

# “Do acquisitions create value? Evidence from the US and European bank acquisitions during financial crisis”

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| ARTICLE INFO | Rafiqul Bhuyan, Sarina Ar-Loc Ng and Mo Vaziri (2010). Do acquisitions create value? Evidence from the US and European bank acquisitions during financial crisis. <i>Investment Management and Financial Innovations</i> , 7(4) |
| RELEASED ON  | Thursday, 16 December 2010  |
| JOURNAL      | "Investment Management and Financial Innovations"   |
| FOUNDER      | LLC “Consulting Publishing Company “Business Perspectives”  |



NUMBER OF REFERENCES

0



NUMBER OF FIGURES

0



NUMBER OF TABLES

0

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## Do acquisitions create value? Evidence from the US and the European bank acquisitions during financial crisis

### Abstract

This paper investigates the valuation effect on acquiring banks during different windows of events. The research is conducted on the US and the European banks mergers and acquisition during the period of 2004-2010 with special focus on bank mergers during the financial crisis of this decade. During this crisis period when many big banks are also on the verge of bankruptcy, many mergers and acquisitions take place in the United States and in Europe. Using traditional event study methodology, the paper investigates the wealth effect on acquiring banks to understand the market reaction in bank acquisitions announcements. The authors observe those acquisition announcements, on average; create a 0.3% and 0.8% gain in the United States and in the European countries, respectively to the acquiring bank. When authors focus on banks with different size and location, they find that American acquiring banks lose 18% which employ 10,000-100,000 and European banks lose 6% with the same employment size. Furthermore, American acquiring banks lose 17% and 12% that are headquartered in the Western and Midwestern states respectively. The results offer further evidence to the literature that, shareholders of acquiring banks face negative wealth effect even when they acquire other banks during crisis period.

**Keywords:** acquisitions, mergers, banks, event study, bankruptcy, financial crisis.

**JEL Classifications:** G21, G34.

### Introduction

The purpose of corporate mergers and acquisition is to create overall benefits to shareholders. The gains to the shareholders stem from the performance improvement following the merger in areas such as efficiency improvements, increased market power, or heightened diversification, increased cost efficiency in scale and or scope, capital restructuring, raising capital adequacy, etc. In banking sector, for example, merged banks may offer several products at a lower cost than by separate banks each providing individual products. Cost efficiency can also be improved by bringing more skilled workers through acquisition; acquiring management may enhance revenues by implementing superior pricing strategies, offering more lucrative product mixes, or incorporating sophisticated sales and marketing programs. Finally, banks may increase diversification by either broadening the geographic reach of an institution or increasing the breadth of the offered products and services. Greater diversification also provides value by stabilizing returns, lowering volatility and bankruptcy cost, and increasing capital adequacy in lending practices. Stock price reaction in the announcement of mergers and acquisition is widely researched by academicians and practitioners bring evidence that it creates value for the shareholders. However, merger and acquisition activity due to financial crisis and how and whether they create value to the shareholders either in the short run and or in the long run is an interesting question.

The later part of the decade of this century is one of the historic times when the US has endured a finan-

cial crisis and are still facing recession with economic uncertainty, high unemployment, lower gross domestic product (GDP), large fiscal deficit, historically low interest rate, and no clear direction of whether after so many fiscal and monetary measures, whether the economy would rebound strong in the near future. The decade have endured two bubbles burst in a span of seven years, the tech bubble burst of 2000 and the housing bubble burst of 2007. Moral hazard and illegal lending practice are among the main reasons that ultimately have caused the collapse of real estate market. The affordability level of potential borrowers has been inflated by mortgage bankers by creating a scenario, where borrowers could take a loan without declaring income, known as stated income. The craze of the housing market and its aftermath are no longer unfamiliar to all of us. The crisis has not only shook the credibility of the viable business practice, but also institutions' ability to sustain businesses as they face billions in capital loss in the bubble. Soon enough, all around the globe, the economies of many front running countries have started to stagger and spiral. On August 9, 2007, the largest bank in France, BNP Paribas, stops the redemption of some of its major investment funds. This was the beginning of the financial crisis for European nations along with the US. Harsh reality starts to materialize through the collapse of Lehman Brothers in September 2008 and many others are clearly on the verge of collapse. Many elite banks are being forced to merge or are bought out by other banks because of heavy loan loss provision as borrowers start to default. The European countries and the US soon started to experience banking collapses, while their

gross domestic product, national currency and stock exchanges decrease sharply. A flurry of bank failure becomes the number one reason for many banks to be acquired by other surviving banks where some are at bargain price and others at premium.

In this paper, we focus on analyzing the bank acquisitions of the United States and in some European countries of this decade. Since the most mergers and acquisitions have taken place due to the severe systemic financial crisis, we intend to investigate whether these mergers and acquisitions create value for shareholders. Using recent data from the US and some European nations, we address our question using the standard event study method. To explore in more details, we also analyze data by the employee size of the acquiring banks for the US and Europe, and by the location of the acquiring bank's headquarters for the US to reveal any differences in value effect to shareholders.

The rest of the paper is organized as follows. Section 1 offers a survey of the related literature. Section 2 discusses the data and the methodology used in this paper. Section 3 explains the results of our findings. The last Section presents some concluding remarks and direction for future research.

## 1. Literature review

There are numerous literature reviews on the effects of acquisition announcements. Here, we discuss some of this literature focusing on bank mergers and acquisition. Moore (1997) studies pre- and post-acquired smaller banks and finds that a larger bank values the smaller bank higher than the smaller bank's management does for the acquisition to occur. Hannan and Pilloff (2007) observe that less profitable banks in the US have the greater chance to be acquired, regardless of the type of acquirer. They also find that inefficiency is positively related to the probability of acquisition for the overall sample. Knapp et al. (2006) and Koetter et al. (2007) also support the hypothesis that acquisitions serve to transfer assets from poorly managed to better managed firms. In contrast, the coefficient on the return on average equity is significantly negative and the one in the cost to income ratio significantly positive (Pasiouras et al., 2007). Hernando, Nieto, and Wall (2009) also suggest that poorly managed banks and larger banks are more likely to be acquired by other banks in the same country. Finally, banks operating in more concentrated markets are less likely to be acquired by other banks in the same country but are more likely to be acquired by banks in other EU-25 countries. Vergos and Christopoulos (2008) analyze bank acquisitions spanning the first ten years of a newly liberalized Greek banking sector and find that

bank acquisitions provide a positive effect in the short run, until twenty days after the announcement, but a negative effect in the long run, until ninety days after the announcement. Soussa and Wheeler (2006) study cross-border bank acquisitions in emerging markets and observe that bank acquisitions in emerging markets are not beneficial, on average, to an acquiring bank. They also observe a principal agent type problem fueling bank acquisitions by the acquiring firm, where there is more incentive for the acquiring firm than to the stockholders. Pilloff and Santomero (1997) offer theories to explain bank acquisitions in the United States from 1986 to 1995, and find that productivity based on the acquiring bank's return on assets (ROA) and return on equity (ROE) do not provide any gain in value. Vander Venet (1996) and Berger (2000) find that bank experience improved risk to reward ratio by engaging in geographical diversification. Zhang (1995) finds that it stabilizes bank's income and offer lower volatility in bank's returns. Berger, DeYoung, Genay and Udell (2000) observe that cross-border mergers offer the potential efficiency gains resulting from economies of scale, scope and product mix. Amihud, DeLong and Saunders (2002) find that in cross-border mergers for the acquiring bank the impact on value tends to be negative, but the effect on risk is highly variable and increase the implicit guarantee provided by safety net arrangements, such as deposit insurance and the lender of last resort, as authorities consider larger, more complex institutions a greater systemic risk. Chari, Ouimet and Tesar (2004) use stock price data for firms in a range of industries to assess the benefits of emerging markets acquisitions by developed country firms. They find that the value creation is positive for both the acquirer and the target firm, with the affect on the target firm being approximately twice as large. Bris and Cabolis (2005) find that in a merger where the acquirer wants to take a 100% stake, then the bigger is the difference in shareholder protection and accounting standards between the target's and acquirer's countries, the higher the premium the acquirer must pay the existing shareholders in the target bank. Rossi and Volpin (2003) also find that the volume of cross-border Mergers and acquisition (M&A) is higher the bigger the difference in investor protection between the acquirer's and target's countries. Brealey and Kaplanis (1996), Yamori (1998), and Buch (2000) all find a positive relationship between host country per capita GDP and bank FDI (Foreign Direct Investment), suggesting potential profits are an important driver. In a European study Altunbas, Molyneux and Thornton (1997) use a theoretical method to simulate mergers between major EU banks by combining

their balance sheets. They find that the aggregate cost base is more likely to increase than decrease. BIS (2001) reports that the main finding of event studies looking at banks' stock price movements around the time of a merger is that, on average, total stockholder value (i.e. the combined value of the bidder's and the target's stock) is not affected by the announcement of an acquisition. Although, on average the stock price of the bidder tends to fall, this is offset by an increase in the stock price of the target. Therefore acquisitions imply a transfer of wealth between the stockholders of the bidder and target banks. Reviewing the findings from the literature we observe that in general national and international bank acquisitions do not create value for the acquirer, although acquisitions of emerging market firms across all sectors generally do.

At their current states of the economy, both the United States and Europe are experiencing in their financial sectors are special and unique in its own right. Although many studies have been conducted on bank acquisitions, not much analyzing has been done on the current financial crisis in the United States and in Europe, as well as how investors perceive the acquisition during the financial crisis period. With the uncertainty surrounding these financial markets, one could wonder how investors would perceive an acquisition and whether the current financial crisis plays a role in how the market would react to these announcements. This paper analyzes the above issues using a methodology similar to Soussa and Wheeler (2006) focusing on the United States and European countries' bank acquisitions to find out the results of these frequently occurring bank acquisitions and provide an insight into investor perception. We also analyze whether the size of the acquiring bank and the location of the acquiring bank's headquarters play a determining factor in creating differential value for the investors.

## 2. Data and methodology

In this analysis, we consider the Standard and Poor (SPX 500) as the home index for the US and for the Euro index, DJ EURO STOXX 50 is used. In our research we have gathered information for 198 US bank acquisition announcements occurring between the time periods of February 14, 2004 through March 5, 2010 from Federal Deposit Insurance Corporation (FDIC). Out of these 198 acquisitions, 125 are publicly traded, and 65 different corporations are established and have met the criteria needed for this paper. Data selection follow the criterion set as: the corporation acquiring the bank is publicly traded, the acquisition is completed, and the acquirer has stock data available at least one year prior to the announcement and thirty business days after the

announcement. Information gathered from the FDIC website for this research has been assembled in Appendix A, Table 1.

Bank acquisitions in Europe are greatly handled by the country's national government. Many European governments has to bailout their banks, with some countries having all of their major banks in a financial crisis. For example, in Iceland, they have experienced one of the worst banking collapses known in the world. All three of their major banks had difficulty and the Icelandic government had taken over all three banks. Furthermore, speculation of Romania, Hungary, Switzerland, Spain, and the Ukraine are on the brink of bankruptcy (Beckford, 2008). This along with a language barrier, which made it harder to research; data for European Bank acquisitions are fewer than those of the United States. Since 2005, there are 45 bank acquisitions in Europe, with 26 acquisitions meeting the criterion for this analysis. A list was created using information compiled from the escapeartist.com, a listing of all European Banks is in Appendix B, Table 2. In total there are 151 bank acquisition announcements made from the past five years in the United States and throughout Europe have met the criteria for this study.

We utilize the event-study methodology of Soussa and Wheeler (2006) which is an extension of Brown and Warner (1985) to test the hypothesis that a sample's event period abnormal return (AR), or cumulative abnormal return (CAR), is equal to zero, i.e. there is no benefit from bank acquisition. We estimate abnormal returns over various event windows to determine any significance of the abnormal returns created by the acquisition announcement. First, returns for individual bank and two indices are calculated using the following equation:

$$R_{jt} = \ln(P_{jt}) - \ln(P_{jt-1}), \quad (1)$$

where  $P_{jt}$  is current stock price for security  $j$ , or index price for security or index  $j$ , and  $P_{jt-1}$  are the previous stock price or index price for security or index  $j$ . Here, in case of index, we estimate return for the acquiring bank's home stock index and the world stock index. When, we investigate on the US banks, home stock index is SPX and world index is STOXX. On the other hand, when we investigate on the European banks, we consider STOXX as bank's home stock index SPX as the proxy for world index. The abnormal return is estimated as the difference between the realized return and the expected return, where the expected return is calculated based on two factor model using data of one year prior to the announcement and thirty days after the event window using the following model:



$$R_{jt} = \alpha_j + \beta_{hj}RB'_{ht} + \beta_{wj}RB_{wt} + \varepsilon_{jt}, \quad (2)$$

$$E(\varepsilon_{jt}) = 0, \text{Var}(\varepsilon_{jt}) = \sigma_{\varepsilon}^2,$$

where  $R$  it is the return of the stock of the acquiring bank,  $j$ , at time  $t$ . In these equation subscripts  $h$  and  $w$  represent home and world, while  $t$  stands for time.  $RB_{wt}$  is the world market stock index, and  $RB'_{ht}$  is the remainder of a regression of the home banking stock index ( $RB_{ht}$ ) on  $RB_{wt}$ . This discharges the effect the world stock market could have on the home banking stock market.  $\beta_{hj}$  and  $\beta_{wj}$  are the coefficients that display the relationship between the acquiring bank's stock index with its home banking and the world market stock indices.

