The most recent bank merger and acquisition (M&A) wave around the developed world emerged in mid-1980s and culminated in late-1990s in major banking markets. With the increase of bank M&A deals in 1980s and 1990s, there were an increasing number of studies about M&A effects over short-term and medium-long term. More importantly, finding the determinants of acquirers' performance changes of bank M&As in Europe is critical to stakeholders. Based on these characteristics and factors, managers are able to find M&A deals that are more likely to boost performance while regulators can implement appropriate policies to ensure banks resulting from the consolidation process are safe and sound and customers deposits are protected in case of troubles. In addition, banking market integration has been another important development since the Euro area and European Monetary Union (EMU) were introduced in 1999. Many relevant literatures describe the process of banking integration in Europe since the introduction of the single currency. Specifically, the ECB reports pointed out that European banking market had generally experienced increased integration. One of the motivations of this study is to examine whether there is positive causal relationship between acquirers' performance changes in cross-border bank M&As and banking market integration in Europe.

2. Literature review

First, investigating M&As' medium-long term effects on banks' performance changes is one important strand of M&As' value effects on banks since early 1980s (Fiordelisi 2009). Pilloff and Santomero (1998) describe one of the important traditional approaches to examine the M&As' medium-long term effects on banks' performance changes, that is, employing accounting data to compare acquirers' pre-merger and post-merger performances. There are a great many studies in Europe since early 1980s. Second, the extant literatures present three main categories of banking integration indicators: price-based, quantity/activity-based, and other indicators. This study only employs the price-based indicators, such as interest rate differentials of new loans among different euro area countries (ECB 2016). The lower interest rate differentials indicate higher degree of banking integration because the lower the differentials, the higher convergence across countries. Third, this study uses a dependent variable similar to that adopted by Vander Vennet (1996) and ECB (2015) to describe performance changes a dynamic setting that covers a medium-long term period starting 3 years before and 3 years after mergers are

completed. In particular, the variable is proxied by the difference between average post-merger ROE and average pre-merger ROE, and ΔROE can be used as performance change. Secondly, for explanatory variables, For the purpose of identifying more determinants, similar to Beltratti and Stulz (2012), this study additionally includes more macroeconomic, industry-specific, capital regulatory, bank supervisory and deposit insurance variables besides bank-specific and deal-specific variables.

3. Samples, Data Sources and Empirical Methodology

3.1 Samples and data sources

The full sample consists of bank M&A deals between 1997 and 2011 whose acquirers come from EU 28 countries and whose targets can come from any country. The following are several requirements for selecting the full sample: (1) the M&A deals are announced between 01/01/1997 and 31/12/2011; (2) the acquirers must be commercial banks or savings banks from EU 28 countries; (3) all the deals must be completed; (4) the targets can be banks, bank units or banks' assets from any country; (5) all money center banks, central banks and special purpose banks are excluded; (6) all required data for financial data for acquirers must be available.

3.2 Empirical Methodology

In order to find acquirers' performance changes of bank M&As, the difference between post-merger and pre-merger performance of acquirers will be calculated. First, 3-year, 2-year and 1-year post-merger and pre-merger performance for acquirers are collected from Bankscope. Second, the difference between the average post-merger performance and the average pre-merger performance will be computed. Third, the two differences computed in the second step are used as dependent variables and the acquirers' financial ratios, deal-specific, industry-specific, macroeconomic and regulatory variables are used as independent variables. Both fixed-effect model and random-effect model can be used in this study, but we need to use the Hausman test to determine which model is preferred. The test statistic of the Hausman test is 61.87, which is much greater than the critical value, therefore, the null hypothesis is rejected and the fixed-effect model is preferred. The following fixed-effect models will be used:

$$\Delta Per_{it} = \alpha + \beta_1 BC_{it} + \beta_2 DS_{it} + \beta_3 IS_{it} + \beta_4 Macro_{it} + \beta_5 Regulat_i + (\mu_i + \nu_{it})$$

