

**VALUE CREATION IN U.S. BANK MERGERS
BEFORE AND AFTER THE GLOBAL FINANCIAL CRISIS**

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ABSTRACT

VALUE CREATION IN U.S. BANK MERGERS BEFORE AND AFTER THE GLOBAL FINANCIAL CRISIS

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This thesis examines short-term value creation of 214 mergers and acquisitions (M&As) that were announced between 2000 and 2014 in U.S. banking industry. In particular, the merger premiums before and after the Global Financial Crisis (2008-2009) are examined. We find that, on average, the target banks' cumulative abnormal returns (CARs) are 23.64% while the bidders' CARs are -1.24% around the announcement date with a 3-day (+1,-1) event window over the sample period both being statistically significant. We also find statistically significant positive CARs of 2.42% for the combined entity of the bidder and target banks within the same event window. Our findings point out that M&As are value-creating events for the combined entity due to created synergies between bidders and targets; however, bidders may sometimes overpay to obtain these gains. The CARs for the M&As that cash is used as a medium of payment are found to be higher than stock only-financed acquisitions. Our findings reveal that M&As taking place before the Global Financial Crisis period (2000-2007) realize lower gains for targets, bidders and combined compared to those after the Global Financial Crisis periods (2010-2014) possibly due to stronger banks surviving after the crisis and more prudent and reliable market environment after the Dodd-Frank Act. For target and bidder banks, the CARs decrease as the relative size of the target to the bidder bank increase. Finally, we demonstrate that instate (focusing) mergers resulted in higher CARs than interstate (diversifying) mergers for the full sample period.

Keywords: Banking, mergers and acquisitions, U.S. Banking industry, event-study analysis, global financial crisis, merger premiums, cumulative abnormal return.

ÖZET

KÜRESEL FİNANSAL KRİZ ÖNCESİ VE SONRASI AMERİKAN BANKA BİRLEŞMELERİNDE DEĞER YARATMALARI

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Bu tez, 2000-2014 yılları arasında 214 Amerikan bankasının satın alma ve birleşmelerinin (SAB) kısa dönem değer yaratımlarını incelemektedir. Bu kapsamda, özellikle Küresel Finansal Kriz (2008-2009) öncesindeki ve sonrasındaki SAB'ların primleri incelenmektedir. Bütün periyotta, 3-günlük (-1, +1) olay penceresinde hedef bankaların Kümülatif Anormal Getirileri (KAG) ortalama +%23.64 olarak gerçekleşirken, satın alan bankaların KAG'ları ortalama -%1.24 her ikisi de istatistiksel olarak anlamlı gerçekleşmiştir. Aynı olay penceresinde, satın alan ve hedef bankaların toplam KAG'ları ise istatistiksel olarak anlamlı ve +%2.42'dir. Bizim bulgularımıza göre, SAB'ler, satın alan ve hedef firma arasındaki sinerjiden dolayı, toplamda değer yaratmaktadırlar ancak satın alan firmalar olması gerekenden daha fazla ödeme yapabilmektedirler. SAB'lerin finansmanında nakit kullanıldığındaki hedef bankaların KAG'ları yalnızca hisse senedi kullanılan anlaşmalardan daha fazladır. Bizim bulgularımıza göre, Küresel Finansal Kriz öncesindeki (2000-2007) gerek hedef gerekse satın alan bankaların KAG'ları Küresel Finansal Kriz sonrasındaki zaman diliminden (2010-2014) daha az gerçekleşmiştir; bunun belki de en büyük nedeni daha güçlü bankaların krizden sonra ayakta kalmaları ve Dodd_Frank yasasından sonra daha temkinli ve güvenilir bir piyasanın oluşması gösterilebilir. Hedef bankalar ve satın alan bankalar için, hedef bankanın satın alan bankaya oranı olan göreceli boyutu arttıkça KAG azalmaktadır. Nihayet, coğrafi odaklı SAB sinerji ile beraber daha çok değer yaratmaktadır; şöyle ki, aynı eyaletteki SAB'lar farklı eyaletlerdeki SAB'lara göre bütün periyotta yüksek KAG'lar üretmiştir.

Anahtar Kelimeler: Bankacılık, satın alma ve birleşmeler, Amerikan bankacılık sektörü, standart olay çalışması, küresel finansal kriz, birleşme primleri, kümülatif anormal getiri.



To My Family...

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LIST OF ABBREVIATIONS

AR	Abnormal Return
BHC	Bank Holding Company
CAR	Cumulative Abnormal Return
CRISP	Center for Research in Security Prices
FDIC	Federal Deposit of Insurance
FRB	The Federal Reserve Board
M&As	Mergers and Acquisitions
OLS	Ordinary Least Squares
SEC	U.S. Securities and Exchange Commission
S&P	Standard & Poor's
TSX	Toronto Stock Exchange
U.S.	United States of America
WACC	Weighted Average Cost of Capital

1. INTRODUCTION

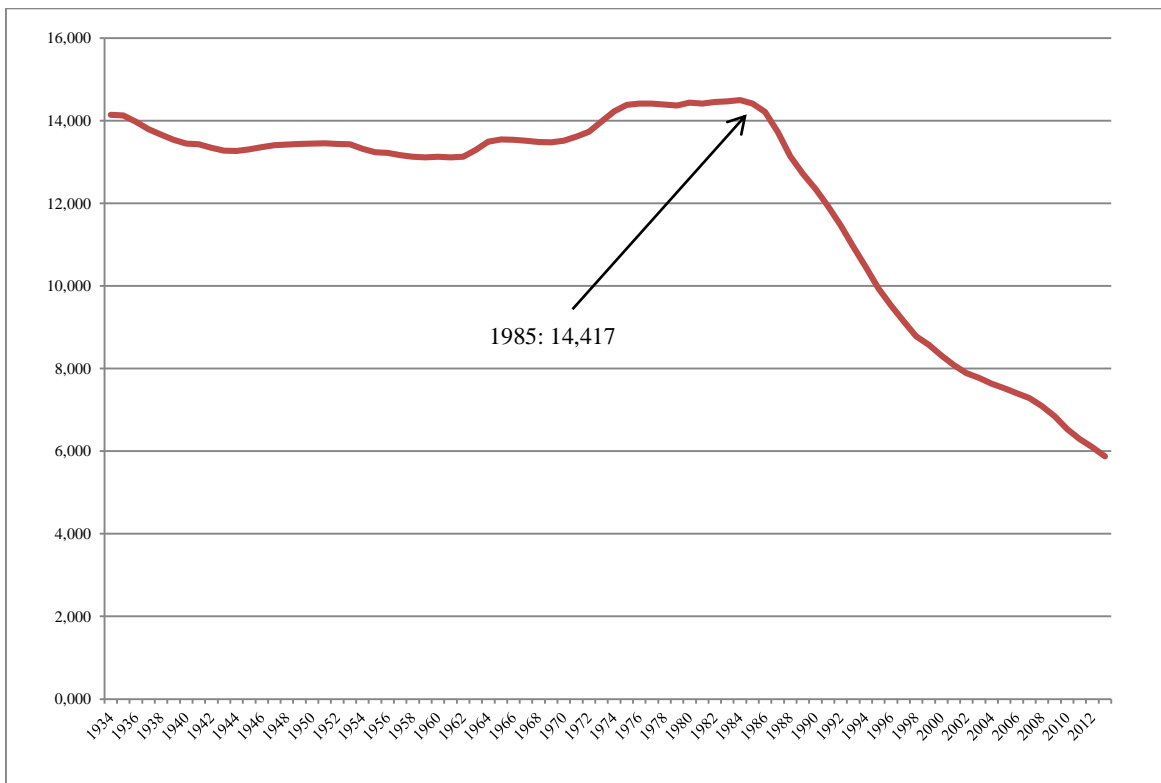
Over the past three decades, U.S. Banking Industry has experienced a phenomenal consolidation, thanks to mergers and acquisitions by financial institutions. During this time interval, the number U.S. Commercial Banks has declined from 14,417 to 5,501 as presented in Figure 1.

Mergers and Acquisitions (M&As) have been regarded as an important growth strategy by many firms and corporations including financial institutions. According to the finance literature, the primary motivation for consolidation by the bidder firms is maximizing shareholder value. However, not all the motives are for value maximization such as the role of managers, the role of government, technological changes, etc.

Although many excellent research studies have been performed, many papers have been published and many new issues have yet to be studied on M&As in banking industry we do not fully understand the exact motives behind M&As and do not know whether or not they create value for bidders, targets or the combined deal (Roll, 1986). We probably argue that the motives behind M&As and the value creation following an M&A announcement vary depending on the time, location, market cycle and etc.

Consolidation of U.S. FDIC-insured commercial banks has begun afterwards the number of commercial banks in the U.S. peaked in mid-1980s. This consolidation trend has continued without an interruption - including the Global Financial Crisis - up to date. Industry consolidation occurred primarily as a result of change in legal framework, financial and technological innovation that altered the optimal production functions of financial firms. Technological advances revolutionized back-office processing, front-office delivery systems, and payments systems (Berger 2003; Humphrey et al. 2006). This consolidation has continued during the Global Financial Crisis as the Crisis led to many troubled financial institutions including the commercial banks in the U.S. to be bought out by another bank or merge with another financial institution.

As can be seen from the Figure 1, the number of FDIC insured commercial banks has started decreasing starting from 1985 and still to come down more as opposed to the steady increase in branches¹ and offices of FDIC insured commercial banks. This is the biggest proof of a consolidation period in the last 30 years or so. There might be many factors inducing this consolidation but it is mostly due to M&A transactions taking place in the U.S. Banking Industry.