The abnormal return is estimated as the difference between the realized return and the expected return, where the expected return is calculated based on two factor model using equation (2). The model takes the following form:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_{hj}RB'_{ht} + \beta_{wj}RB_{wt}), \quad (3)$$

where,  $AR_{jt}$  is the abnormal return of stock  $j$  at time  $t$  calculated using equation (2). It is the difference between the realized return,  $R_{jt}$  and model based estimated return placed in the bracket ( $\alpha_j + \beta_{hj}RB'_{ht} + \beta_{wj}RB_{wt}$ ). Under the null hypothesis, the abnormal returns are jointly normally determined with a zero conditional mean and conditional variance which, given the large sample size, reduces to  $\sigma^2(AR_{jt}) = \sigma_{\varepsilon}^2$ . Finally, cumulative abnormal return (CAR) is estimated using following equation for the entire event, and event windows:

$$CAR_j = \sum_{t=T-z}^{T+x} AR_{jt}. \quad (4)$$

Our hypothesis is that if the cross-sectional average CAR is positive and statistically significant, that would show that the acquisition does create value and that investors perceive the benefits of the acquisition to overshadow the costs.

### 3. Empirical findings

**3.1. The US and the European countries bank acquisitions together.** Figure 1 illustrates the US and European average CAR, or the average percent change of all bank stocks' ARs from time period of  $t - 250$ , which is 250 business days before the announcement  $t$ , which is the day of the announcement, to 30 business days after the announcement  $t + 30$ . Based off of the United States' chart, the stocks' abnormal returns of the acquiring banks seems to decrease significantly the days leading towards the announcement, but with modest positive returns by the tenth business day and leading towards an overall positive change in stock prices.

Figures 1 and 2 display the US and the European average cumulative abnormal returns indicate a dramatic decrease days before the announcement. Followed by an increase the day of the announcement, but then a drop in the bank's stock abnormal return occurs by the fifth business day. Recovery occurs, and an overall increase occurs by the twentieth business day. The difference in the European and US figures may be due to the smaller sample size, or that European investors view bank acquisitions with a more positive attitude.

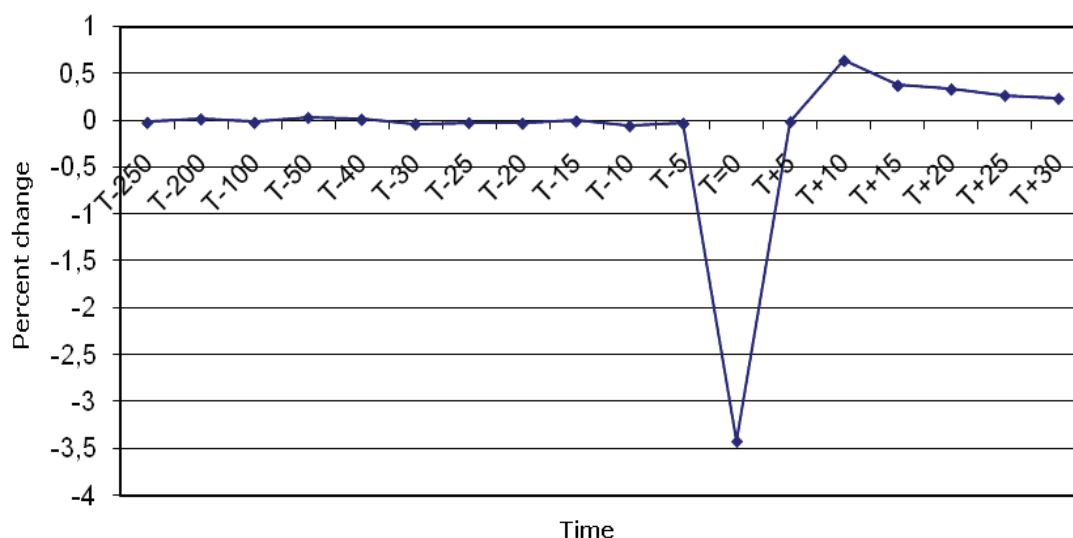


Fig. 1. US average CARs

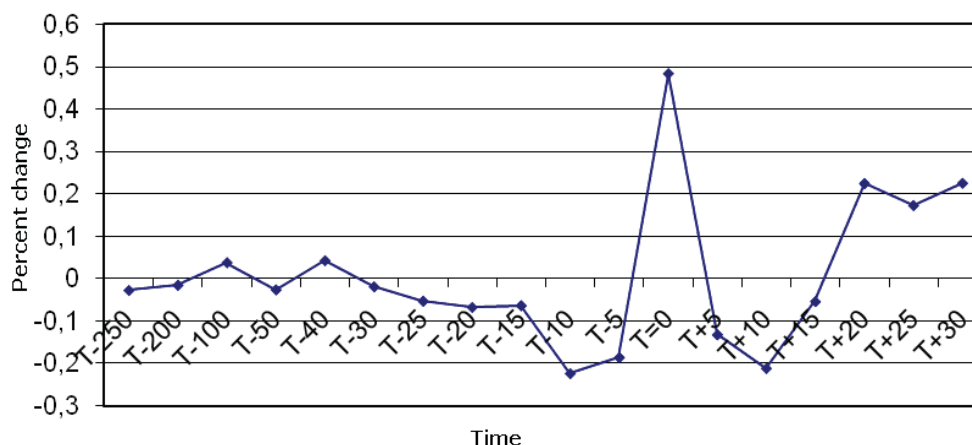


Fig. 2. European average CARs

Looking at these figures, we observe that stock's ARs have an overall positive effect after an announcement, proving that a bank acquisition does create value for the shareholders. However, further investigation is warranted and these returns must be compared to the average stock indices. The one thing we can conclude from these figures is that the average percent change in an acquiring bank's stock AR decreases days leading towards the announcement, but with recovery within a week time after the announcement.

To further investigate our data, we test the US and the European CARs and their significance by running the model over 66 different event windows. The results are presented in Tables 1 and 2.

As it is shown in Tables, the top line of each cell shows the coefficient for the event window, while the second line is the probability that the coefficient is equal to zero, or the p-value. The CARs turn out to be negative for 6 out of the 66 US tested event windows and in 33 out of the 66 European tested event windows. The windows that have the most statistically significant results are those with an asterisk. For the US, it appears to have the most affect and the strongest significance during ten days after the announcement. Whereas, for the European acquisitions, it appears to mostly affect, and have the strongest significance during thirty days after the announcement.

Table 1. US acquisition CARs over various event windows

|       | T+5         | T+10       | T+15     | T+20     | T+25     | T+30     |
|-------|-------------|------------|----------|----------|----------|----------|
| T-5   | -0.02140853 | -0.0158553 | 0.172444 | 0.152417 | 0.118838 | 0.102568 |
|       | 0.485932128 | 0.1989425  | 0.287989 | 0.302161 | 0.333836 | 0.347793 |
| T-10  | -0.03417891 | 0.2920608  | 0.159674 | 0.139647 | 0.106067 | 0.089797 |
|       | 0.456287904 | 0.1157123  | 0.177204 | 0.178827 | 0.209601 | 0.21954  |
| T-15  | -0.00879793 | 0.3174418  | 0.185055 | 0.165028 | 0.131448 | 0.115178 |
|       | 0.491698731 | 0.1104027  | 0.167526 | 0.162981 | 0.194546 | 0.202273 |
| T-20  | -0.02058482 | 0.3056549* | 0.173268 | 0.153241 | 0.119662 | 0.103391 |
|       | 0.472714834 | 0.0957815  | 0.135552 | 0.121729 | 0.141195 | 0.138866 |
| T-25  | -0.01778092 | 0.3084588* | 0.176072 | 0.156045 | 0.122465 | 0.106195 |
|       | 0.479260978 | 0.0849785  | 0.116871 | 0.098664 | 0.113703 | 0.106667 |
| T-30  | -0.02491196 | 0.3013278* | 0.16894  | 0.148914 | 0.115334 | 0.099064 |
|       | 0.449330806 | 0.0778216  | 0.101444 | 0.079737 | 0.087551 | 0.075329 |
| T-40  | 5.89687E-05 | 0.3262987* | 0.193911 | 0.173885 | 0.140305 | 0.124035 |
|       | 0.449573855 | 0.0911427  | 0.124205 | 0.101317 | 0.113206 | 0.101054 |
| T-50  | 0.010323639 | 0.3365634* | 0.204176 | 0.184149 | 0.15057  | 0.1343   |
|       | 0.402889034 | 0.0951826  | 0.13254  | 0.109372 | 0.123105 | 0.111928 |
| T-100 | -0.01602495 | 0.3102148* | 0.177827 | 0.157801 | 0.124221 | 0.107951 |
|       | 0.481509146 | 0.0827528  | 0.105309 | 0.079356 | 0.079751 | 0.062049 |
| T-200 | 0.002196352 | 0.3284361* | 0.196049 | 0.176022 | 0.142443 | 0.126173 |
|       | 0.431314073 | 0.0912061  | 0.120974 | 0.095682 | 0.099554 | 0.082609 |
| T-250 | -0.01626643 | 0.3099733* | 0.177586 | 0.157559 | 0.12398  | 0.10771  |
|       | 0.479305743 | 0.0794437  | 0.099372 | 0.073554 | 0.071474 | 0.053821 |

Notes: The top line of each cell indicates the coefficient (sample average CARs). The bottom line represents the probability that the coefficient is statistically significant (the p-value). Coefficients with an asterisk indicate statistical significance at the 10% level. Also note,  $T = 0$  represents the day of the acquisition announcement.

Table 2. European acquisition CARs over various event windows

|           | $T + 5$  | $T + 10$ | $T + 15$ | $T + 20$ | $T + 25$ | $T + 30$  |
|-----------|----------|----------|----------|----------|----------|-----------|
| $T - 5$   | -0.1592  | -0.1989  | -0.12016 | 0.018654 | -0.00722 | 0.018988  |
|           | 0.457707 | 0.470869 | 0.383534 | 0.18324  | 0.177615 | 0.137775  |
| $T - 10$  | -0.17796 | -0.21766 | -0.13892 | -0.00011 | -0.02598 | 0.000227* |
|           | 0.418046 | 0.480569 | 0.313947 | 0.115831 | 0.102787 | 0.069392  |
| $T - 15$  | -0.09814 | -0.13784 | -0.0591  | 0.079714 | 0.053844 | 0.080048  |
|           | 0.440303 | 0.262924 | 0.487433 | 0.180872 | 0.180903 | 0.121355  |
| $T - 20$  | -0.10018 | -0.13988 | -0.06115 | 0.077672 | 0.051801 | 0.078006* |
|           | 0.444422 | 0.252296 | 0.480497 | 0.159603 | 0.158226 | 0.094644  |
| $T - 25$  | -0.09275 | -0.13245 | -0.05372 | 0.085099 | 0.059229 | 0.085434* |
|           | 0.427315 | 0.200862 | 0.498494 | 0.162032 | 0.158886 | 0.09101   |
| $T - 30$  | -0.07587 | -0.11557 | -0.03684 | 0.101982 | 0.076111 | 0.102316* |
|           | 0.396699 | 0.139396 | 0.442549 | 0.166541 | 0.165753 | 0.088533  |
| $T - 40$  | -0.04519 | -0.08489 | -0.00616 | 0.132657 | 0.106787 | 0.132992  |
|           | 0.354473 | 0.102419 | 0.318169 | 0.195194 | 0.238372 | 0.140026  |
| $T - 50$  | -0.07941 | -0.11911 | -0.04038 | 0.098441 | 0.072571 | 0.098776* |
|           | 0.410178 | 0.171332 | 0.446087 | 0.132766 | 0.154801 | 0.080477  |
| $T - 100$ | -0.04752 | -0.08722 | -0.00848 | 0.130333 | 0.104463 | 0.130668  |
|           | 0.354495 | 0.087117 | 0.330172 | 0.186047 | 0.201696 | 0.100494  |
| $T - 200$ | -0.07401 | -0.11371 | -0.03497 | 0.103845 | 0.077974 | 0.104179* |
|           | 0.396832 | 0.130635 | 0.432944 | 0.151955 | 0.140141 | 0.064661  |
| $T - 250$ | -0.08017 | -0.11987 | -0.04113 | 0.097682 | 0.071811 | 0.098016* |
|           | 0.4065   | 0.141507 | 0.455238 | 0.145735 | 0.127828 | 0.057886  |

Notes: The top line of each cell indicates the coefficient (sample average CARs). The bottom line represents the probability that the coefficient is statistically significant (the p-value). Coefficients with an asterisk indicate statistical significance at the 10% level. Also note,  $T = 0$  represents the day of the acquisition announcement.