$$\Delta Per_{it} = \alpha + \beta_1 BI_{it} + \beta_2 BC_{it} + \beta_3 DS_{it} + \beta_4 IS_{it} + \beta_5 Macro_{it} + \beta_6 Regulat_i + (\mu_i + \nu_{it})$$

where ΔPer_{it} is change of performance measures for acquirer i at time t; BI_{it} is a banking integration indicator in Europe; BC_{it} is a vector of bank-specific variables; DS_{it} is a vector of deal-specific variables; IS_{it} stands for a vector of industry-specific/structural variables; $Macro_{it}$ is a vector of macroeconomic variables; and $Regulat_i$ is a vector of regulatory variables for country i. Of all these variables, banking integration indicator, Z-score, geographic diversification, cross border, CR5 and capital regulatory index are main variables while the others are controlled variables. With regard to the banking integration indicators, price-based indicators, including interest rates on new loans to euro area non-financial corporations and interest rates on MFI deposits for households in the euro area, will be employed. The lower interest rates difference across countries indicates higher degree of integration.

This study will use the sample that only consists of cross-border bank M&As and investigate whether acquirers' performance changes and banking integration indicators have causal relationships. To achieve this aim, the Granger-causality tests between acquirers' performances and banking integration indicators will be employed.

4. Discussions of Results

4.1 Key Determinants of Acquirers' Performance Changes for All M&A Deals

It is found that Z-score is positively and significantly associated with change of ROE in all regressions, which indicates that acquirers with lower risks may have higher profitability. Geographic diversification is found to be positively and significantly related to changes in ROE, suggesting that acquirers whose targets come from other continents have on average been more profitable. This is expected and can be explained by acquirers that engage in M&As outside Europe can benefit

more from geographic diversification and can have lower cost per unit and thus higher profitability. In contrast, surprisingly, the estimated coefficients of CROSSBORDER in all regressions are negative and significant, showing that acquirers engage in cross-border M&A deals have been less profitable. This result, to some extent, is contrast with the result of geographic diversification, can be explained by the fact that acquirers engage in cross-border M&As in EU28 countries rather than outside Europe do not benefit from geographic diversification. This makes sense because most EU countries have identical monetary policy and same currency and they have highly positive correlations in macroeconomic conditions and performance in banking markets. Additionally, CR5 is found to have negative and significant estimated coefficients in all models, showing that acquirers in less concentrated banking markets have been more profitable. These results challenge the traditional Structure-Conduct-Performance (SCP) paradigm of increased banking industry concentration lowering the cost of collusion thus result in excess profits. Lastly, we employ the Granger-causality tests to examine whether the lower insolvency risk (higher Z-score) has positive causal relationship with each other. We find that change of ROE does not have causal relationship with Z-score.

4.2 Relationships between Acquirers' Performance Changes and Banking Integration Indicators

To investigate such causal relationship between them, in this subsection, we will use Granger-causality tests. Combined with previous results, we conclude that banking integration has negative causal relationship with change of ROE but change of ROE does not have negative causal relationship with banking integration. Specifically, all these results provide strong evidence that lower interest rate difference between distressed and non-distressed countries in the euro area, which indicate higher level of banking integration in Europe, can improve acquirers' performance after M&As.

5. Conclusions and Policy Implications

In this study, we first use different performance measures to investigate the key determinants of acquirers' performance changes after M&As between 1997 and 2011. We find the robust evidences that acquirers with lower insolvency risks and which operate in less concentrated banking markets are associated with greater profitability ratios. The latter challenges the traditional Structure-Conduct-Performance (SCP) view that acquirers that are based in countries with more concentrated banking markets can have higher performance after M&As. Moreover, we can provide supports for acquirers that can benefit from geographic diversification to raise ROE after M&As. All these results give banks managers and regulators implications about what types of acquirers can have higher profitability after M&As.

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