Source: Federal Deposit Insurance Corporation

Figure 1- Number of Institutions: FDIC-Insured Commercial Banks (1934-2014)

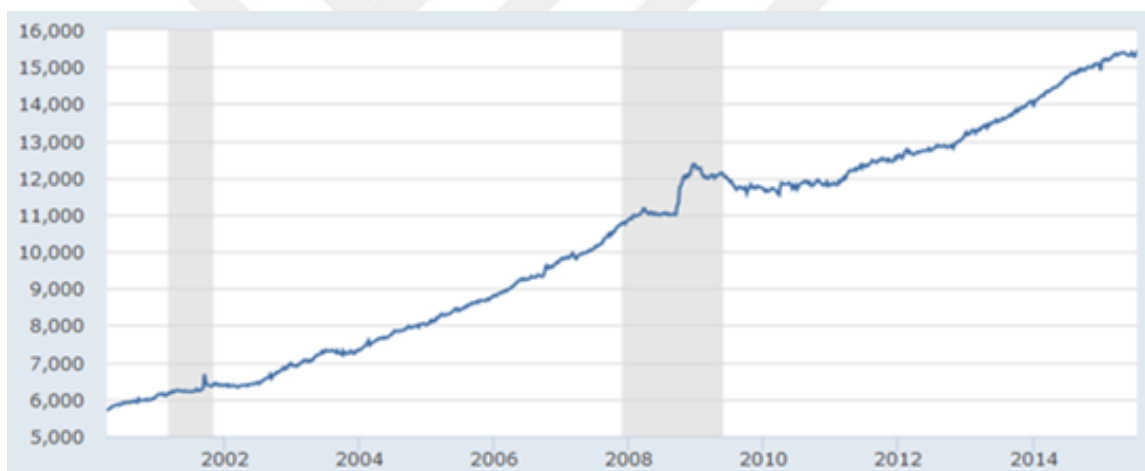
The U.S. commercial banks has consolidated significantly over the last 30 years. Number of commercial banks in the U.S. was at historical levels of 14,417 in 1985. This number has steadily decreased over the last three decades to 12,347 levels in 1990, 8,315 levels in 2000, and 7,088 levels in 2008, 6,292 levels in 2011 and is 5,501 levels as of March 31, 2015.

¹ For the detailed data between 1934 and 2014, please see Table 22: Number of Unit Institutions and Institutions with Branches: FDIC-Insured Commercial Banks.

From 1990 to March 31, 2015, a total of 8,910 commercial bank mergers and 1,621 savings institutions mergers have been occurred in the U.S.²

While total assets held by U.S. Commercial Banks rose from US\$5,983 billions in 2000/2Q to US\$14,033 billions, in 2015/1Q, total assets held by U.S. Savings institutions decreased from US\$1,179 billions in 2000/2Q to US\$1,041 billions in 2015/1Q³.

Consolidation of U.S. Commercial Banks in the number of institutions has been reflected at the largest ten U.S. Commercial Banks' Balance Sheets. While assets held by the largest ten U.S. Commercial Banks was US\$2.4 trillions in 2001/1Q, which was 41% of assets held by total U.S. Commercial Banks, assets held by the largest ten U.S. Commercial Banks increased to US\$8.4 trillions in 2015/1Q which is 61% of assets held by U.S. Commercial Banks⁴.



Source: Board of Governors of the Federal Reserve System (US)

Figure 2- Total Assets, All Commercial Banks (in Billions of \$US)

Figure 2 represents the total assets of U.S. Commercial Banks. Shaded areas in the graph represent the two crises in 2001 and 2008-2009. As can be observed from the Figure 2, despite the short-terms disruptions due to the crises, overall trend continues upwards by the

² FDIC Historical Trends, Statistics at a Glance; <https://www.fdic.gov/bank/statistical/stats/>

³ Latest Industry Trends, Statistics at a Glance; <https://www.fdic.gov/bank/statistical/stats/>

⁴ Large Commercial Banks, Federal Reserve Statistical Release; <http://www.federalreserve.gov/releases.htm>

years meaning that the financial system in U.S. has been growing in line with the overall economy.

BANK NAME	BANK HOLDING COMPANY	ASSETS
BANK OF AMERICA	BANK OF AMER CORP	553,509
CHASE MANHATTAN BK	JP MORGAN CHASE & CO	400,623
CITIBANK NA	CITIGROUP	395,869
FIRST UNION NB	FIRST UNION CORP	232,608
MORGAN GUARANTY TC OF NY	JP MORGAN CHASE & CO	214,462
FLEET NA BK	FLEETBOSTON FNCL CORP	200,887
BANK ONE NA	BANK ONE CORP	141,439
WELLS FARGO BK NA	WELLS FARGO & CO	124,137
SUNTRUST BANK	SUNTRUST BANK	100,443
HSBC BK USA	HSBC NORTH AMER	81,826
Total Assets of Largest 10 U.S. Commercial Banks		2,445,803
Total Assets of U.S. Commercial Banks		5,935,229
Total Assets of Largest 10 Commercial Banks / Total Assets of Commercial Banks		41,2%

Source: Compiled from Federal Reserve Statistical Release

Figure 3- Assets Held By Top 10 U.S. Commercial, March 31, 2001 Banks (Mil \$)

BANK NAME	BANK HOLDING COMPANY	ASSETS
JPMORGAN CHASE BK NA	JPMORGAN CHASE & CO	2,096,114
BANK OF AMER NA	BANK OF AMER CORP	1,599,746
WELLS FARGO BK NA	WELLS FARGO & CO	1,571,389
CITIBANK NA	CITIGROUP	1,335,871
U S BK NA	U S BC	405,363
PNC BK NA	PNC FNCL SVC GROUP	340,231
BANK OF NY MELLON	BANK OF NY MELLON CORP	316,699
STATE STREET B&TC	STATE STREET CORP	274,919
CAPITAL ONE NA	CAPITAL ONE FC	253,202
TD BK NA	TD US P & C HOLD ULC	234,389
Total Assets of Largest 10 U.S. Commercial Banks		8,427,923
Total Assets of U.S. Commercial Banks		14,033,541
Total Assets of Largest 10 Commercial Banks / Total Assets of Commercial Banks		61,2%

Source: Compiled from Federal Reserve Statistical Release

Figure 4- Assets Held By Top 10 U.S. Commercial Banks, March 31, 2015 (Mil \$)

Above two figures (Figure 3 and Figure 4) exhibit the total assets held by U.S. Commercial Banks and the largest ten U.S. Commercial Banks in terms of asset held. First thing to notice, during 14 years, total assets held by U.S. Commercial Banks rose from USD 5.9 trillions to USD14 trillions, which corresponds to 136% increase in total assets. In the same period, total assets of largest ten U.S. Commercial Banks rose from USD2.4 trillions to USD7.8 trillions, which corresponds to 245% increase in total assets. From 2001 to 2015, the percentage of total assets held by ten largest U.S. Banks to total assets of U.S. Commercial Banks increased from 41% to 61%, translating to approximately a hefty 50% increase.

Another data worth to look at is that the number of Insured U.S.-Chartered Commercial Banks that have consolidated assets of equal to or more than \$300 million is 1,784 as of 31 March of 2015 while the number of Insured U.S.-Chartered Commercial Banks that have consolidated assets of equal to or more than \$100 million was 3,431 as of 31 March of 2001. As we can see the number of institutions decreased by 50% while the assets held by these institutions tripled.

Comparing these two data sets, one in 2001 and the other in 2015, another noteworthy point is that four U.S. Commercial Banks (JPMorgan Chase & Co, Bank Of America Corp, Wells Fargo & Co and Citigroup) reserved their positions in the same top ten lists from 2001 to 2015.

In our opinion, this long-run consolidation period could have not been sustained without a legislative support. In that sense, The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 could be one of major catalysts behind intense U.S. Bank M&A activity, which has been in place since 1985.

The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 removed most of restrictions on interstate bank M&As and granted interstate branching possible for the first time in seventy years. These restrictions were mostly the result of the McFadden Act in 1927 and other related laws acted to concentrate banking activities in the nation so as to be adequately supervised⁵. With this new Act;

⁵ Prior to the Riegle-Neal Act, the Douglas Amendment to the BHC of 1956 was in place and prohibited interstate acquisition of a bank by a BHC without any authorized State law where the Bank was located.

- Bank Holding Companies (BHCs) with enough capital and management capacity would be allowed to acquire any bank in any State nationwide.
- BHCs operating different states could be merged into a single branch network.
- A BHC could not control more than 10% of the Country's total deposits or 30% of any State's total deposit should a state does not have a deposit cap.
- States would choose to opt-out- of the new Act's branching provisions.

The Financial Services Modernization Act of 1999 also repealed the legislation dating back to the Banking Act of 1933, which was implemented after the Great Depression, to prevent banks, securities firms, and insurance companies from merging. The Financial Services Modernization Act of 1999 accelerated the trend toward huge financial services companies typified by the 1998 Citicorp-Travelers merger, which recorded as the largest corporate merger ever, constituting the world's biggest financial-services company and offering banking, insurance and investment services in 100 countries⁶.

In response to the Global Financial Crisis, the Dodd-Frank Wall Street Reform and Consumer Protection Act were approved on July 21, 2010 by President Obama. The Act boosts the financial stability of the United States by improving accountability and transparency in the financial system and ceases “too big to fail” perception, to protect the American citizens by ending bailouts, from abusive financial services practices, and for other perverted purposes.