There seems to be a longer lag time for European bank acquisitions, than those compared to the United States, but a larger sample size may be required. The event window used in this paper was chosen to obtain a larger picture of the stock prices of the acquiring bank. Many stock fluctuations have been occurring during recent times, so a larger event window was felt as necessary. This event window differs to those used by Soussa and Wheeler (2006) when they researched a similar study on bank acquisitions in emerging markets. They used an event window of one day before and seven days after the announcement. Furthermore, and according to the figures above, these windows produced no significant value effects, under these current circumstances. Using the event window of ( $T - 250$  to  $T + 30$ ), and using the data retrieved, Tables 1 and 2 provide our result: US bank acquisition announcements provide statistically significant value gains of 0.3% in the United States and 0.8% in the European countries on average.

**3.2. The size of the acquiring bank.** To further analyze our data, and a factor missing from the above results, is if the size of the acquiring bank changes the view of an investor and how they perceive each acquisition. Although, theoretically, a larger bank takes over a smaller bank, the size of the acquiring banks, however, do not play a factor in this study. A larger bank acquisition of a smaller bank could possibly have more leverage in the market and consequently prove to create more value for the firm, as seen by investors. According to data analysis presented in Table 3, out of the 66 different bank corporations as of 2010, 32 of them have less than 1,000 employees, 19 have less than 10,000 employees, 11 have less than 100,000 employees, and 4 of them have less than 300,000 employees. As for our European bank acquisitions, that are presented in Table 4, out of the 13 different banks, only one company has less than 10,000 employees, 9 of them have less than 100,000 employees and 3 companies have less than 200,000 employees.

Table 3. US company by number of employees

| US company                             | No of employees | US Company                              | No of employees |
|--|-----------------|---|-----------------|
| FCNCA – First Citizens Bancshares Inc. | 5006            | UCBI – United Community Banks, Inc.     | 2000            |
| UMPQ – Umpqua Holdings Corp.           | 1850            | FSTF.PK – First State Financial Corp.   | 139             |
| FMER – FirstMerit Corp.                | 2575            | BBT – BB&T Corp.                        | 32400           |
| COLB – Columbia Banking System Inc.    | 175             | PNC – PNC Financial Services Group Inc. | 56000           |

Table 3 (cont.). US company by number of employees

| US company                             | No of employees | US Company                             | No of employees |
|--|-----------------|--|-----------------|
| SCBT – S. Carolina Bank & Trust        | 1000            | HFFC – HF Financial Corp.              | 323             |
| FAF – First American Corp.             | 31000           | CEBK – Central Bancorp Inc.            | 133             |
| WFSL – Washington Federal Inc.         | 1058            | EVBN – Evans Bancorp, Inc.             | 249             |
| CYN – City National Corp.              | 2989            | ZION – Zions Bancorporations           | 10529           |
| HBHC – Hancock Holding Co.             | 5000            | PVTB – PrivateBancorp, Inc.            | 1040            |
| EFSC – Enterprise Fin. Services Corp.  | 348             | HTFL – Heartland Financial USA Inc.    | 975             |
| FUBC – 1st United Bancorp. Inc.        | 208             | WIBC – Wilshire Bancorp Inc.           | 405             |
| SONA – S. Nat. Bancorp of VA           | 103             | CHFN.OB – Charter Financial Corp.      | 124             |
| MBFI – MB Financial Inc.               | 5000            | OKSB – Southwest Bankcorp Inc.         | 466             |
| NYB – NY Community Bancorp, Inc.       | 2699            | COOPQ.PK – Coop. Bankshares(nd)        | 212             |
| HBOS – Heritage Financial Group        | 134             | BKUNQ.PK – BankUnited Fin. Corp.(nd)   | 1504            |
| SBKCC.PK – Security Bank Corp.         | 500             | WSFGQ.PK – WSB Fin.Group(no data)      | 93              |
| SWBC.OB – Sunwest Bank CA              | 70              | SNV – Synovus Financial Corp.          | 7949            |
| IBKC – IBERIABANK Corp.                | 1274            | FFCH – First Financial Holdings Inc.   | 8355            |
| EWBC – East West Bancorp, Inc.         | 200             | STI – SunTrust Banks, Inc.             | 33000           |
| ALRS.PK – Alerus Financial Corp.       | 350             | WAL – Western Alliance Bancorp.        | 930             |
| ABCB – Ameris Bancorp.                 | 615             | TIBB – TIB Financial Corp.             | 405             |
| USB – U.S. Bancorp                     | 60000           | HFVA – Heritage Financial Corp.        | 222             |
| FMBI – First Midwest Bancorp. Inc.     | 1794            | WABC – Westamerica Bancorp.            | 1051            |
| TRCY.PK – TriCity Bankshares Corp.     | 530             | RF – Regions Financial Corp.           | 30000           |
| SGBK.OB – Stonegate Bank               | 50              | CSFL – CenterState Banks, Inc.         | 100             |
| CVBF – CVB Financial Corp              | 1000            | BSXT – BOE Fin.Services of VA(no data) | n/a             |
| HBAN – Huntington Bancshares Inc.      | 10951           | FCAL – First CA Fin. Group, Inc.       | 207             |
| THFF – First Financial Corp.           | 20000           | PRSP – Prosperity Bancshares Inc.      | 1594            |
| GSBC – Great Southern Bancorp, Inc.    | 556             | FITB – Fifth Third Bancorp.            | 21901           |
| PACW – PacWest Bancorp.                | 887             | JPM – JPMorgan Chase & Co.             | 300000          |
| MTB – M&T Bank Corp.                   | 13869           | RBS – Royal Bank of Scotland Group     | 184500          |
| BBVA – Banco Bilbao Vizcaya Argentaria | 103721          | PULB – Pulaski Financial Corp.         | 465             |
|  |                 | ING – ING Group, N.V.                  | 115000          |
|  |                 | AVLY.OB – Allegheny Valley Bancorp.    | 100             |
|  |                 | AWBC – American West Bancorp.          | 615             |

Table 4. European company by number of employees

| European company                         | No of employees |
|--|-----------------|
| DB – Deutsche Bank                       | 78530           |
| BCP – Banque Centrale Populaire          | 6556            |
| ACA – Credit Agricole S.A.               | 89172           |
| BARC.L – Barclays                        | 26000           |
| LYG – Llyods Banking Group               | 107144          |
| CBK – Commerzbank Aktiengesellschaft Co. | 43000           |
| LBBW – Landesbank Baden-Wuerttemberg     | 12000           |
| RBS – Royal Bank of Scotland Group       | 184500          |
| UCG – UniCredit Group                    | 180000          |
| ISP – Intesa Sanpaolo                    | 10000           |
| BP – Banco Popolare                      | 20982           |
| EUROB – EuroBank                         | 24000           |
| DANSKE – Danske Bank Group               | 24000           |

In Figure 3, the average CAR of the US are graphed by the size of the acquiring banks. Notice that all the lines remain in a constant pattern, but during the days leading towards the announcement, the smallest firms, those with less than 1,000 employees, experience a more dramatic decrease in their stock prices. In

Figure 4, the average CAR for the European bank acquisitions by size of firm, follow a similar pattern as those of the US. The smallest firms, those with less than 10,000 employees, seem to provide more volatility around the days of the announcement.



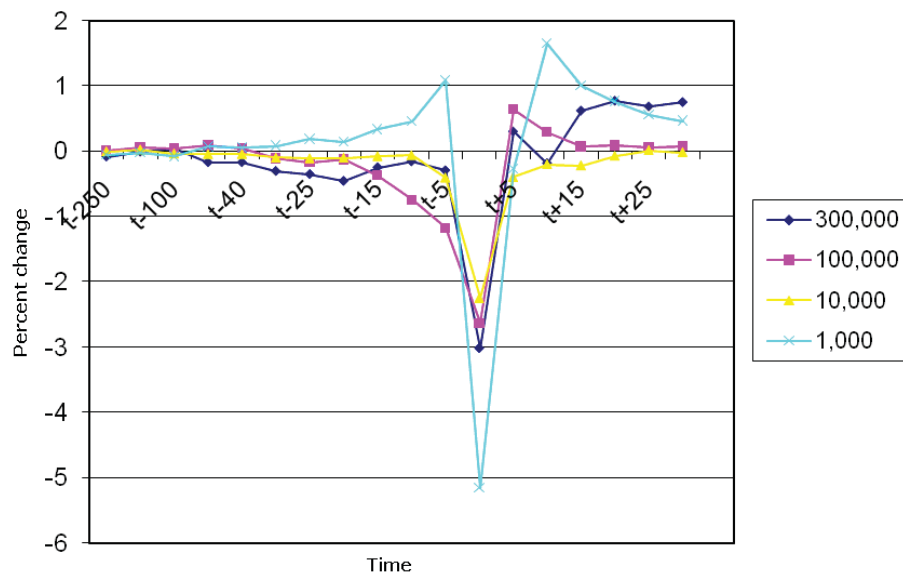


Fig. 3. US average CARs by size of firm

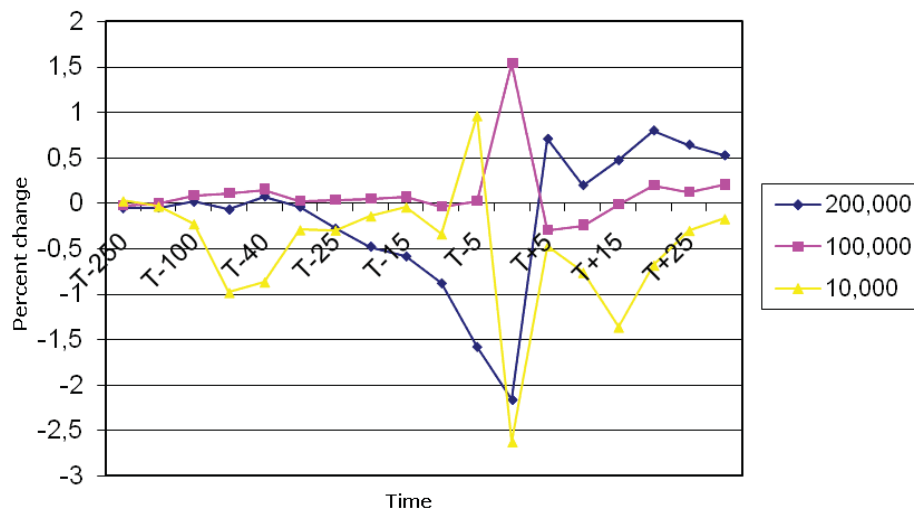


Fig. 4. European average CARs by size of firm

The results of the event analysis are displayed in Table 5. Once again the cross-sectional coefficients are displayed on the top line of each cell, followed by its corresponding p-value below it. As seen, none of the test has proven to be statistically significant, except for corporations with over 10,000 employees, but less than 100,000. The event window is  $T - 15$  to  $T + 15$ , because beyond that the p-values yielded to be very high and thus filtered out. However, result of the test on those corporations between 10,000-100,000 employees, every test has yielded to be statistically significant. When similar tests are run on the European acquisitions by the corporations' size, those yielding statistically significant results are shown

with an asterisk. The only group, which turns out to be significant, is firms with over 100,000 employees, but less than 200,000. This may be an effect of many factors that are beyond the scope of this study, but for those in this study, they have been proven to have a strong relationship. The results of this Section suggest that in the US, and with the chosen event window of  $T - 15$  to  $T + 15$ , corporations with employees from 10,000-100,000 have experienced a statistically significant value loss of 18% on average. As for the European acquisitions, corporations with employees between 100,000-200,000 have experienced a statistically significant value loss of 6% on average.