The Dodd-Frank Wall Street Reform and Consumer Protection Act introduced significant changes regarding the surveillance and supervision of financial institutions including systemically important large financial companies or so called “too big to fail financial institutions”. The act introduces more rigorous prudent standards such as more vigorous requirements for capital, M&As, leverage, risk management, and stress testing on bank

⁶ The merged entity could be the largest financial services company with \$698 billion of assets.

holding companies and other financial institutions whose breakdown could jeopardize the stability of the US financial system. The Act limits the size of any bank or nonbanking financial company. In terms of a merger or acquisition, the Federal Reserve Board (FRB) is prohibited from approving a transaction involving a financial company should the total consolidated liabilities of combined company after the consolidation would exceed 10% of the accumulated consolidated liabilities of all financial companies in the United States as of the end of the preceding calendar year.

With the globalization and lax regulation, commercial banks all over the world have moved well beyond their traditional role of accepting deposits and giving out loans into investment banks, insurance companies, individual consumers, investment management and trading firms. Some researchers and academicians argue that granting banks to operate well beyond their traditional lines of business served to the breakdown in the Global Financial Markets in 2008 and 2009.

This study explores the short-term value creation of 214 M&A transactions that occurred during the 2000–2014 time periods in USA. We aim to test value creation of the mergers and acquisitions before and after the global financial crisis in U.S. commercial banks.

The data related to merger announcements were obtained from SNL Financial. The stock market return data for target and bidder banks along with SP500 index were retrieved from the Center for Research in Security Prices (CRISP) Database⁷.

We analyze the target, bidder and combined cumulative abnormal returns⁸ (CARs) computed using standard event study methodology and empirically examine the short-term stock price return to U.S. bank M&A announcements in order to measure the value creation of U.S. Bank mergers and acquisitions. Then, we attempt to explain why difference in stock price reactions to M&A deals exist. Specifically, we investigate

- (1) ‘cash + mix’ vs. ‘common stock only’ – financed transactions
- (2) instate (geographically focused) vs. interstate (geographically diversified) mergers, and

⁷ All the details about sample selection can be read on Data and Sample Selection section.

⁸ Abnormal return is the return to shareholders due to nonrecurring events that differs from what would have been predicted by the market model.

(3) relative size of bidder and target banks.

Finally, we explore whether the short-term market reaction of targets, bidders and combined to merger announcements has changed before and after the Global Financial Crisis to better understand the drivers and patterns of the abnormal returns.

The selection of the benchmark to measure normal returns is central to conduct the event study. In previous literature, S&P 500 Index is usually employed as a benchmark in computation of abnormal returns. To correctly measure the announcement impact of an M&A deal in banking industry, we need to control for confounding factors outside the banking industry. With this goal in mind, we employ the U.S. Banking Index⁹ alternative to S&P 500 Index as a benchmark. This approach may yield more accurate results relative to traditional approach since the returns of the banks subject to M&A deal are more correlated with banking index returns than S&P 500 Index returns, thus capturing the actual effect of the deal. In this respect, our research contributes to the current literature by introducing a new benchmark in computation of ARs.

Our research also contributes to the literature by examining the most recent merger deals including those occurred after the Global Financial Crisis. In that respect, we get to examine whether merger premiums have changed following the crisis and recent regulation in the financial markets such as Dodd-Frank Wall Street Reform and Consumer Protection Act.

There are many research papers published since the Global Financial Crisis, however; to our knowledge, there is no comprehensive study to examine the wealth effect of the U.S. Bank mergers from 2000 to 2014 comparing pre- and post-Global Financial Crisis. In this sense, our sample period is relatively large and comprehensive compared to earlier studies in relevant literature. For instance, Dunn, Intintoli and McNutt (2015) examined non-government assisted US commercial bank merger activity prior to and during the Global Financial Crisis covering only the period of 2004 to 2010. Thus, our study complements the previous research.

⁹ U.S: Banking index data, which is a capitalization-weighted index is obtained from Bloomberg.

For the full 2000-2014 sample period, our analysis reveals that using 3-day (-1,+1) event window, the abnormal returns to target banks are positive (23.64%) with 1% significance level, the returns to bidder banks are negative (-1,24%) with 5% significance level and the combined CARs are positive (2.42%) with 1% significance level, suggesting that even though the bidder shareholders seems to be penalized at the deal, the combined entities are able to create a significant positive value. Overall, our findings are in line with the rationale that bank mergers and acquisitions build stockholder value at the expense of bidder banks and the favor of target banks.

We also find strong evidence that means of financing in M&As deals is an important factor in determining merger premiums. Over the whole sample period, the average CARs to target banks are higher in 'cash involved'-financed transactions than the average CARs to target banks in 'common stock only'-financed transactions.

With respect to the geographic diversification, we have found evidence that geographically focused (instate) M&As achieved the highest CARs than interstate M&As before and after the Global Financial Analysis as well as for the whole sample period.

With respect to the relative size of target to bidder banks, our regression results indicate a negative correlation between the relative size and the CARs for targets and bidders, positive correlation between the relative size and the CARs for combined.

This paper is constructed as follows. The next section provides a review of the related literature about the M&A in banking space. The testable hypothesis is outlined in Section 3. Section 4 describes the data and sample selection process. The next section explains the empirical model and methodology. Empirical results are presented in section 6. Finally, the section 7 summarizes the findings and offer concluding remarks.

2. LITERATURE REVIEW

Many researchers and academicians have studied the announcement effects of M&A transactions in the U.S. Banking Industry over the last three decades, at the beginning of which, the consolidation in U.S. Banking Industry has also started.

2.1 Mergers and Acquisitions in Brief

M&As are considered to be a part of strategic management, corporate finance and corporate governance. M&As can be described as a type of restructuring of target and bidder firms in order to either create a new firm or merge under the bidder firm. In all circumstances, a new legal entity is being created following the merger. Deciding the transaction structure is important for both target and bidder firms and may be challenging as both firms usually have competing interests and different perspectives on the deal. In this respect, M&A transactions can practically be classified into five different categories in a way that the target firm is being acquired. These categories are merger agreement, tender offer, consolidation, management or leveraged buyouts and purchase of assets.

In a merger agreement, both target and bidder firms agree to merge and at the end of the transaction, target bank loses its existence and be a part of acquiring or bidder firm. In this method, the boards of directors of both firms initially agree to combine the firms and pursue the approval of the deal from the shareholders of both target and bidder firm. Usually, majorities (more than 50%) of shareholders of both firms approve the deal and merger takes place. The surviving entity or the bidder firm assumes all the assets, rights, and liabilities of the extinguished entity by operation of law.

In a tender offer, bidder firm bypassing the target firm management and the board of directors of the target firm offers to buy outstanding shares of target firm at a specified price and convey this offer directly to the shareholders of target firm through advertisements or mailings. This basically creates a hostile takeover. When the bidder firm buys enough shares to have the control of the firm this merger type usually is considered to be successful. As far

as the existence of target firm, target firm will exist until the minority shareholders of target firm agrees to sell their shares.

In a consolidation merger, both target and bidder firms agree to have the deal, however a new legal entity is being established after the merger and shareholders of both firms have secure stock in the new firm.

In management buyouts, a firm is being acquired by its own management or a group of private investors through usually a tender offer. This usually involves a long period of time as a hostile takeover can take many years. If managers are involved in this tender offer, this transaction is called management buyouts and if the deal value is mostly compensated by debt this transaction is called leveraged buyouts.

In a purchase of assets deal, bidder firm acquires the assets of target firm. This can be done by the approval of the target firm's shareholders. This deal type is usually utilized when the bidder or the buyer is looking to acquire one division or business unit within a company. It can be complicated and time-consuming should a bidder firm intends to purchase 100% of target firm's assets.

2.2 Motivations on Mergers and Acquisitions

The literature posits many factors that motivate bank mergers and acquisitions. According to the finance literature, the primary motivation for consolidation by the bidder firms is to maximize the firm value -shareholder value. However, not all the motives are for value maximization as managers and government can play significant role behind mergers and acquisitions. The key motivations for the mergers and acquisitions can be classified as to increase market share and power; Kim and Singal (1993), improve efficiency in costs, operations or profits; McGuckin and Nguyen (1995), create operational synergy (Scale and scope of economy); Trautwein (1990), Yagil (1996), Becher (2000), Houston, James and Ryngaert (2001), DeLong (2003), expand geographically, reduce operating and transaction costs; Williamson (1985), King, Slotegraaf and Kesner (2008), enhance the management of resource dependency; Casciaro and Piskorski (2005) and Pfeffer (1972), diversify risk,

advantage on tax, management self-interest; Agrawal and Walkling (1994) and Sanders (2001), deregulation and laws, prior acquisition experience; Meyer and Thaijongrak (2012), technological progress, exploit inefficiencies by sharing superior managerial skills between bidder and target firms; Focarelli et al. (2002), cross-selling, resource transfer, vertical integration and globalization.

Economic theory assumes that increased market power as a result of reduced competition can be a good source of post-merger gains as increased market power can affect the prices in favor of the combined firm. Antitrust law in the U.S. is a combination of federal and state government laws, which promotes fair competition for the benefit of consumers. Despite the fact that antitrust policies in the U.S. are laid out to discourage mergers with substantial anticompetitive effects, high concentration in certain geographic markets can still generate market power, allowing banks to earn considerable monopolistic benefits. Should there are technological and regulatory barriers to entry to the industry, banks in a monopolistic market may offer lower deposit rates and charge higher loan rates to the customers.

Synergy takes place when the combined firm is greater than sum of both target and bidder firms' parts. In a nutshell, if the combined entity after the M&A becomes larger than the sum of the bidder and the target firm/bank, a synergy exists. In terms of math it could be represented as if " $1+1>2$ " happens a synergy exists. Both "economies of scale" and "economies of scope" are the two legs of operating synergy. Gains in efficiency can come from either factor or improved managerial practices. Empirical studies such as Houston, James, & Ryngaert (2001, Delong (2003) suggest that such synergies are important sources of shareholders' wealth creation. With the synergy stemming from an M&A, the combined firm can decrease its fixed costs by eliminating duplicate departments or operations, combine them into one building, lowering the costs of the company relative to the same revenue stream, thus increasing profit margins.

According to DePamphilis (2010), while "economies of scale have to do with the spreading of fixed costs over increasing production levels. Scale is defined by such fixed costs as depreciation of equipment and amortization of capitalized software; normal maintenance spending; obligations, such as interest expense, lease payments, and union, customer, and vendor contracts; and taxes. Such costs are fixed in the sense that they cannot be altered in

the short run. Consequently, for a given scale or amount of fixed expenses, the dollar value of fixed expenses per dollar of revenue decreases as output and sales increase”, “economies of scope have to do with using a specific set of skills or an asset currently employed in producing a specific product or service to produce related products or services. They are most often found when it is cheaper to combine two or more product lines in one firm than to produce them in separate firms” (p.7).

Financial synergy has to do with the cost of capital of the bidder firm or the newly formed (combined) firm resulting from a merger or acquisition. In theory, new cost of capital should be reduced by mergers and acquisitions. In practice, however, this expectation may vary depending on the success of mergers and acquisitions. Good management can negotiate better in terms of debt financing and as a result, the combined firm can reduce its weighted average cost of capital (WACC) significantly. Liquidity position of the target firm is the main motivator for some bidders in order to gain access to the funds. For instance, if the bidder has high financial leverage (high level of debt) thereby making access to additional external debt financing very limited, acquiring or merge with a target firm with a healthy liquidity position along with low or non-existent financial leverage can be a good motivation source for the bidder firm or bank.

Diversification has to do with bidding firm’s intention to diversify its product line or primary line of business. Through diversification, acquirer firm can either reduce the cost of capital or shift its core product lines into the product lines or markets that have higher growth expectations.

Haleblian, Kim, & Rajagopalan (2006) found that previous M&A experience, recent M&A performance, and the interaction between previous M&A experience and recent M&A performance are all positively related to the likelihood of subsequent acquisition.

2.3 Wealth Effects of Mergers and Acquisitions

Wealth effect of M&As on target and bidder banks has been investigated in depth by various studies over the last four decades.

Most of the researchers have found significant *positive returns to the target banks* such as in the studies of Jensen and Ruback (1983), Desai and Stover (1985), James and Weir (1987), Neely (1987), Trifts and Scanlon (1987), Wall and Gup (1989), Hawavini and Swary (1990), Cornett and De (1991), Cornett and Tehranian (1992), Houston and Ryngaert (1994), Madura and Wiant (1994), Zhang (1995), Hudgins and Seifert (1996), Pilloff (1996), Siems (1996), Esty, Narasimhan, and Tufano (1999), Becher (2000), Andrade et al. (2001), Delong (2001), Hart and Apilado (2002), Delong and DeYoung (2004), and Asimakopoulos and Athanasoglou (2013).

Many research in M&A space including banking industry revealed that *bidder firms have negative abnormal returns* following the transaction. Hawavini and Swary (1990), Aggrawal, Jajje, Gershon, and Mandelker (1992), Baradwaj, Dubofsky, and Fraser (1992), Cornett and Tehranian (1992), Holdren, Bowers, and Mason (1994), Madura and Wiant (1994), Palia (1994), Houston and Ryngaert (1994), Pilloff (1996), Siems (1996), Loughran and Vijh (1997), Subrahmanyam, Rangan, and Rosenstein (1997), Rau and Vermaelen (1998), Esty, Narasimhan, and Tufano (1999), Delong (2001), Amilhud, Delong, and Saunders (2002), Fuller, Netter, and Mike (2002), Delong and DeYoung (2004), Moeller, Schlingemann, and Stulz (2005) found in their respective studies that bidder banks had *negative* abnormal returns.

A few studies found *positive abnormal returns for bidders*, Desai and Stover (1985), James and Weir (1987), Neely (1987), Cornett and De (1991) and Becher (2008) *or no significant abnormal returns* Trifts and Scanlon (1987), Allen and Cebenoyan (1991), Holdren, Bowers, and Mason (1994), Becher (2000), Hart and Apilado (2002).

Some studies found *positive abnormal returns for combined*; Becher (2000), Houston, James, and Ryngaert (2001), Anderson, Becher, and Campbell (2004), Zhang (1995), Hart

and Apilado (2002), Dodd and Ruback (1977), Bradley (1980), Kolaric and Schiereck (2013).

Jensen and Ruback (1983) concluded that corporate takeovers result positive yields, from which shareholders of target firm gain and shareholders of bidding firm do not lose.

Neely (1987) studied 29 U.S. mergers for the 1979-1985 periods and found 36.22% positive abnormal return for target firms. Trifts and Scanlon (1987) investigated 21 U.S. M&As for the period of 1982-1985 and found average losses of 3.25% for bidders and average gains of 21.4% for targets.

Cornett and De (1991a) studied 189 U.S. Banks (152 Bidders and 37 Targets) during the period of 1982-1986 and found average loss of 0.44% for bidders and gains of 9.76% for targets.

Houston and Ryngaert (1994) analyzed 153 bank mergers over the period of 1985–1991. Of the announced mergers, 131 were completed and 22 were not. Over a 5-day event window period, 131 completed mergers result cumulative abnormal returns of –2.25%, 14.77% and 0.46% for bidder banks, target banks and combined, respectively. Over a 5-day event window period, 22 uncompleted/cancelled mergers result cumulative abnormal returns of –2.93%, 9.79% and 0.43% for bidder banks, target banks and combined, respectively. Over a 5-day event window period, 153 all mergers results cumulative abnormal returns of –2.32%, 14.39% and 0.38% for bidder banks, target banks and combined, respectively.

Later study by Houston and Ryngaert (1997), using 209 mergers over the period of 1985–1992, in a 6-day (-4, +1) event-window period, found 0.24% and 20.4% for bidder and target cumulative abnormal returns, respectively.

Becher (2000) analyzed 558 U.S. bank mergers over the period 1980–1997. He found that target banks enjoyed positive returns. According to Becher (2000), bank mergers posit synergistic gains and mergers in this industry do not take place just to create empires for chief executive officers (CEOs). Over a 36-day (-30, +5) event window, cumulative abnormal returns are 22.64%, -0.10% and 3.03% for target banks, bidder banks and

combined, respectively. Over an 11-day (-5, +5) event window, cumulative abnormal returns are 17.10%, -1.08% and 1.80% for target banks, bidder banks and combined, respectively.

Asimakopoulos and Athanasoglou (2013) examined the impact of announced M&As on banks' stock prices by utilizing a standard event study analysis for a sample of European banks for a period of 15 years (1990-2004). They found that overall, an M&A announcement does not create value for the shareholders of bidders as opposed to the positive and significant value creation for the shareholders of the targets.

Neely (1987) studied 29 U.S. Bank merger transactions for the 1979-1985 periods and found 3.12% average gains but not statistically significant for bidder banks.

2.4 Method of Payments

In the event of a merger or acquisition, the payment method is usually conducted in the form of cash, debt, equity or some combination of the first three methods. In this study, we get to test different methods of payments in order to determine which type creates value or not. Previous literature shows that market participants generally prefer cash financed deals. However, with deepening financial markets and global connectivity, usage of hybrid financing in M&A space has been extended significantly.

Cash is commonly utilized in mergers and acquisitions transactions as well as asset purchase in the industry. According to Faccio and Marsulis (2005), a bidder may prefer to utilize cash rather than issue voting shares if the voting control of its dominant shareholder is intimidated as a result of the issuance of voting stock to acquire the target firm. Faccio and Lang (2002) reveals that on average, the percentage of cash usage in mergers and acquisitions is much higher in western European countries, where ownership tends to be more heavily concentrated in publicly traded firms than in the United States. In Europe, 63 percent of publicly traded firms have a single shareholder who directly or indirectly controls 20 percent or more of the voting shares; in the United States, the figure is only 28 percent.

Travlos (1987) studies the role of the method of payment in explaining common stock returns of bidding firms at the announcement of takeover bids. He found that significant differences exist in the abnormal returns between common stock exchanges and cash offers. The results on the pure stock bidding firms show that their stockholders experience significant losses at the announcement of the takeover proposal. On the other hand, the results on the cash-financing bidding firms show that their stockholders earn "normal" rates of return at the announcement period.

Amihud, Lev, and Travlos (1990) test the proposition that 'corporate control considerations motivate the means of investment financing - cash (and debt) or stock'. They conclude that in corporate mergers and acquisitions, as the managerial ownership fractions of the bidding firm increases, likelihood of cash financing in M&A transaction increases as well. They also observed that mergers and acquisitions made by the firms with low managerial ownership resulted negative CARs for the bidders, which utilized stock as a mean of financing.

According to "*tax effects hypothesis*", shareholders of target firms prefer M&A payment in stock as M&A payment in cash generates a prompt tax burden for the stockholders of the target firm (bank); whereas, payment in stocks do not create an immediate tax liability as these stock payments become taxable only when they are sold. As a result, payment in stock is used financing M&As when the payment/premium or capital gain is large for the shareholder of target firm.

According to the "*information asymmetries hypothesis*", should managers of acquirer firms (banks) have more insider information than average investors –this is valid for the most cases- about the value of their own firm, these managers will prefer payment in stock or cash as a means of finance to acquire the firm (bank) depending on the situation. In this context, if managers of the bidder firm believe their stock is overvalued they prefer payment in stock as a means of finance to acquire the firm (bank). However, investors usually recognize this circumstance and they inclined to pull the price of the bidder's stock down by a strong sell off upon announcement of the merger or acquisition. On the other hand, if managers of the bidder firm believe their stock is undervalued they prefer cash as a means of finance to acquire the target firm (bank). Again in this case, investors usually recognize this situation and they tend to drive the price of the bidder's stock up by buying it upon announcement of

the merger or acquisition. Zhang (1995) also argues that cash financed takeover may signal to the investors that the bidder's equity is undervalued.