Table 5. CARs by the size of the acquiring bank corporations in the US

| US firms with 300,000 employees |          |          |          | US firms with 100,000 employees |           |           |           |
|---------------------------------|----------|----------|----------|---------------------------------|-----------|-----------|-----------|
| CARs over various event windows |          |          |          | CARs over various event windows |           |           |           |
|                                 | $T + 5$  | $T + 10$ | $T + 15$ |                                 | $T + 5$   | $T + 10$  | $T + 15$  |
| $T - 5$                         | 0.002952 | -0.24037 | 0.162499 | $T - 5$                         | -0.26607* | -0.43569* | -0.55024* |
|                                 | 0.239938 | 0.405982 | 0.167922 |                                 | 0.0011    | 0.001803  | 0.00449   |

Table 5 (cont.). CARs by the size of the acquiring bank corporations in the US

| US firms with 300,000 employees |          |          |          | US firms with 100,000 employees |           |           |           |
|---------------------------------|----------|----------|----------|---------------------------------|-----------|-----------|-----------|
| US firms with 300,000 employees |          |          |          | US firms with 100,000 employees |           |           |           |
|                                 | T + 5    | T + 10   | T + 15   |                                 | T + 5     | T + 10    | T + 15    |
| T - 10                          | 0.071614 | -0.17171 | 0.231161 | T - 10                          | -0.22064* | -0.22199* | -0.33654* |
|                                 | 0.181376 | 0.468023 | 0.267564 |                                 | 0.001203  | 0.001695  | 0.005534  |
| T - 15                          | 0.026673 | -0.21665 | 0.18622  | T - 15                          | 0.136264* | -0.03336* | -0.14791* |
|                                 | 0.270625 | 0.448939 | 0.270625 |                                 | 0.005011  | 0.019783  | 0.067768  |
| US firms with 10,000 employees  |          |          |          | US Firms with 1,000 employees   |           |           |           |
| CARs over various event windows |          |          |          | CARs over various event windows |           |           |           |
|                                 | T+5      | T+10     | T+15     |                                 | T+5       | T+10      | T+15      |
| T - 5                           | -0.39177 | -0.29344 | -0.30297 | T - 5                           | 0.409825  | 1.369519  | 1.050294  |
|                                 | 0.49234  | 0.328441 | 0.33227  |                                 | 0.22599   | 0.391671  | 0.483543  |
| T - 10                          | -0.22087 | -0.12253 | -0.13207 | T - 10                          | 0.09504   | 1.054734  | 0.735508  |
|                                 | 0.192252 | 0.35337  | 0.314724 |                                 | 0.229325  | 0.21704   | 0.323662  |
| T - 15                          | -0.2273  | -0.12896 | -0.1385  | T - 15                          | 0.034507  | 0.9942    | 0.674975  |
|                                 | 0.143977 | 0.324528 | 0.271958 |                                 | 0.204283  | 0.171627  | 0.254904  |

Notes: The top line of each cell indicates the coefficient (sample average CARs). The bottom line represents the probability that the coefficient is statistically significant (the p-value). Coefficients with an asterisk indicate statistical significance at the 10% level. Also note,  $T = 0$  represent the day of the acquisitions announcement.

Table 6. CARs by the size of the acquiring bank corporations in the European countries

| European firms with 200,000 employees CARs over various event windows |           |           |           |
|---|-----------|-----------|-----------|
|   | T + 5     | T + 10    | T + 15    |
| T - 5   | -0.44064* | -0.69476* | -0.55787* |
|   | 0.01343*  | 0.012186* | 0.076095* |
| T - 10  | -0.09181* | -0.34593* | -0.20904* |
|   | 0.042756  | 0.054382  | 0.136402  |
| T - 15  | 0.055663* | -0.19846* | -0.06157* |
|   | 0.022378  | 0.025366  | 0.139226  |
| European firms with 100,000 employees CARs over various event windows |           |           |           |
|   | T + 5     | T + 10    | T + 15    |
| T - 5   | -0.13932  | -0.11208  | -0.00049  |
|   | 0.269909  | 0.145697  | 0.455334  |
| T - 10  | -0.17081  | -0.14356  | -0.03197  |
|   | 0.475479  | 0.222022  | 0.31789   |
| T - 15  | -0.11643  | -0.08919  | 0.0224    |
|   | 0.265929  | 0.12155   | 0.265929  |

Notes: The top line of each cell indicates the coefficient (sample average CARs). The bottom line represents the probability that the coefficient is statistically significant (the p-value). Coefficients with an asterisk indicate statistical significance at the 10% level. Also note  $T = 0$  represent the day of the acquisition announcement.

**3.3. The location of the acquiring banks' headquarters.** During this current financial crisis, many States have been hit harder than others due to the "housing bubble" in the US. Those states with major housing sales, as for instance California, Nevada, Arizona, are among the most affected states for housing sales and during the recession. We explore that, if an acquiring bank is headquartered in a more affected area, how would this affect firm value from their acquisitions? Table 7 presents the information about the banks considered

in this research. Out of the 66 different US bank corporations analyzed in this paper, 13 are headquartered in Western states, 16 headquartered in Midwestern states, 26 are headquartered in Southern states, 6 have headquarters in Northeastern states and one company is stationed in another part of the country. As for our European bank acquisitions, and in Table 8, out of our 13 bank corporations, 4 companies are headquartered in the United Kingdom, 3 in Germany, 2 in Italy, and one in Morocco, France, Greece, and Denmark.

Table 7. US bank acquisitions by headquarters location

| US company                             | Headquarters   | US company                              | Headquarters   |
|--|----------------|---|----------------|
| FCNCA – First Citizens Bancshares Inc. | North Carolina | UCBI – United Community Banks, Inc.     | Georgia        |
| UMPQ – Umpqua Holdings Corp.           | Oregon         | FSTF.PK – First State Financial Corp.   | Florida        |
| FMER – FirstMerit Corp.                | Ohio           | BBT – BB&T Corp.                        | North Carolina |
| COLB – Columbia Banking System Inc.    | Washington     | PNC – PNC Financial Services Group Inc. | Pennsylvania   |

Table 7 (cont.). US bank acquisitions by headquarters location

| US company                             | Headquarters   | US company                             | Headquarters   |
|--|----------------|--|----------------|
| SCBT – S. Carolina Bank & Trust        | South Carolina | HFFC – HF Financial Corp.              | South Dakota   |
| FAF – First American Corp.             | California     | CEBK – Central Bancorp Inc.            | Colorado       |
| WFSL – Washington Federal Inc.         | Washington     | EVBN – Evans Bancorp, Inc.             | New York       |
| CYN – City National Corp.              | Ohio           | ZION – Zions Bancorporations           | Utah           |
| HBHC – Hancock Holding Co.             | Mississippi    | PVTB – PrivateBancorp, Inc.            | Illinois       |
| EFSC – Enterprise Fin. Services Corp.  | Kansas         | HTFL – Heartland Financial USA Inc.    | Iowa           |
| FUBC – 1st United Bancorp. Inc.        | Florida        | WIBC – Wilshire Bancorp Inc.           | California     |
| SONA – S. Nat. Bancorp of VA           | Virginia       | CHFN.OB – Charter Financial Corp.      | Georgia        |
| MBFI – MB Financial Inc.               | Illinois       | OKSB – Southwest Bankcorp Inc.         | Oklahoma       |
| NYB – NY Community Bancorp, Inc.       | New York       | COOPQ.PK – Coop. Bankshares(nd)        | North Carolina |
| HBOS – Heritage Financial Group        | Utah           | BKUNQ.PK – BankUnited Fin. Corp.(nd)   | Florida        |
| SBKCQ.PK – Security Bank Corp.         | Arkansas       | WSFGQ.PK – WSB Fin.Group(no data)      | Washington     |
| SWBC.OB – Sunwest Bank CA              | California     | SNV – Synovus Financial Corp.          | Georgia        |
| IBKC – IBERIABANK Corp.                | Louisiana      | FFCH – First Financial Holdings Inc.   | South Carolina |
| EWBC – East West Bancorp, Inc.         | California     | STI – SunTrust Banks, Inc.             | Georgia        |
| ALRS.PK – Alerus Financial Corp.       | North Dakota   | WAL – Western Alliance Bancorp.        | Nevada         |
| ABCB – Ameris Bancorp.                 | Georgia        | TIBB – TIB Financial Corp.             | Florida        |
| USB – U.S. Bancorp                     | Minnesota      | HFVA – Heritage Financial Corp.        | Washington     |
| FMBI – First Midwest Bancorp. Inc.     | Illinois       | WABC – Westamerica Bancorp.            | California     |
| TRCY.PK – TriCity Bankshares Corp.     | Wisconsin      | RF – Regions Financial Corp.           | Alabama        |
| SGBK.OB – Stonegate Bank               | Florida        | CSFL – CenterState Banks, Inc.         | Florida        |
| CVBF – CVB Financial Corp              | California     | BSXT – BOE Fin.Services of VA(no data) | Virginia       |
| HBAN – Huntington Bancshares Inc.      | Ohio           | FCAL – First CA Fin. Group, Inc.       | California     |
| THFF – First Financial Corp.           | Ohio           | PRSP – Prosperity Bancshares Inc.      | Texas          |
| GSBC – Great Southern Bancorp, Inc.    | Missouri       | FITB – Fifth Third Bancorp.            | Ohio           |
| PACW – PacWest Bancorp.                | California     | JPM – JPMorgan Chase & Co.             | New York       |
| MTB – M&T Bank Corp.                   | New York       | RBS – Royal Bank of Scotland Group     | United Kingdom |
| BBVA – Banco Bilbao Vizcaya Argentaria | Alabama        | PULB – Pulaski Financial Corp.         | Missouri       |
|  |                | ING – ING Group, N.V.                  | Georgia        |
|  |                | AVLY.OB – Allegheny Valley Bancorp.    | Pennsylvania   |
|  |                | AWBC – American West Bancorp.          | Washington     |

Table 8. European bank acquisitions by headquarters location

| Company                                  | Headquarters   |
|--|----------------|
| DB – Deutsche Bank                       | Germany        |
| BCP – Banque Centrale Populaire          | Morocco        |
| ACA – Credit Agricole S.A.               | France         |
| BARC.L – Barclays                        | United Kingdom |
| LYG – Llyods Banking Group               | United Kingdom |
| CBK – Commerzbank Aktiengesellschaft Co. | Germany        |
| LBBW – Landesbank Baden-Wuerttemberg     | Germany        |
| RBS – Royal Bank of Scotland Group       | United Kingdom |
| UCG – UniCredit Group                    | United Kingdom |
| ISP – Intesa Sanpaolo                    | Italy          |
| BP – Banco Popolare                      | Italy          |
| EUROB – EuroBank                         | Greece         |
| DANSKE – Danske Bank Group               | Denmark        |

In Figure 5, the United States average CARs by location are displayed. All the lines seem to follow the same curvature, but the banks located in the Southern

States seem to have a more dramatic decrease and increase leading and following the days of the acquisition announcement.

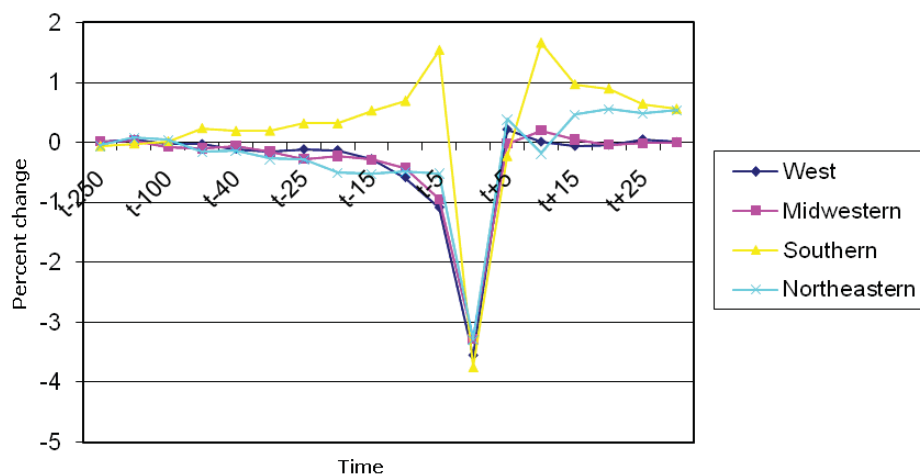


Fig. 5. US average CARs by location

Once again, to strengthen the conclusion of this study, separate tests are run on the acquiring bank's CARs, but separated by the location of their headquarters. The separate regions in the US are: West (Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico, Alaska, Washington, Oregon, California and Hawaii), Midwest (Wisconsin, Michigan, Illinois, Indiana, Ohio, Missouri, North and South Dakota, Ne-

braska, Kansas, Minnesota and Iowa), South (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North and South Carolina, Georgia, Florida, Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Texas, Arkansas and Louisiana), and Northeast (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, and New Jersey).