Fishman (1989) argues that cash payment in M&As is preferred to stock payment to finance a merger or acquisition when other buyer(s) bidding for the target firm. In this case, cash payment in transaction signals high valuation for the target firm and deters potential or existing competitors. Meanwhile, Fishman (1989) also states that stock payment has the potential to lead management of target firm to make an efficient accept or reject decision.

Of the sample data we have examined between 2000 and 2014, 154 M&As are cash involved transactions and 60 M&As are common stock only transactions in the means of financing the deals.

2.5 Geographic Market Expansion

According to Mishkin (1998), regulatory and technological changes allow banks to expand geographically and become larger. SNL data classifies Bank M&As in the U.S. as “in-market”, “market expansion”, and “partial overlap” according to geographic market expansion column. “In-market” M&A transaction mean that target and the bidder banks have already business in the same market. “Market expansion” M&A means that target and the bidder banks are not in the same market and entering into a new banking market. “Partial overlap” M&A means the transaction is a mix of market expansion and in-market¹⁰. In terms of our sample data, 64 out of 214 transactions are defined as “in-market”, 81 out of 214 are defined as “market expansion” and 69 out of 214 are defined as “partial overlap” M&A transaction by SNL data.

Another classification of SNL data is that if the target and the bidder are located in the same state it is called an instate/intrastate M&A (geographically focused), if not it is called interstate (geographically diversified) M&A.

Regarding the importance of geographic diversification or focus, earlier research suggest that instate/intrastate M&As in other words geographically focused M&As may be rewarded

¹⁰ Defined by SNL Financial.

more than interstate M&As in other words geographically diversified M&As by the capital markets mostly for operating synergy reasons such as the enhancement of management efficiency, reduction of overhead costs, maximization of market power and create more value through reduction of overinvestment or economies of scale and scope. (DeLong 2001)

From the regulation point of view, The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, signed into law by President Clinton on September 29, eliminated most of the restrictions on interstate bank mergers and acquisitions and granted interstate branching possible for the first time in seventy years. With this Act, Bank Holding Companies (BHCs) have been able to acquire or merge with banks locating in any State in the U.S. as of September 29, 1995. This has first caused the potential pool of the target firms to increase, and then might led the possibility of increased number of unprofitable mergers.

In this study, we attempt to answer the question as to whether the target, bidder and combined abnormal returns are affected by geographically focusing (instate) versus geographically diversifying (interstate) mergers.

For the overall 2000–2014 period 56% of the M&As in our sample size are geographically focusing (instate) whereas 44% of the M&As are geographically diversifying (interstate). Results of our sample size are in line with the relevant literature (DeLong 2001) that instate M&As realized the highest CARs in all three event windows for the whole sample period and before and after the Global Financial Crisis. However, during the Global Financial Crisis (2008-2009) period, diversifying (interstate) mergers realized higher CARs than focusing (instate) mergers.

3. TESTABLE HYPOTHESES

We test three alternative hypotheses explaining the possible reasons of mergers and acquisitions outlined in Becher (2000); the *synergy hypothesis*, the *hubris or empire building hypothesis*, and the *combined synergy and hubris hypothesis*.

According to the *synergy hypothesis*, CARs to target firms (banks) should be positive, CARs to bidder firms (banks) should be non-negative, and CARs to the combined should be positive. Meanwhile, according to the *hubris or empire building hypothesis*, CARs to target firms (banks) should be positive, CARs to bidder firms (banks) CARs should be negative, and CARs to the combined should be non-positive and should fall slightly.

In other words, while the *synergy hypothesis* states that mergers are wealth creating events, the *hubris or empire building hypothesis* states that mergers are not wealth creating events since the *hubris or empire building hypothesis* claims that M&As may be the result of hubris and empire building stemming from the managers of bidder firms, (Roll, 1986).

According to *hubris or empire building hypothesis* bidder firms (banks) overpay to acquire the target firm (banks) due to either bidder management suppose that synergies between target and bidder exist when in fact they do not exist or the management of bidder firm is self-driven to realize a merger or acquisition in order to build an empire rather than create a synergy. The hubris or empire building hypothesis would predict that, on average, CARs to target firms are positive, CARs to bidder firms are negative, and the CARs to the combined firm are non-positive or in other words M&As are not wealth creating events (Roll, 1986).

Table 1- Testable Hypotheses and Expected Effects of Bank Mergers and Acquisitions

	Hubris Hypothesis	Synergy Hypothesis	Hubris and Synergy Hypothesis
Target	Positive	Positive	Positive
Bidder	Negative	Non-negative	Negative
Combined	Non-positive	Positive	Positive

Source: Becher (2000); The Valuation Effects of Bank Mergers

A third alternative hypothesis put forth by Becher (2000) is that mergers and acquisitions are a result of both the synergy and hubris hypotheses. According to this last hypothesis, CARs to the target and combined firm to be positive along with negative CARs for the bidder firms implying that positive synergies may be associated with an M&A transaction, however, bidder firms might overpay to obtain these synergies. The expected effects of these three hypotheses for target, bidder, and combined CARs are summarized in Table 1.

4. DATA STATISTICS AND SAMPLE SELECTION

Initially, a global list of 15,847 bank M&A deals from 2000 to 2014 is retrieved from SNL Financial database. In SNL Financial data, there are four different country classifications; Actual Acquirer Country, Buyer Country, Target Country and Seller Country. After selecting U.S. based banks for all four classifications, our sample size is reduced to 8,622. A proper ticker for each bank needs to be at hand in order to get the daily stock return data from the Center for Research in Security Prices (CRSP) database. In SNL Financial data, there are three different ticker classifications; Buyer Ticker, Target Ticker and Seller Ticker. After including the firms with tickers for all three classifications in our data, our sample size dramatically comes down to 604. For the purpose of our analysis, only commercial banks and bank holding companies are included in the sample¹¹. This reduced our sample size to 450.

We utilize CRSP database to obtain the return data of each security for 500 trading days. Another inclusion criterion being conducted for our sample data is that we have included the bidder and target banks having at least 100 observations in pre-event period available in the CRSP database to be able to estimate the market model parameters correctly. It is worth to notice that some research papers include the firms with less than 100 pre-announcement date returns in order to have larger sample size; however this may mislead to estimate the right market model parameters. For instance, Houston and Ryngaert (1994) did not include the returns with less than 75 days in the analysis. Brown and Warner (1985) also utilized the firms having at least 30 daily returns in their entire 250 day period. However, we prefer to use maximum 500 and minimum 100 daily returns in order to capture the right pattern of each security as to have the right market model. We also test our results by limiting our observations to maximum of 250 daily returns to estimate the market model and calculate the abnormal return for bidders, targets and combined however; we do not get any significant differences compared to 500 daily returns. As a result of this last criterion, our final sample

¹¹ In SNL Financial Database, classifications of the banks in Regulatory Industry part are lined up as Bank Holding Company, Commercial Bank, Credit Union, Edge Act Bank, Industrial Loan HC, L&H Insurance, Merchant Generator, Non-NAIC Insurance, Other Energy, P&C Insurance, Savings Bank, Savings Bank Holding Company, Savings Institution, Thrift Holding Company, Wholesale/Gen Trans,

size reduced to 214 bidder and target banks in the period of 2000-2014 which can be seen from Table 2.

Table 2- Data Elimination of Sample Size

DATA ELIMINATION PROCESS		
Criteria	Specification	Sample Size
Deal Announcement Date	2000-2014	15.847
Actual Acquirer Country	U.S.	9.587
Buyer Country	U.S.	9.503
Target Country	U.S.	9.460
Seller Country	U.S.	8.621
Buyer Ticker	Exist	3.103
Target Ticker	Exist	605
Seller Ticker	Exist	604
Buyer Regulatory Industry	Bank Holding Company + Commercial Bank	517
Seller Regulatory Industry	Bank Holding Company + Commercial Bank	450
Pre Event Period Observations	500 >= # of Obs >= 100	214

Source: Author's own workout.

Out of 214 M&As, only 9 transactions can be classified as mergers of equals. According to Investopedia, merger of equals means two companies agree to “convert their respective stocks to those of the combined company. However, in practice, two companies will generally make an agreement for one company to buy the other company's common stock from the shareholders in exchange for its own common stock. In some rarer cases, cash or

some other form of payment is used to facilitate the transaction of equity. Usually the most common arrangements are stock-for-stock¹².

Daily stock price, daily stock return, shares outstanding, method of payment, geographic expansion, accounting method, region and state variables for each bank in our sample of 214 M&A transactions were collected and consolidated into one file to be analyzed.

According to Pilloff and Santomero (1998) selection bias stems from either including only major M&A deals in the sample or excluding the deals that banks had multiple mergers in the same year from the sample, or over a given time period. Because of these restrictions, important transactions that are most relevant to analysis of M&A deals might be omitted in the sample.

Since our sample selection does not specifically include or exclude M&A deals like abovementioned specifications, our analysis is not subject to such selection biases.

Table 3 presents summary statistics of our M&A bank sample used in the analysis. Table 3 exhibits year over year number of mergers and acquisitions, total market value of banks, mean value of targets, mean value of bidders and mean-to-target ratio from 2000 to 2014. Total number of M&A transactions for 15 years covered in this study is 214, which translates roughly 14 transactions per year. The highest number of transactions took place in the years of 2004, 2006 and 2007 with the numbers of 30, 27 and 28, respectively. The lowest number of M&A transactions took place in the years of 2000, 2001, 2002 and 2009 with the numbers of 2, 1, 1 and 2, respectively.

Our samples' average target-to-bidder ratio is 30.52% according to annual averages and 15.64% according to 214 transactions' averages, It is better to consider the average target-to-bidder ratio of 15.64% since it is the average of every M&A transaction for the whole period as some years have only one or two transactions and this can significantly increase or decrease the average number. This number means that from 2000 to 2014, on average market value of bidder bank is 6.39 times bigger than the value of target bank in our sample size.

¹² <http://www.investopedia.com/articles/basics/06/themerger.asp#ixzz3ix5Cs2f1>

Average target-to-bidder ratio out of 125 M&A transactions taking place in pre-crisis period (2000-2007) is 16.3% while average target-to-bidder ratio out of 74 M&A transactions taking place in post-crisis period (2010-2014) is 14.7% meaning that after the Global Financial Crisis, either bidder banks got bigger or target banks got smaller or both happened together.

Table 3- Summary Statistics of the Sample

Year	M&As	Total Value	Mean Deal Value	Target Mean Value	Bidder Mean Value	Mean target-to-bidder
2000	2	1,327,317	663,659	288,164	1,039,154	0.5955
2001	1	1,123,565	1,123,565	90,806	1,032,759	0.0879
2002	1	247,708	247,708	70,984	176,724	0.4017
2003	21	310,263,117	14,774,434	45,816,079	264,447,038	0.1906
2004	30	368,839,312	12,294,644	89,426,365	279,412,947	0.2918
2005	15	77,313,115	5,154,208	5,413,868	71,899,247	0.2438
2006	27	294,690,132	10,914,449	54,258,680	240,431,452	0.2611
2007	28	427,466,959	15,266,677	11,984,147	415,482,812	0.1799
2008	13	160,979,390	12,383,030	15,983,351	144,996,039	0.2840
2009	2	359,130	179,565	79,978	279,152	0.3552
2010	9	20,909,607	2,323,290	3,579,606	17,330,000	0.3272
2011	7	13,068,702	1,866,957	1,598,136	11,470,566	0.5505
2012	20	32,698,245	1,634,912	6,604,556	26,093,689	0.2219
2013	21	31,135,783	1,482,656	5,419,221	25,716,562	0.3767
2014	17	75,077,907	4,416,347	4,942,287	70,135,620	0.2097
All	214	1,815,499,989	8,483,645	245,556,229	1,569,943,760	0.3052

Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in US\$ thousands.

Table 4- Year Over Year US Bank M&A Sample Summary Statistics by Geographic Location

Year	Instate	Interstate
2000	1	1
2001	1	0
2002	1	0
2003	12	9
2004	15	15
2005	7	8
2006	16	11
2007	18	10
2008	8	5
2009	2	0
2010	6	3
2011	4	3
2012	8	12
2013	12	9
2014	9	8
Toplam	120	94

Source: Author's own compilation.

After the Global Financial Crisis, target banks were smaller in size than before the Global Financial Crisis. This might be explained by either more troubled small banks were out in the market during and after the Global Financial Crisis to be acquired or “too big to fail” phenomenon in the U.S. financial markets led bidder banks to acquire or merge with smaller target banks. Another argument can be put forward that with the Global Financial Crisis levels of risk in the financial markets dramatically increased and this led the bidder banks to take lower risks by acquiring or merging with smaller target banks.

Our total sample of 214 M&A transactions total combined value is \$US1.8 trillion. Total value of bidders and targets are \$US1.57 trillion and \$US245.6 billion respectively. The highest total values of the deals in 2007, 2004, 2003 and 2006 are the figures of \$US 427.5 billion, \$US368.9 billion, \$US310.3 billion and \$US294.7 billion, respectively.

Table 4 exhibits instate/intrastate and interstate data according to each year for the whole period being analyzed. As can be seen, in the years of 2001, 2002 and 2009 there is no interstate mergers in our sample data. The most balanced year in terms of allocation of M&As between instate/intrastate and interstate is 2004 in which 15 instate/intrastate and 15 interstate M&As took place.

Table 5- Year Over Year US Bank M&A Sample Summary Statistics by Method of Payment

Year	Cash +Mix	Common Stock Only
2000	1	1
2001	1	0
2002	1	0
2003	15	6
2004	16	14
2005	13	2
2006	22	5
2007	20	8
2008	9	4
2009	1	1
2010	6	3
2011	4	3
2012	16	4
2013	18	3
2014	11	6
Toplam	154	60

Source: Author's own compilation.

Table 5 exhibits 'cash +mix' and 'common stock only' data in terms of financing the M&As according to each year for the whole period being analyzed. Table 22 in the appendix section provides total list of 214 M&A transactions including announcement date (or event date), bidder (or buyer) name, target (or seller) name, bidder shares outstanding, bidder price, market value of bidder, target shares outstanding, target price, market value of target, total market value and target to bidder ratio.

5. EMPIRICAL MODEL AND METHODOLOGY

5.1 Testing the Consolidation Effect

Most academic studies utilize one of two approaches to estimate and evaluate the significance of merger-related gains, Rhoades (1994). The first method uses accounting data to test pre- and post-merger performance of firms and determine whether an M&A leads to changes or creates any synergy in reported costs, revenues, operational incomes, cash flows or margins. This approach is pretty straightforward in a sense that accounting data is easily accessible and accounting performance can be directly measured and well understood by market participants and academicians. Advocates of this methodology claim to be more reliable than other subjective methods such as equity research because accounting data measure actual performance or the results, it does not measure investor expectations. However, this methodology has several drawbacks. Although actual performance is measured by accounting data, the data may be inaccurate in detecting the real market value as data are mostly not mark-to-market and often neglect current market values and the expectations embedded in the stock prices. In addition, tested effects between the pre- and post-merger period may not only be coming from merger or acquisition. In the same period investigated some other event may have taken place and these events may have triggered the change on the changes of target and bidder firms. In this case, such extraneous events not controlled in the analysis may lead to improper conclusions.

The second approach uses stock market data to analyze and evaluate the stock market reaction to merger announcements. Advocates of this approach argue that utilizing the market data rather than accounting figures the implied value of mergers and acquisitions can be more accurately measured. In other words, they argue that in an efficient market, the reaction is likely to be a better indicator of the real economic effects of the announced deal than accounting data, which is not reliable and takes long time to price in.

In second approach, most of the studies explore the abnormal returns of bidders and targets independently, however some studies analyze the total change in stockholder wealth as well. According to Pillof and Santomero (1998), the value-weighted sum of bidder and target

abnormal returns is the appropriate measure of total change in M&A deal. With this method, the value creation in mergers and acquisitions can be accurately quantified.

5.2 Event Study Methodology and the Model

In order to determine investors' reaction to events such as the announcement of a merger or an earnings report "event study methodology" can be used. (Brown and Warner 1985). Event studies have a long history in terms of usage. Dolley (1933) studied nominal price changes at the time of stock splits and examined effects of stock splits on the stock price. From his study to 1960s, event study analysis has been sophisticated. Myers and Bakay (1948), Barker (1956, 1957, 1958), and John Ashley (1962) conducted event study analysis in their research. Event study methodology was first introduced with a methodology in a sense that is being used today by Fama, Fisher, Jensen, and Roll's 1969 stock splits study, which has led event studies to become prevalent methodology in finance. Since then, event study methodology has been used frequently by the academicians to assess the effect of a particular event that has on the returns of a firm's common stock price. In previous usage of event study methodologies, first the market model is estimated, and then the estimated market model's parameters are used to determine the size and direction of the price changes. In an analysis of 88 empirical studies between 1970 and 2006, Zola and Meier (2008) identify 12 approaches to measuring the impact of mergers & acquisitions on shareholder value. Of these studies, 41 percent use the short-term event study methodology to analyze pre-merger returns, 19 percent use the long-term event study methodology to analyze post-merger financial performance, which makes the total event studies 60 percent. 28 percent of these studies utilize long-term accounting measures to analyze post-merger returns.

As already mentioned, the aim of this study is to analyze the shareholders' value creation of U.S. banks M&A deals before and after the Global Financial Crisis. For this reason, a standard "event study methodology" is utilized. We get to examine the value creation around the announcement of a bank merger and acquisition as outlined in Brown and Warner (1985). Brown and Warner (1985) extended their earlier work Brown and Warner (1980) in which they used monthly returns to examine event study methodologies. In our study, we get to use also daily stock returns to perform event study methodology. This methodology controls for

conditions in the general market. For instance, if the overall market is going down, a stock in the same market may go down as well because of the market environment and not just because of the event. Therefore, the relationship of a particular stock with the market during “normal” times needs to be determined before the event occurs. Since our study is interested in the short term wealth effects of M&A transactions it might be wise to use daily returns instead of monthly returns. However, using daily data in event studies might cause some problems as outlined in Brown and Warner (1985): First potential problem is as Fama (1976) points out that evidence generally suggests the distributions of daily returns are fat-tailed relative to a normal distribution which may lead to non-normality problem. Second potential problem is that when the return on a stock or the market index is taken over a different trading interval, ordinary least squares (OLS) estimates of market model parameters may be biased or inconsistent. Third potential problems is that -as a result of before mentioned second potential problem- daily excess returns can create serial dependence, cross-sectional dependence of the security-specific excess returns or stationarity of daily variances.

According to efficient market hypothesis, no one can beat the market since market incorporates all available information immediately. Therefore, main supposition of this method is the hypothesis that stock market prices fully and immediately incorporate all available information. Thus, prompt correction or balancing will be coming into the prices after the announcement of an M&A event. Therefore, an asset pricing model is used to measure the significance of this price change. This asset pricing model having utilized in our study is called market model, which is the most commonly used one in the relevant literature.