Table 9. CARs by the size of the acquiring bank corporations in region

| Headquarters in the West        |           |           |           | Headquarters in the Midwest     |           |           |           |
|---------------------------------|-----------|-----------|-----------|---------------------------------|-----------|-----------|-----------|
| CARs over various event windows |           |           |           | CARs over various event windows |           |           |           |
|                                 | T + 5     | T + 10    | T + 15    |                                 | T + 5     | T + 10    | T + 15    |
| T - 5                           | -0.44127* | -0.54407* | -0.57943* | T - 5                           | -0.48253* | -0.37455* | -0.45136* |
|                                 | 0.012031  | 0.003938  | 0.024162  |                                 | 0.006823  | 0.000499  | 0.000377  |
| T - 10                          | -0.19008* | -0.29289* | -0.32824* | T - 10                          | -0.22035* | -0.11236* | -0.18917* |
|                                 | 0.066099  | 0.033588  | 0.070372  |                                 | 0.104809  | 0.017854  | 0.021654  |
| T - 15                          | -0.03927* | -0.14208* | -0.17743* | T - 15                          | -0.15344* | -0.04545* | -0.12226* |
|                                 | 0.126792  | 0.120659  | 0.205353  |                                 | 0.172324  | 0.031278  | 0.039994  |
| Headquarters in the South       |           |           |           | Headquarters in the North East  |           |           |           |
| CARs over various event windows |           |           |           | CARs over various event windows |           |           |           |
|                                 | T + 5     | T + 10    | T + 15    |                                 | T + 5     | T + 10    | T + 15    |
| T - 5                           | 0.654121  | 1.596894  | 1.250765  | T - 5                           | 0.654121  | -0.35657  | -0.0284   |
|                                 | 0.178616  | 0.477731  | 0.38606   |                                 | 0.122201  | 0.227019  | 0.084935  |
| T - 10                          | 0.231565  | 1.174339  | 0.828209  | T - 10                          | -0.05453  | -0.33937  | -0.0112   |
|                                 | 0.415276  | 0.274816  | 0.187997  |                                 | 0.07195   | 0.192487  | 0.109824  |
| T - 15                          | 0.149952  | 1.092725  | 0.746596  | T - 15                          | -0.074    | -0.35883  | -0.03067  |
|                                 | 0.163996  | 0.220555  | 0.34367   |                                 | 0.112777  | 0.181175  | 0.086815  |

Notes: The top line of each cell indicates the coefficient (sample average CARs). The bottom line represents the probability that the coefficient is statistically significant (the p-value). Coefficients with an asterisk indicate statistical significance at the 10% level. Also note  $T = 0$  represents the day of the acquisition announcement.

The findings of the tests that are run on the corporations by location are displayed in Table 9. The two regions, which yielded statistically significant results, are those corporations headquartered in the West and in the Midwest regions. Unfortunately, with the limited number of data collected for the European acquisitions, a proper and thorough test could not be performed in this Section for those

European acquisitions. Given the event window of  $T - 15$  to  $T + 15$ , the results from this Section conclude that in the US, bank corporations which acquired another bank during the last five years and headquartered in the Western states have had a statistically significant loss of 17% on average and it is 12% on average if they are headquartered in a Midwestern state.

Pilloff and Santomero (1996) suggest in their study that based on acquiring bank's accounting data, a bank acquisition does not create corporate value. Comparing the results found in this research and those in Pilloff and Santomero's study, suggest that whether accounting data is used or market reaction is used, the benefits of a bank acquisition are minimal if not negative. Even though different methods are used in each paper, the results are still similar in nature.

Vergos and Christopoulos (2008), in their study, find that acquiring banks experience a positive effect in the short run, but a negative effect in the long run. As observed in our study, this is also true for the United States acquisitions, as they experience benefits on day ten, but these benefits do not occur until thirty day for European acquisitions. A contributing factor for the irregularity could be the shorter event window used for after the announcement, in this paper or for other reasons. For example, Greece has just been liberalized before the study and it is still considered as emerging market, whereas, we investigate some of the developed financial markets.

Comparing the results found in this study with those found in the research done by Soussa and Wheeler (2006) is slightly different. They study bank acquisitions in the early 2000's in emerging markets and discover that bank acquisitions have had an overall negative value effect to the acquiring corporations. They use a smaller event window ( $T - 7$  to  $T + 7$ ) study regions of the world where the financial sector is still young and they do not use data during the current financial crisis. The event window used in our research is much larger ( $T - 250$  to  $T + 30$ ) and our positive value findings are not apparent until ten business day in the US and thirty business day in European countries.

### Concluding remarks

This research analyzes bank acquisition announcements and their impact on the value of acquiring banks in the US and Europe. It appears to have a positive effect to the acquirer and it may be inter-

preted as bargain hunting pays off. Overall, the market perceives the bank acquisition as having a minimal, yet positive value effect to the acquiring bank, on average, 0.3% and 0.8% in the US and in Europe, respectively. However, when further tests are conducted based on the size of the acquiring banks and the location of their headquarters, it is revealed that certain demographics are perceived as having a more risky situation. When a bank in the US has employees from 10,000-100,000 and when their headquarters is in the West or Midwest, they have a higher chance of being perceived as a bigger risk, on average, to investors with a statistically significant loss of 18%, 17% and 12%, respectively. This is also true for European corporations with employees from 100,000-200,000, where on average; they experience a statistically significant value loss.

A factor that could have affected the outcome of this study is the possibility of different views of bank acquisitions in different countries. The ideas and beliefs of the respecting countries about acquisitions are not taken into consideration in this event study. As stated earlier, the financial sector in Ireland, the United Kingdom and France seems to be built differently than the financial sector of the US. In the US, there are hundreds of different banks. In each of the European countries studied in this paper, there are on average only about ten to twenty different banks operating in each country. The occurrence of a bank acquisition happening in these European countries is far less occurring than that in the US. Furthermore, during these tough economic times, the European government in these countries has played a more active role in bailing out these troubled banks than in the US. As a result, a bank acquisition in the US may not seem as such an enormous risk as a bank acquisition in these European countries, under regular times.

One possible direction for future research is to gather larger data base from the European nations and also review the longer window of stock price reaction to see if there are values created for shareholders as it seems to have short term positive effect on value of firms in the US and Europe.

### References

1. Alexakis P. (2007). Bank acquisitions and shareholder returns. The Greek experience, Unpublished working paper, UOA, May.
2. Altunbas, Y., Molyneux, P and Thornton, J. (1997). "Big mergers in Europe – an analysis of the cost implications", *Economica*, Vol. 64 (3), pp. 17-29.
3. Amihud, Y, DeLong, G. and Saunders, A. (2002). "The effects of cross-border bank mergers on bank risk and value", *Journal of International Money and Finance*, Vol. 21, pp. 857-77.
4. Andrade, G., Mitchell, M. and Stafford, E. (2001). "New evidence and perspectives on mergers", *The Journal of Economic Perspectives*, Vol. 15 (2), pp. 103-20.
5. Banks of Europe. Banks listed alphabetically by country, Retrieved March 20, 2010, from: <http://www.escapeartist.com/bkeu/bkeu.htm>.



6. Bednarski, P. and Osinski, J. (2002). "Financial sector issues in Poland", in Financial sectors in EU accession countries, ECB.
7. Baradwaj B., Dubofsky D., Fraser D. (1988). The wealth effects off interstate bank acquisitions, Board of Governors of the Federal Reserve System, Working Paper.
8. BBC New (2009). Timeline: Credit Crunch to Downturn, April 3.
9. Berger, A. (2000). "The big picture of bank diversification", Proceedings, Federal Reserve Bank of Chicago, May, pp. 162-74.
10. Beckford, M. (2008). Icelandic Bank Collapse: the History of the Cold War, Telegraph.co.uk, 9 October.
11. Berger, A., DeYoung, R., Genay, H. and Udell, G. (2000). "Globalisation of financial institutions: evidence from cross-border banking performance", Brookings Papers on Economic Activity, Vol. 2, pp. 23-158.
12. BIS (2001). G10 consolidation report, www.bis.org.
13. Brealey, R and Kaplanis, E. (1996). "The determination of foreign banking location", *Journal of International Money and Finance*, Vol. 15, pp. 577-97.
14. Bris, A. and Cabolis, C. (2005). "The value of investor protection: firm evidence from cross-border mergers", Mimeo, Yale School of Management.
15. Buch, C. (2000). "Why do banks go abroad – evidence from German data", *Financial Markets, Institutions and Instruments*, Vol. 9 (1), pp. 33-67.
16. Brown S., Warner J. (1985). Using daily stock returns: the case of event studies, *Journal of Financial Economics*, pp. 3-31.
17. Chari, A. Ouimet, P. and Tesar, L. (2004). "Cross border mergers and acquisitions in emerging markets: the stock market valuation of corporate control", EFA 2004 Maastricht Meetings, Paper No. 3479.
18. Claessens, S., Demirgüç-Kunt, A. and Huizinga, H. (2000). "How does foreign entry effect the domestic banking market?", *Journal of Banking and Finance*, Vol. 25, pp. 891-911.
19. Christopoulos, A. & Vergos, A. (2008). The effects of acquisitions on the market value of the banking sector: an empirical analysis from Greece, *European Journal of Scientific Research*, Vol. 24 (3), pp. 410-419.
20. Cybo-Ottone A., Murgia M. (2000). Mergers and acquisitions in the European banking markets, Mimeo, Associazione Bancaria Italiana, Working Paper.
21. Dickens R.N., Wansley J.W. (1989). The Impact of Bank Acquisitions: a Comparison of Interstate and Intrastate Mergers, Eastern Finance Association, Annual Meeting Proceedings.
22. Federal Deposit Insurance Corporation (FDIC). *Failed bank list*, March 5, 2010.
23. Focarelli, D. and Pozzolo, A. (2000). "Where do banks expand abroad? An empirical analysis", SSRN.
24. Guillèn, M. and Tschoegl, A. (1999). "At last the internationalization of retail banking? The case of the Spanish banks in Latin America", Wharton Financial Institutions Center Working Paper, pp. 99-41.
25. Hannan, T., Pilloff, S. (2007). Acquisition targets and motives in the banking industry, Board of Governors of the Federal Reserve System, Unpublished Working Paper.
26. Hannan T.H., Wolken J.D. (1989). Returns to bidders and targets in the acquisition. Evidence from the banking industry, *Journal of Financial Services Research*, 3, pp. 5-16.
27. Hernando, I. María J. Nieto, and Larry D. Wall (2009). "Determinants of Domestic and Cross-Border Bank Acquisitions in the European Union". Forthcoming, *Journal of Banking and Finance*.
28. Knapp, M., Gart, A., Chaudhry, M. (2006). "The impact of mean reversion of bank profitability on post-merger performance in the banking industry", *Journal of Banking and Finance* 30, pp. 3503-3517.
29. Koetter, M., Bos, J.W.B., Heid, F., Kolari, J.W., Kool, C.J.M., Porath, D. (2007). "Accounting for distress in bank mergers", *Journal of Banking and Finance*, 31, pp. 3200-3217.
30. Lanine, G., Vander Vennet, R. (2007). "Microeconomic determinants of acquisitions of Eastern European banks by Western European banks", *Economics of Transition*, 15, pp. 285-308.
31. Neely W. (1987). Banking acquisitions: acquirer and target shareholders returns, *Financial Management*, 16, pp. 66-74.
32. Pilloff, S. & Santomero A. (1997). The value effects of bank mergers and acquisitions. Wharton Working Paper.
33. Pasiouras, F., Tanna S., Gaganis, C. (2007). "What drives acquisitions in the EU banking industry? The role of bank regulation and supervision framework, bank specific and market specific Factors", Coventry University, Economics, Finance and Accounting Applied Research Working Paper Series, 3.
34. Rossi, S. and Volpin, P. (2003). "Cross-country determinants of mergers and acquisitions", ECGI – Finance Working Paper No. 25/2003, <http://ssrn.com/abstract=395020>.
35. Resti J., Sicilianno S. (2000). Do bank acquisitions increase shareholders' wealth? A comparison between market-based and accounting-based performance indicators for some Italian banks, University of Bergamo, Ufficio Analisi Economica, Working Paper.
36. Soussa, F. (2004). "A note on banking FDI in emerging markets: literature review and evidence from M&A data", Working paper.
37. Soussa, F. & Wheeler, T. (2006). Do announcements of bank acquisitions in emerging markets create value? Working Paper, No. 315, Bank of England.
38. Tirole, J. (1988). The theory of industrial organisation, MIT Press.

39. Tschoegl, A. (2003). "Financial crises and the presence of foreign banks", Wharton School Working Paper, pp. 3-5.
40. Vander Vennet, R. (1996). "The effect of mergers and acquisitions on efficiency and profitability of EC credit institutions", *Journal of Banking and Finance*, Vol. 20 (9), pp. 1532-1558.
41. Yamori, N. (1998). "A note on the location choice of multinational banks: the case of Japanese financial institutions", *Journal of Banking and Finance*, Vol. 22, pp. 109-20.
42. Zhang, H. (1995). "Wealth effects of US bank takeovers", *Applied Financial Economics*, Vol. 5 (5), pp. 329-36.

## Appendix A. US bank acquisitions used in this study

Table 1. US bank acquisitions

|   | Date      | Acquiring bank                      | Acquired bank                            | Location of acquisition | Ticker symbol of acquiring bank        |
|---|-----------|-------------------------------------|--|-------------------------|--|
| 1 | 5-Mar-10  | FDIC                                | Centennial Bank                          | Ogden, UT               | N/A                                    |
| 2 | 5-Mar-10  | National Deposit Institution (FDIC) | Waterfield Bank                          | Germantown, MD          | N/A                                    |
| 3 | 5-Mar-10  | Heartland Bank & Trust Company      | Bank of Illinois                         | Normal, IL              | Private                                |
| 4 | 5-Mar-10  | First Citizens Bank & Trust Co.     | Sun American Bank                        | Boca Raton, FL          | FCNCA – First Citizens Bancshares Inc. |
| 5 | 26-Feb-10 | Umpqua Bank                         | Rainier Pacific Bank                     | Tacoma, WA              | UMPQ – Umpqua Holdings Corp.           |
| 6 | 26-Feb-10 | Heritage Bank of Nevada             | Carson River Community Bank              | Carson City, NV         | Private                                |
| 7 | 19-Feb-10 | OneWest Bank                        | La Jolla Bank, FSB                       | La Jolla, CA            | Private                                |
| 8 | 19-Feb-10 | FirstMerit Bank, N.A.               | George Washington Savings Bank           | Orland Park, IL         | FMER – FirstMerit Corp.                |
| 9 | 19-Feb-10 | Community National Bank             | The La Coste National Bank               | La Coste, TX            | Private                                |
| 1 | 19-Feb-10 | Mutual of Omaha Bank                | Marco Community Bank                     | Marco Island, FL        | Private                                |
| 1 | 5-Feb-10  | Community Development Bank, FSB     | 1st American State Bank of Minnesota     | Hancock, MN             | Private                                |
| 1 | 29-Jan-10 | Columbia State Bank                 | American Marine Bank                     | Bainbridge Island, WA   | COLB – Columbia Banking System Inc.    |
| 1 | 29-Jan-10 | First Citizens Bank & Trust Co.     | First Regional Bank                      | Los Angeles, CA         | FCNCA – First Citizens Bancshares Inc. |
| 1 | 29-Jan-10 | SCBT National Association           | Community Bank and Trust                 | Cornelia, GA            | SCBT – S. Carolina Bank & Trust        |
| 1 | 29-Jan-10 | United Valley Bank                  | Marshall Bank, N.A.                      | Hallock, MN             | Private                                |
| 1 | 29-Jan-10 | Premiere American Bank, N.A.        | Florida Community Bank                   | Immokalee, FL           | Private                                |
| 1 | 29-Jan-10 | Community and Southern Bank         | First National Bank of Georgia           | Carrollton, GA          | Private                                |
| 1 | 22-Jan-10 | Columbia State Bank                 | Columbia River Bank                      | The Dallas, OR          | COLB – Columbia Banking System Inc.    |
| 1 | 22-Jan-10 | Umpqua Bank                         | Evergreen Bank                           | Seattle, WA             | UMPQ – Umpqua Holdings Corp.           |
| 2 | 22-Jan-10 | Beal Bank                           | Charter Bank                             | Sante Fe, NM            | Private                                |
| 2 | 22-Jan-10 | Sunflower Bank, N.A.                | Bank of Leeton                           | Leeton, MO              | Private                                |
| 2 | 22-Jan-10 | Bond Street Holdings, LLC           | Premier American Bank                    | Miami, FL               | Private                                |
| 2 | 15-Jan-10 | Deposit Ins. National Bank (FDIC)   | Barnes Banking Company                   | Kaysville, UT           | N/A                                    |
| 2 | 15-Jan-10 | First State Bank of St. Joseph      | St. Stephen State Bank                   | St. Stephen, MN         | Private                                |
| 2 | 15-Jan-10 | First American Bank                 | Town Community Bank & Trust              | Antioch, IL             | FAF – First American Corp.             |
| 2 | 8-Jan-10  | Wash. Fed. Savings and Loan Assoc.  | Horizon Bank                             | Bellingham, WA          | WFSL – Washington Federal Inc.         |
| 2 | 18-Dec-09 | OneWest Bank, FSB                   | First Federal Bank of California, F.S.B. | Santa Monica, CA        | Private                                |
| 2 | 18-Dec-09 | City National Bank                  | Imperial Capital Bank                    | La Jolla, CA            | CYN – City National Corp.              |
| 2 | 18-Dec-09 | Bridge Bank (FDIC)                  | Independent Bankers' Bank                | Springfield, IL         | N/A                                    |
| 3 | 18-Dec-09 | Beal Bank                           | New South Federal Savings Bank           | Irondale, AL            | Private                                |
| 3 | 18-Dec-09 | Deposit Ins. National Bank (FDIC)   | Citizens State Bank                      | New Baltimore, MI       | N/A                                    |
|   | 18-Dec-09 | Hancock Bank                        | Peoples First Community Bank             | Panama City, FL         | HBHC – Hancock Holding Co.             |
|   | 18-Dec-09 | FDIC                                | RockBridge Commercial Bank               | Atlanta, GA             | N/A                                    |
| 3 | 11-Dec-09 | Arvest Bank                         | Solutions Bank                           | Overland Park, KS       | Private                                |
| 3 | 11-Dec-09 | Enterprise Bank & Trust             | Valley Capital Bank, N.A.                | Mesa, AZ                | EFSC – Enterprise Fin. Services Corp.  |
| 3 | 11-Dec-09 | 1st United Bank                     | Republic Federal Bank, N.A.              | Miami, FL               | FUBC – 1st United Bancorp. Inc.        |
| 3 | 4-Dec-09  | Sonabank                            | Greater Atlantic Bank                    | Reston, VA              | SONA – S. Nat. Bancorp of VA           |
| 3 | 4-Dec-09  | MB Financial Bank, N.A.             | Benchmark Bank                           | Aurora, IL              | MBFI – MB Financial Inc.               |
| 3 | 4-Dec-09  | New York Community Bank             | AmTrust Bank                             | Cleveland, OH           | NYB – NY Community Bancorp. Inc.       |
| 4 | 4-Dec-09  | Heritage Bank of the South          | The Tattnell Bank                        | Reidsville, GA          | HBOS – Heritage Financial Group        |
| 4 | 4-Dec-09  | State Bank and Trust Company        | First Security National Bank             | Norcross, GA            | SBKQ.PK – Security Bank Corp.          |
| 4 | 4-Dec-09  | State Bank and Trust Company        | The Buckhead Community Bank              | Atlanta, GA             | SBKQ.PK – Security Bank Corp.          |

Table 1 (cont.). US bank acquisitions

|   | Date      | Acquiring bank                      | Acquired bank                          | Location of acquisition | Ticker symbol of acquiring bank         |
|---|-----------|-------------------------------------|--|-------------------------|---|
| 4 | 20-Nov-09 | Central Bank                        | Commerce Bank of Southwest Florida     | Fort Myers, FL          | Private                                 |
| 4 | 13-Nov-09 | Sunwest Bank                        | Pacific Coast National Bank            | San Clemente, CA        | SWBC.OB – Sunwest Bank CA               |
|   | 13-Nov-09 | IBERIABANK                          | Orion Bank                             | Naples, FL              | IBKC – IBERIABANK Corp.                 |
| 4 | 13-Nov-09 | IBERIABANK                          | Century Bank, F.S.B.                   | Sarasota, FL            | IBKC – IBERIABANK Corp.                 |
|   | 6-Nov-09  | East West Bank                      | United Commercial Bank                 | San Francisco, CA       | EWBC – East West Bancorp, Inc.          |
| 4 | 6-Nov-09  | Central Bank of Kansas City         | Gateway Bank of St. Louis              | St. Louis, MO           | Private                                 |
| 4 | 6-Nov-09  | Alerus Financial, N.A.              | Prosperan Bank                         | Oakdale, MN             | ALRS.PK – Alerus Financial Corp.        |
| 5 | 6-Nov-09  | Liberty Bank & Trust Company        | Home Federal Savings Bank              | Detroit, MI             | Private                                 |
| 5 | 6-Nov-09  | Ameris Bank                         | United Security Bank                   | Sparta, GA              | ABCB – Ameris Bancorp.                  |
| 5 | 30-Oct-09 | US Bank, National Association       | North Houston Bank                     | Houston, TX             | USB – US Bancorp                        |
|   | 30-Oct-09 | US Bank, National Association       | Madisonville State Bank                | Madisonville, TX        | USB – US Bancorp                        |
|   | 30-Oct-09 | US Bank, National Association       | Citizens National Bank                 | Teague, TX              | USB – US Bancorp                        |
|   | 30-Oct-09 | US Bank, National Association       | Park National Bank                     | Chicago, IL             | USB – US Bancorp                        |
|   | 30-Oct-09 | US Bank, National Association       | Pacific National Bank                  | San Francisco, CA       | USB – US Bancorp                        |
| 7 | 30-Oct-09 | US Bank, National Association       | California National Bank               | Los Angeles, CA         | USB – US Bancorp                        |
| 8 | 30-Oct-09 | US Bank, National Association       | San Diego National Bank                | San Diego, CA           | USB – US Bancorp                        |
| 9 | 30-Oct-09 | US Bank, National Association       | Community Bank of Lemont               | Lemont, IL              | USB – US Bancorp                        |
| 0 | 30-Oct-09 | US Bank, National Association       | Bank USA, N.A.                         | Phoenix, AZ             | USB – US Bancorp                        |
| 1 | 23-Oct-09 | First Midwest Bank                  | First DuPage Bank                      | Westmont, IL            | FMBI – First Midwest Bancorp. Inc.      |
| 2 | 23-Oct-09 | Central Bank (Stillwater, MN)       | Riverview Community Bank               | Otsego, MN              | Private                                 |
| 3 | 23-Oct-09 | Tri City National Bank              | Bank of Elmwood                        | Racine, WI              | TRCY.PK – TriCity Bankshares Corp.      |
| 6 | 23-Oct-09 | First Federal Bank of Florida       | Flagship National Bank                 | Bradenton, FL           | Private                                 |
|   | 23-Oct-09 | Stonegate Bank                      | Hillcrest Bank Florida                 | Naples, FL              | SGBK.OB – Stonegate Bank                |
| 6 | 23-Oct-09 | Ameris Bank                         | American United Bank                   | Lawrenceville, GA       | ABCB – Ameris Bancorp.                  |
| 6 | 23-Oct-09 | Stonegate Bank                      | Partners Bank                          | Naples, FL              | SGBK.OB – Stonegate Bank                |
| 6 | 16-Oct-09 | Citizens Buisness Bank              | San Joaquin Bank                       | Bakersfield, CA         | CVBF – CVB Financial Corp               |
| 6 | 2-Oct-09  | Legacy Bank                         | Southern Colorado National Bank        | Pueblo, CO              | Private                                 |
| 7 | 2-Oct-09  | Central Bank (Stillwater, MN)       | Jennings State Bank                    | Spring Grove, MN        | Private                                 |
| 7 | 2-Oct-09  | The Huntington National Bank        | Warren Bank                            | Warren, MI              | HBAN – Huntington Bancshares Inc.       |
| 7 | 25-Sep-09 | First Citizens Bank & Trust Company | Georgian Bank                          | Atlanta, GA             | FCNCA – First Citizens Bancshares Inc.  |
|   | 18-Sep-09 | First Financial Bank, N.A.          | Irwin Union Bank, F.S.B.               | Louisville, KY          | THFF – First Financial Corp.            |
| 7 | 18-Sep-09 | First Financial Bank, N.A.          | Irwin Union Bank and Trust Company     | Columbus, IN            | THFF – First Financial Corp.            |
| 7 | 11-Sep-09 | First Citizens Bank & Trust Company | Venture Bank                           | Lacey, WA               | FCNCA – First Citizens Bancshares Inc.  |
| 7 | 11-Sep-09 | CorTrust Bank, N.A.                 | Brickwell Community Bank               | Woodbury, MN            | Private                                 |
| 7 | 11-Sep-09 | MB Financial Bank                   | Corus Bank, N.A.                       | Chicago, IL             | MBFI – MB Financial Inc.                |
| 7 | 4-Sep-09  | Sunwest Bank                        | First State Bank                       | Flagstaff, AZ           | SWBC.OB – Sunwest Bank CA               |
| 7 | 4-Sep-09  | FDIC                                | Platinum Community Bank                | Rolling Meadows, IL     | N/A                                     |
| 8 | 4-Sep-09  | Great Southern Bank                 | Vantus Bank                            | Sioux City, IA          | GSBC – Great Southern Bancorp, Inc.     |
| 8 | 4-Sep-09  | MB Financial Bank                   | InBank                                 | Oak Forest, IL          | MBFI – MB Financial Inc.                |
| 8 | 4-Sep-09  | Great American Bank                 | First Bank of Kansas City              | Kansas City, MO         | Private                                 |
| 8 | 28-Aug-09 | Pacific Western Bank                | Affinity Bank                          | Ventura, CA             | PACW – PacWest Bancorp.                 |
| 8 | 28-Aug-09 | Central Bank (Stillwater, MN)       | Mainstreet Bank                        | Forest Lake, MN         | Private                                 |
| 8 | 28-Aug-09 | Manufacturers and Traders Trust Co. | Bradford Bank                          | Baltimore, MD           | MTB – M&T Bank Corp.                    |
| 8 | 21-Aug-09 | BBVA Compass                        | Guaranty Bank                          | Austin, TX              | BBVA – Banco Bilbao Vizcaya Argentaria  |
| 8 | 21-Aug-09 | IBERIABANK                          | CapitalSouth Bank                      | Birmingham, AL          | IBKC – IBERIABANK Corp.                 |
| 8 | 21-Aug-09 | United Bank                         | First Coweta Bank                      | Newnan, GA              | UCBI – United Community Banks, Inc.     |
| 8 | 21-Aug-09 | Stearns Bank, N.A.                  | Ebank                                  | Atlanta, GA             | FSTF.PK – First State Financial Corp.   |
| 9 | 14-Aug-09 | Deposit Ins. National Bank (FDIC)   | Community Bank of Nevada               | Las Vegas, NV           | N/A                                     |
| 9 | 14-Aug-09 | MidFirst Bank                       | Community Bank of Arizona              | Phoenix, AZ             | Private                                 |
|   | 14-Aug-09 | MidFirst Bank                       | Union Bank, National Association       | Gilbert, AZ             | Private                                 |
| 9 | 14-Aug-09 | Branch Banking & Trust Company      | Colonial Bank                          | Montgomery, AL          | BBT – BB&T Corp.                        |
|   | 14-Aug-09 | PNC Bank, N.A.                      | Dwelling House Savings and Loan Assoc. | Pittsburgh, PA          | PNC – PNC Financial Services Group Inc. |