Abnormal return represents the gain or loss for shareholders, which could be explained by many factors including an M&A transaction. It is called an abnormal return in a sense that it deviates from what an investor would normally expect to earn or lose for accepting a certain level of risk in normal market conditions. For instance, if an investor or trader expects to earn 5% return on a stock according to his regression analysis but actually earns 12% due to a takeover, the abnormal return to the shareholder would be 7%. Therefore, the null hypothesis of our study is that such an M&A event has no impact on the return generating process or the abnormal return is to be zero.

For event-study analysis, first step to determine the event-window, which is the period that the security prices of each firm involved in the M&A transaction. In our case, event is the M&A transaction and the event date is the announcement date of corresponding M&A. Figure 5 displays timeline on the parts of the event study analysis as the estimation period, event window and the post event window.

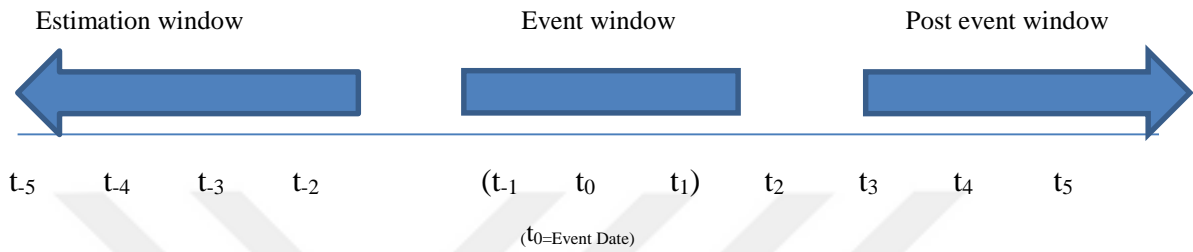


Figure 5- Demonstration of Windows in Event Study Methodology

In order to determine the normal return of each security, there are two commonly used methods. The constant mean return model assumes that mean of a security's return is constant through the time and it is used to calculate the expected return of the security. The market model assumes that there is a stable linear relationship between the market model and the security return. In our analysis, we use the market model, which is more reasonable as the market and the prices changes momentarily, in order to estimate the expected return of each security.

The market model is a statistical model relating return of a corresponding security to the return of a market portfolio.

The linear relationship between the expected return of a stock and the market in the pre-event estimation period may be given as:

$$\tilde{R}_{it} = \alpha_i + \beta_i \tilde{R}_{mt} + \varepsilon_{it} \quad (1)$$

where \tilde{R}_{it} is the expected return on the stock of bank i at time t , \tilde{R}_{mt} ¹³ is the return on the CRISP equally-weighted index at time t (market portfolio) and ε_{it} is the zero mean disturbance term at time t . This regression analysis is being made in the estimation window to determine the market parameters. Then, the following equation is utilized to compute the abnormal returns or risk-adjusted returns in the event period:

$$A_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (2)$$

or

$$A_{it} = R_{it} - \tilde{R}_{it} \quad (3)$$

where A_{it} is the abnormal return for bank i at time t , R_{it} is the actual return on the stock of bank i at time t , \tilde{R}_{it} is the expected return of bank i at time t , and $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the market model parameters as estimated in regression analysis (1). Then, the cumulative abnormal returns (CARs) over the event period are calculated as the sum of the arithmetic means of the cross-sectional abnormal returns of each day over the event window period. For instance, if the event window is 3-day (-1, +1); the ARs are computed for each day (-1, 0 and +1) then the sum of ARs ($AR_{-1} + AR_0 + AR_{+1}$) for security A provides us CAR for Security A.

Figure 6 exhibits a typical reaction of different news to a firm. On vertical axis CARs exist and on the horizontal axis timeline exist. As can be seen from Figure 6, middle line on the graph represents the actual or expected return of a security in normal market conditions. If the news for the firm is good, abnormal return or the deviation from the actual or expected return usually is to be positive and if the news for the firm is bad, abnormal return or the deviation from the actual or expected return usually is to be negative. If there is no news for the firm, abnormal return or the deviation from the actual or expected returns usually is to be zero.

¹³ S&P500 equally-weighted index and S&P U.S. banking index were utilized as the market return in our analysis.

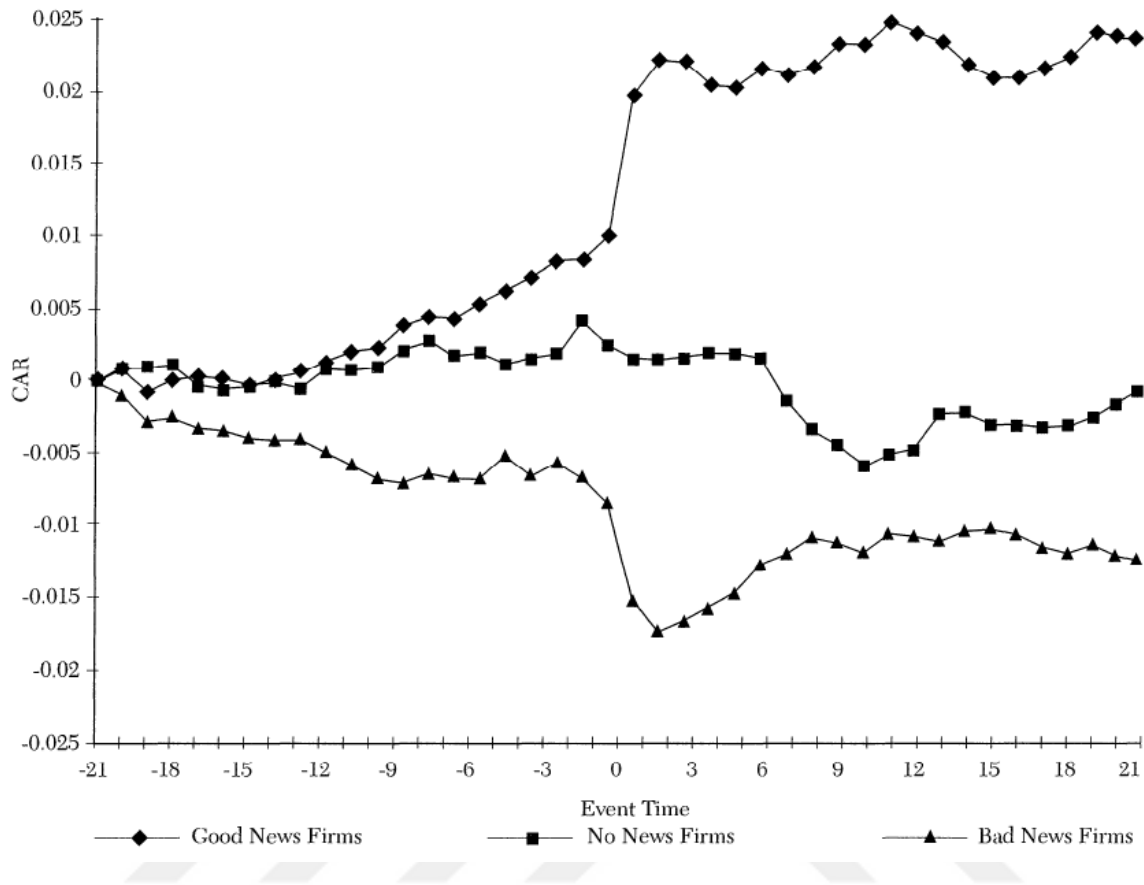


Figure 6- Demonstration of Different CARs in Event Study Methodology

To our knowledge, there is no scientific way of determining the ideal event window. In order to determine the robustness of the results and compare to previous studies, different event windows were employed in our study. For the short-term analysis, it may be wise to include a few days before the mergers as information leakage may take place and affect the value of the stock before the announcement. On the other hand, extending either period may lead to problems, since other major events, such as earnings announcements or changes in top management, could occur and the market could be reacting to those events instead, (Walter 2004).

In order to capture the effect of the announcement, three event windows: 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) were utilized to compute the CARs¹⁴.

The 36-day (-30, +5) event window was also preferred to be included in the analysis because sometimes in computing the CARs for the banks, a longer event window before the announcement date may be needed capture any information leakage that might have occurred prior to the merger announcement.

For instance, for 3-day (-1,+1) event window, 3 days will be event window, from t_{-10} to t_{-250} will be the estimation window in which the regression analysis will be conducted and from t_2 going forward will be the post event window. Figure 7 displays the whole process for 3-day (-1, +1) event window.

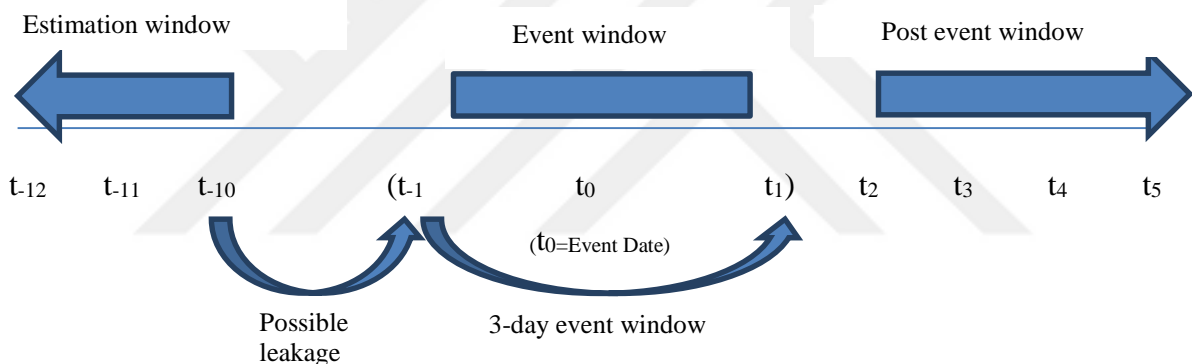


Figure 7- Demonstration of Event Study Methodology with 3-Day (-1, +1) Event Window

For instance, for 5-day (-2,+2) event window, 5 days will be event window, from t_{-10} to t_{-250} will be the estimation window in which the regression analysis will be conducted and from t_3 going forward will be the post event window. Figure 8 displays the whole process for 5-day (-2, +2) event window.