Table 1 (cont.). US bank acquisitions

|   | Date      | Acquiring bank                        | Acquired bank                          | Location of acquisition | Ticker symbol of acquiring bank        |
|---|-----------|---------------------------------------|--|-------------------------|--|
| 9 | 7-Aug-09  | Home Federal Bank                     | Community First Bank                   | Prineville, OR          | HFFC – HF Financial Corp.              |
| 9 | 7-Aug-09  | Steams Bank, N.A.                     | Community Nat. Bank of Sarasota County | Venice, FL              | FSTF.PK – First State Financial Corp.  |
| 9 | 7-Aug-09  | Steams Bank, N.A.                     | First State Bank                       | Sarasota, FL            | FSTF.PK – First State Financial Corp.  |
|   | 31-Jul-09 | United Central Bank                   | Mutual Bank                            | Harvey, IL              | CEBK – Central Bancorp Inc.            |
| 9 | 31-Jul-09 | Crown Bank                            | First BankAmericano                    | Elizabeth, NJ           | Private                                |
|   | 31-Jul-09 | First Financial Bank, N.A.            | Peoples Community Bank                 | West Chester, OH        | THFF – First Financial Corp.           |
| 1 | 31-Jul-09 | Stonegate Bank                        | Integrity Bank                         | Jupiter, FL             | SGBK.OB – Stonegate Bank               |
| 1 | 31-Jul-09 | Herring Bank                          | First State Bank of Altus              | Altus, OK               | Private                                |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of Jones County          | Gray, GA                | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of Houston County        | Perry, GA               | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of Bibb County           | Macon, GA               | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of North Metro           | Woodstock, GA           | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of North Fulton          | Alpharetta, GA          | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | State Bank and Trust Company          | Security Bank of Gwinnett County       | Suwanee, GA             | SBKQ.PK – Security Bank Corp.          |
| 1 | 24-Jul-09 | Evans Bank                            | Waterford Village Bank                 | Williamsville, NY       | EVBN – Evans Bancorp, Inc.             |
| 1 | 17-Jul-09 | First Citizens Bank & Trust Company   | Temecula Valley Bank                   | Temecula, CA            | FCNCA – First Citizens Bancshares Inc. |
| 1 | 17-Jul-09 | California Bank & Trust               | Vineyard Bank                          | Rancho Cucamonga, CA    | ZION – Zions Bancorporations           |
| 1 | 17-Jul-09 | Alerus Financial, N.A.                | BankFirst                              | Sioux Falls, SD         | ALRS.PK – Alerus Financial Corp.       |
| 1 | 17-Jul-09 | First American Bank and Trust Co.     | First Piedmont Bank                    | Winder, GA              | Private                                |
| 1 | 10-Jul-09 | Central Bank & Trust                  | Bank of Wyoming                        | Thermopolis, WY         | Private                                |
| 1 | 2-Jul-09  | The PrivateBank and Trust Company     | Founders Bank                          | Worth, IL               | PVTB – PrivateBancorp, Inc.            |
| 1 | 2-Jul-09  | State Bank of Texas                   | Millennium State Bank of Texas         | Dallas, TX              | Private                                |
| 1 | 2-Jul-09  | First Financial Bank, N.A.            | First National Bank of Danville        | Danville, IL            | THFF – First Financial Corp.           |
| 1 | 2-Jul-09  | Galena State Bank and Trust Co.       | Elizabeth State Bank                   | Elizabeth, IL           | HTFL – Heartland Financial USA Inc.    |
| 1 | 2-Jul-09  | The Harvard State Bank                | Rock River Bank                        | Oregon, IL              | Private                                |
| 1 | 2-Jul-09  | The First National Bank of Beardstown | First State Bank of Winchester         | Winchester, IL          | Private                                |
| 1 | 2-Jul-09  | State Bank of Lincoln                 | John Warner Bank                       | Clinton, IL             | Private                                |
| 1 | 26-Jun-09 | Wilshire State Bank                   | Mirae Bank                             | Los Angeles, CA         | WIBC – Wilshire Bancorp Inc.           |
| 1 | 26-Jun-09 | Sunwest Bank                          | MetroPacific Bank                      | Irvine, CA              | SWBC.OB – Sunwest Bank CA              |
| 1 | 26-Jun-09 | Steams Bank, N.A.                     | Horizon Bank                           | Pine City, MN           | FSTF.PK – First State Financial Corp.  |
| 1 | 26-Jun-09 | CharterBank                           | Neighborhood Community Bank            | Newnan, GA              | CHFN.OB – Charter Financial Corp.      |
| 1 | 26-Jun-09 | FDIC                                  | Community Bank of West Georgia         | Villa Rica, GA          | N/A                                    |
| 1 | 19-Jun-09 | Bank of Kansas                        | First National Bank of Anthony         | Anthony, KS             | OKSB – Southwest Bankcorp Inc.         |
| 1 | 19-Jun-09 | First Bank                            | Cooperative Bank                       | Wilmington, NC          | COOPQ.PK – Coop. Bankshares(nd)        |
| 1 | 19-Jun-09 | United Community Bank                 | Southern Community Bank                | Fayetteville, GA        | UCBI – United Community Banks, Inc.    |
| 1 | 5-Jun-09  | Republic Bank of Chicago              | Bank of Lincolnwood                    | Lincolnwood, IL         | Private                                |
| 1 | 22-May-09 | Morton Community Bank                 | Citizens National Bank                 | Macomb, IL              | Private                                |
| 1 | 22-May-09 | Midland States Bank                   | Strategic Capital Bank                 | Champaign, IL           | Private                                |
| 1 | 21-May-09 | BankUnited                            | BankUnited, FSB                        | Coral Gables, FL        | BKUNQ.PK – BankUnited Fin. Corp.(nd)   |
| 1 | 8-May-09  | Kitsap Bank                           | Westsound Bank                         | Bremerton, WA           | WSFGQ.PK – WSB Fin.Group(no data)      |
|   | 1-May-09  | Cache Valley Bank                     | America West Bank                      | Layton, UT              | Private                                |
|   | 1-May-09  | North Jersey Community Bank           | Citizens Community Bank                | Ridgewood, NJ           | Private                                |
| 1 | 1-May-09  | Bridge Bank (FDIC)                    | Silverton Bank, NA                     | Atlanta, GA             | N/A                                    |
|   | 24-Apr-09 | U.S. Bank, National Association       | First Bank of Idaho                    | Ketchum, ID             | USB – US Bancorp                       |
| 1 | 24-Apr-09 | FDIC                                  | First Bank of Beverly Hills            | Calabasas, CA           | N/A                                    |
|   | 24-Apr-09 | Level One Bank                        | Michigan Heritage Bank                 | Farmington Hills, MI    | Private                                |
| 1 | 24-Apr-09 | Bank of North Georgia                 | American Southern Bank                 | Kennesaw, GA            | SNV – Synovus Financial Corp.          |
| 1 | 17-Apr-09 | Nevada State Bank                     | Great Basin Bank of Nevada             | Elko, NV                | ZION – Zions Bancorporations           |
| 1 | 17-Apr-09 | Metcalf Bank                          | American Sterling Bank                 | Sugar Creek, MO         | CBCY.PK – Central Bancorp. (no data)   |
| 1 | 10-Apr-09 | Deposit Insurance National Bank       | New Frontier Bank                      | Greeley, CO             | N/A                                    |
| 1 | 10-Apr-09 | First Federal Savings and Loan Assoc. | Cape Fear Bank                         | Wilmington, NC          | FFCH – First Financial Holdings Inc.   |
|   | 27-Mar-09 | SunTrust Bank                         | Omni National Bank                     | Atlanta, GA             | STI – SunTrust Banks, Inc.             |
| 1 | 20-Mar-09 | Great Southern Bank                   | TeamBank, NA                           | Paola, KS               | GSBC – Great Southern Bancorp, Inc.    |



Table 1 (cont.). US bank acquisitions

|   | Date      | Acquiring bank                     | Acquired bank                         | Location of acquisition | Ticker symbol of acquiring bank        |
|---|-----------|------------------------------------|---------------------------------------|-------------------------|--|
| 1 | 20-Mar-09 | Herring Bank                       | Colorado National Bank                | Colorado Springs, CO    | Private                                |
| 1 | 20-Mar-09 | FDIC                               | FirstCity Bank                        | Stockbridge, GA         | N/A                                    |
| 1 | 6-Mar-09  | Northeast Georgia Bank             | Freedom Bank of Georgia               | Commerce, GA            | Private                                |
| 1 | 27-Feb-09 | Bank of Nevada                     | Security Savings Bank                 | Henderson, NV           | WAL – Western Alliance Bancorp.        |
| 1 | 27-Feb-09 | MB Financial Bank                  | Heritage Community Bank               | Glenwood, IL            | MBFI – MB Financial Inc.               |
| 1 | 20-Feb-09 | Citizens Bank                      | Silver Falls Bank                     | Silverton, OR           | CVBF – CVB Financial Corp              |
| 1 | 13-Feb-09 | Washington Trust Bank of Spokane   | Pinnacle Bank of Oregon               | Beaverton, OR           | Private                                |
| 1 | 13-Feb-09 | The Carlinville National Bank      | Corn Belt Bank & Trust Co.            | Pittsfield, IL          | Private                                |
| 1 | 13-Feb-09 | TIB Bank                           | Riverside Bank of the Gulf Coast      | Cape Coral, FL          | TIBB – TIB Financial Corp.             |
| 1 | 13-Feb-09 | Heritage Bank                      | Sherman County Bank                   | Loup City, NE           | HFWA – Heritage Financial Corp.        |
| 1 | 6-Feb-09  | Westamerica Bank                   | County Bank                           | Merced, CA              | WABC – Westamerica Bancorp.            |
| 1 | 6-Feb-09  | California Bank & Trust            | Alliance Bank                         | Culver City, CA         | ZION – Zions Bancorporations           |
| 1 | 6-Feb-09  | Regions Bank                       | FirstBank Financial Services          | McDonough, GA           | RF – Regions Financial Corp.           |
| 1 | 30-Jan-09 | CenterState Bank of Florida        | Ocala National Bank                   | Ocala, FL               | CSFL – CenterState Banks, Inc.         |
| 1 | 30-Jan-09 | Bank of Essex                      | Suburban FSB                          | Crofton, MD             | BSXT – BOE Fin.Services of VA(no data) |
| 1 | 30-Jan-09 | FDIC                               | MagnetBank                            | Salt Lake City, UT      | N/A                                    |
| 1 | 23-Jan-09 | First California Bank              | 1st Centennial Bank                   | Redlands, CA            | FCAL – First CA Fin. Group, Inc.       |
|   | 16-Jan-09 | Umpqua Bank                        | Bank of Clark County                  | Vancouver, WA           | UMPQ – Umpqua Holdings Corp.           |
|   | 16-Jan-09 | Republic Bank                      | National Bank of Commerce             | Berkeley, IL            | Private                                |
| 1 | 12-Dec-08 | The Pecos County State Bank        | Sanderson State Bank                  | Sanderson, TX           | Private                                |
|   | 12-Dec-08 | Branch Banking & Trust Company     | Haven Trust Bank                      | Duluth, GA              | BBT – BB&T Corp.                       |
| 1 | 5-Dec-08  | United Bank                        | First Georgia Community Bank          | Jackson, GA             | Private                                |
| 1 | 21-Nov-08 | US Bank, National Association      | PFF Bank & Trust                      | Pomona, CA              | USB – US Bancorp                       |
| 1 | 21-Nov-08 | US Bank, National Association      | Downey Savings & Loan                 | Newport Beach, CA       | USB – US Bancorp                       |
| 1 | 21-Nov-08 | Bank of Essex                      | Community Bank                        | Loganville, GA          | BSXT – BOE Fin.Services of VA(no data) |
| 1 | 7-Nov-08  | Pacific Western Bank               | Security Pacific Bank                 | Los Angeles, CA         | PACW – PacWest Bancorp.                |
| 1 | 7-Nov-08  | Prosperity Bank                    | Franklin Bank, SSB                    | Houston, TX             | PRSP – Prosperity Bancshares Inc.      |
| 1 | 31-Oct-08 | Fifth Third Bank                   | Freedom Bank                          | Bradenton, FL           | FITB – Fifth Third Bancorp.            |
| 1 | 24-Oct-08 | Stearns Bank, N.A.                 | Alpha Bank & Trust                    | Alpharetta, GA          | FSTF.PK – First State Financial Corp.  |
| 1 | 10-Oct-08 | National Bank                      | Meridian Bank                         | Eldred, IL              | Private                                |
| 1 | 10-Oct-08 | Monroe Bank & Trust                | Main Street Bank                      | Northville, MI          | MBTF – MBT Financial Corp.             |
| 1 | 25-Sep-08 | JP Morgan Chase Bank               | Washington Mutual Bank                | Henderson, NV           | JPM – JPMorgan Chase & Co.             |
| 1 | 19-Sep-08 | The Citizens Savings Bank          | Ameribank                             | Northfork, WV           | RBS – Royal Bank of Scotland Group     |
| 1 | 5-Sep-08  | Nevada State Bank                  | Silver State Bank                     | Henderson, NV           | ZION – Zions Bancorporations           |
| 1 | 29-Aug-08 | Regions Bank                       | Integrity Bank                        | Alpharetta, GA          | RF – Regions Financial Corp.           |
| 1 | 22-Aug-08 | Citizens Bank & Trust              | Columbian Bank & Trust                | Topeka, KS              | Private                                |
| 1 | 1-Aug-08  | SunTrust Bank                      | First Priority Bank                   | Bradenton, FL           | STI – SunTrust Banks, Inc.             |
| 1 | 25-Jul-08 | Mutual of Omaha Bank               | First Heritage Bank, NA               | Newport Beach, CA       | Private                                |
|   | 25-Jul-08 | Mutual of Omaha Bank               | First National Bank of Nevada         | Reno, NV                | Private                                |
| 1 | 11-Jul-08 | OneWest Bank (2009)                | IndyMac Bank                          | Pasadena, CA            | Private                                |
|   | 30-May-08 | First International Bank and Trust | First Integrity Bank, NA              | Staples, MN             | Private                                |
| 1 | 9-May-08  | Pulaski Bank                       | ANB Financial, NA                     | Bentonville, AR         | PULB – Pulaski Financial Corp.         |
| 1 | 7-Mar-08  | Security Bank of Southwest MO      | Hume Bank                             | Hume, MO                | Private                                |
| 1 | 25-Jan-08 | Liberty Bank and Trust Co.         | Douglass National Bank                | Kansas City, MO         | Private                                |
|   | 4-Oct-07  | The Citizens Banking Co.           | Miami Valley Bank                     | Lakeview, OH            | FCZA – First Citizens Banc Corp.       |
| 1 | 28-Sep-07 | ING DIRECT                         | NetBank                               | Alpharetta, GA          | ING – ING Group, N.V.                  |
| 1 | 2-Feb-07  | Allegheny Valley Bank              | Metropolitan Savings Bank             | Pittsburgh, PA          | AVLY.OB – Allegheny Valley Bancorp.    |
| 1 | 25-Jun-04 | Far West Bank                      | Bank of Ephraim                       | Ephraim, UT             | AWBC – American West Bancorp.          |
| 1 | 19-Mar-04 | Union State Bank                   | Reliance Bank                         | White Plains, NY        | Private                                |
| 1 | 12-Mar-04 | Hancock Bank of Florida            | Guaranty National Bank of Tallahassee | Tallahassee, FL         | HBHC – Hancock Holding Co.             |
| 1 | 14-Feb-04 | FDIC                               | Dollar Savings Bank                   | Newark, NJ              | N/A                                    |



## Appendix B. European bank acquisitions used in this study

Table 2. European bank acquisitions

| Date      | Acquiring company             | Acquired bank                     | Location of acquisition | Ticker symbol of acquiring bank          |
|-----------|-------------------------------|-----------------------------------|-------------------------|--|
| 11-Jan-10 | Santander UK                  | Abbey National Bank               | London, England         | STD – Grupo Santander                    |
| 19-Oct-09 | The administration (govt.)    | Hypo Real Estate                  | Munich, Germany         | n/a                                      |
| 19-Oct-09 | Belarusian Industrial Bank    | TechnoBank                        | Belarus                 | Private                                  |
| 1-May-09  | Deutsche Bank                 | Global Agency Securities Lending  | Frankfurt, Germany      | DB – Deutsche Bank                       |
| 16-Apr-09 | Groupe Banque Populaire       | Groupe Caisse d'Epargne           | Paris, France           | BCP – Banque Centrale Populaire          |
| 1-Mar-09  | Icelandic regulators          | Straumur Investment Bank          | Reykjavik, Iceland      | n/a                                      |
| 26-Jan-09 | Ulster Bank                   | First Active Bank                 | Belfast, Ireland        | Private                                  |
| 26-Jan-09 | Credit Agricole               | Societe Generale                  | Paris, France           | ACA – Credit Agricole S.A.               |
| 26-Jan-09 | Vnesheconombank (govt.)       | Malev                             | Russia                  | n/a                                      |
| 21-Jan-09 | Co-Operative Bank             | Brittania                         | Manchester, England     | Private                                  |
| 30-Nov-08 | The administration (govt.)    | London Scottish Bank              | Manchester, England     | n/a                                      |
| 19-Oct-08 | Bundesbank (govt.)            | Hypo Real Estate                  | Munich, Germany         | n/a                                      |
| 7-Oct-08  | The administration (govt.)    | Glitner Bank                      | Reykjavik, Iceland      | n/a                                      |
| 7-Oct-08  | The administration (govt.)    | Landsbanki                        | Reykjavik, Iceland      | n/a                                      |
| 7-Oct-08  | The administration (govt.)    | Kaupthing Bank                    | Reykjavik, Iceland      | n/a                                      |
| 1-Oct-08  | Santander                     | Alliance & Leister                | Madrid, Spain           | STD – Grupo Santander                    |
| 28-Sep-08 | Santander                     | Bradford and Bingley              | Madrid, Spain           | STD – Grupo Santander                    |
| 17-Sep-08 | Barclays                      | Lehman Brothers Investments       | London, England         | BARC.L – Barclays                        |
| 17-Sep-08 | Llyods TSB                    | HBOS                              | Edinburgh, Scotland     | LYG-Llyods Banking Group                 |
| 31-Aug-08 | Commerzbank                   | Dresdner                          | Hamburg, Germany        | CBK – Commerzbank Aktiengesellschaft Co. |
| 11-Jul-08 | Credit Mutuel                 | Citibank Germany                  | Paris, France           | Private                                  |
| 2-Jul-08  | Deutsche Bank                 | Parts Of ABN Amro Netherlands     | Frankfurt, Germany      | DB – Deutsche Bank                       |
| 26-Jun-08 | Ameriabank                    | Armimpexbank                      | Armenia                 | Private                                  |
| 28-Apr-08 | Deutsche Bank                 | Taiwan Asset Mgmt. Acquisition    | Frankfurt, Germany      | DB – Deutsche Bank                       |
| 17-Feb-08 | The administration (govt.)    | Northern Rock Bank                | Tyne, UK                | n/a                                      |
| 13-Dec-07 | Landesbank Baden-Wuerttemberg | Sachsen LB                        | Hamburg, Germany        | LBBW – Landesbank Baden-Wuerttemberg     |
| 1-Oct-07  | Hypo Real Estate              | Depfa Bank                        | Berlin, Germany         | n/a                                      |
| 2-Nov-07  | Royal Bank of Scotland        | ABN Amro Bank                     | Edinburgh, Scotland     | RBS – Royal Bank of Scotland Group       |
| 27-Apr-07 | UniCredit Bank                | Bulbank                           | Bulgaria                | UCG – UniCredit Group                    |
| 27-Apr-07 | UniCredit Bank                | HVB Bank Biochim                  | Bulgaria                | UCG – UniCredit Group                    |
| 27-Apr-07 | UniCredit Bank                | Hebros Bank                       | Bulgaria                | UCG – UniCredit Group                    |
| 3-Jan-07  | Deutsche Bank                 | MortgageIT Holdings               | Frankfurt, Germany      | DB – Deutsche Bank                       |
| 1-Jan-07  | Intesa Sanpaolo Bank Albania  | American Bank of Albania          | Turin, Italy            | ISP – Intesa Sanpaolo                    |
| 1-Jan-07  | Banco Popolare                | Banco Popolare di Verona e Novara | Verona, Italy           | BP – Banco Popolare                      |
| 1-Jan-07  | Banco Popolare                | Banca Popolare Italiana           | Verona, Italy           | BP – Banco Popolare                      |
| 17-Nov-06 | Groupe Banque Populaire       | IXIS CIB                          | Paris, France           | BCP – Banque Centrale Populaire          |
| 1-Jan-06  | EuroBank                      | Nacionalna štedionica             | Athens, Greece          | EUROB – EuroBank                         |
| 1-Jan-06  | EuroBank                      | Tekfenbank                        | Athens, Greece          | EUROB – EuroBank                         |
| 1-Jan-06  | EuroBank                      | Universal Bank in Ukraine         | Athens, Greece          | EUROB – EuroBank                         |
| 1-Jan-06  | EuroBank                      | DZI Bank in Bulgaria              | Athens, Greece          | EUROB – EuroBank                         |
| 8-Dec-05  | Danske Bank                   | National Irish Bank               | Copenhagen, Denmark     | DANSKE – Danske Bank Group               |