¹⁴ In literature, 11-day (-5,+5) event windows have been utilized as well. However, since both 11-day (-5,+5) and 5-day (-2,+2) are shorter-term and the results are similar with each other compared to 36-day (-30,+5), we do not include 11-day (-5,+5) event window in our analysis.

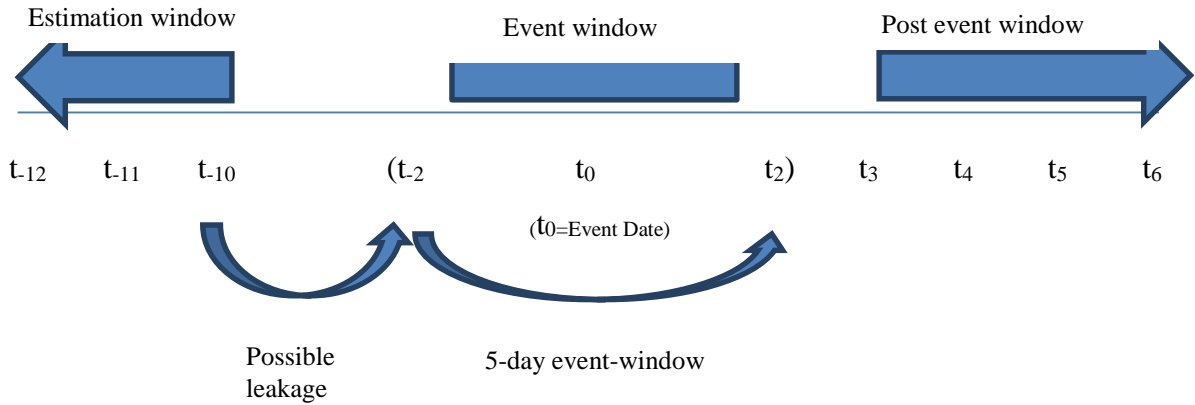


Figure 8- Demonstration of Event Study Methodology with 5-Day (-2, +2) Event Window

For instance, for 36-day (-30,+5) event window, 36 days will be event window, from t_{-40} to t_{-5} will be the estimation window in which the regression analysis will be conducted and from t_6 going forward will be the post event window. Figure 9 displays the whole process for 36-day (-30, +5) event window.

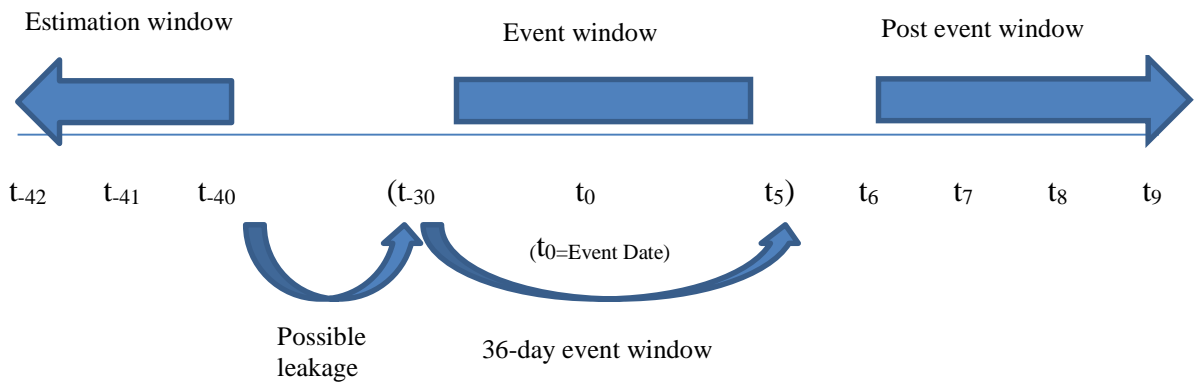


Figure 9- Demonstration of Event Study Methodology with 36-Day (-30, +5) Event Window

The event study analysis is conducted for the whole sample period (2000–2014), and the sub-sample periods of 2000–2007 (pre-crisis period), 2008–2009 (crisis period) and 2010–2014 (post-crisis period). To explore whether the return patterns have been changed during

different periods, four sub-sample periods were determined. These sub-sample periods are 2000 – 2007 representing the pre-crisis period, 2008 – 2009 representing the crisis period and 2010 – 2014 representing post-crisis period. The last period was introduced to see if the crisis led to a permanent change in the patterns by comparing with 2009-2010 period.

In order to test whether a merger is value creating, we examine the CARs to bidder and target in line with the methodology drafted by Houston and Ryngaert (1994):

$$\text{Combined Cumulative Abnormal Return (CCAR)} = \frac{(V_{ib} \text{CAR}_{ib}) + (V_{it} \text{CAR}_{it})}{(V_{ib} + V_{it})} \quad (4)$$

where V_{ib} is the market value of bidder bank i on the first day of the event window and V_{it} is the market value of target bank i on the first day of the event window. Value of each bank is computed by multiplying the market value of the bank's stock price with bank's the number of shares outstanding. CAR_{ib} represents the CAR for bidder bank i over the event window and CAR_{it} represents the CAR for target bank i over the respective event window.

5.3 Testing the Model

Parametric and non-parametric tests are usually utilized to test the significant of abnormal returns. The parametric tests presume that individual firm's abnormal returns are normally distributed. However, parametric tests are not well-specified in the case of non-normativity. In this respect, non-parametric tests are well-specified and more powerful compared to parametric tests at detecting a false null hypothesis of abnormal returns.

In order to test the significance of differences in the average CARs for two types of M&As (i.e. instate vs. interstate), an independent group t-test is utilized. The test is carried out for the whole period and the comparison of different sub-periods including pre- and post-Crisis periods in order to test the significance of differences between the target, bidder, and combined average CARs for M&As financed by 'cash + mix', or 'common stock only', and geographically focusing (instate) versus geographically diversifying (interstate). The tests

are carried out for the entire sample period and compared the pre-Crisis period (2000-2007) vs. post-Crisis period (2010-2014).

An F-test is utilized to test the variances of two groups are equal or not at the 5% significance level while the independent group t-test is being conducted. If the variances are admitted to be equal, the pooled t-test is utilized, and if unequal, the Satterthwaite t-test is used to test for statistical significance and arrive at appropriate conclusions. In this respect, the null hypothesis can be written as:

H_0 : there is no difference between the mean CARs for the two groups of M&A transactions.

If there is a difference at 5% significance level and the null hypothesis is rejected, it is accepted that there is a statistical difference between the mean CARs for the two groups of M&A transactions.

In an attempt to discover the main drivers of target, bidder and combined CARs, regression analysis is also utilized in our research. In the regression analysis, dependent variable being the CARs, a relative size variable, a payment method dummy variable, a geographic dummy variable and dummy variable for each year are utilized as independent variables.

The relative size is computed as the natural logarithm of target-to-bidder ratio.

Relative size = $\ln(\text{Market Value of Target Bank} / \text{Market Value of Bidder Bank})$

Market value for each bank is computed by multiplying the stock price of each bank with the number of shares outstanding on the first day of corresponding M&A transaction's event window.

The regression model can be written as follows:

$$\text{CAR}_i = \alpha_0 + \beta_1 (\ln(\text{SIZE}_i)) + \beta_2 (\text{PAYMENT}_i) + \beta_3 (\text{GEOGRAPHIC}_i) + \beta_4(2000_i) + \beta_5(2001_i) + \beta_6(2002_i) + \beta_7(2003_i) + \beta_8(2004_i) + \beta_9(2005_i) + \beta_{10}(2006_i) + \beta_{11}(2007_i) +$$

$$\beta_{12}(2008_i) + \beta_{13}(2009_i) + \beta_{14}(2010_i) + \beta_{15}(2011_i) + \beta_{16}(2012_i) + \beta_{17}(2013_i) + \beta_{18}(2014_i) + \varepsilon_i$$

- (1) $\ln(\text{SIZE}_i)$ = the natural logarithm of market value of target bank divided by market value of bidder bank ratio or can be defined as $\text{SIZE} = \text{Market Value of Target Bank} / \text{Market Value of Bidder Bank}$
- (2) PAYMENT_i = the payment method dummy variable; if the M&A transaction is financed by 'cash+mix' equals "1", and ; if the M&A transaction is financed by 'common stock only' equals "0"
- (3) GEOGRAPHIC_i = the geographic location dummy variable; if the M&A transaction occurs in the same state (instate) equals "1", and if the M&A transaction occurs in different states (interstate) equals "0",
- (4) $2000_i - 2014_i$ = dummy variable of each year that M&A transaction took place
- (5) ε_i = Error term

The regression analysis is employed to delve into the drivers of the CARs to the bidder, target and combined. The CARs under 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are regressed against the relative size variable, a payment method dummy variable, a geographic dummy variable and dummy variable for each year as outlined above.

6. EMPIRICAL RESULTS

6.1 Overall Results for Target, Bidder, and Combined

In an efficient market, all public and admissible information is available to all market participants at the same time, and prices respond promptly to all available information. In finance literature, since the stock markets are liquid and deep compared to other markets such as real estate or OTC markets, stock markets are acknowledged to be the best examples of efficient markets. Usually, the target shareholders demand a fairly large premium to sell their shares to the bidder firms because a typical merger is expected to create significant corporate value in the post-merger firm. In an efficient market, this premium should be immediately reflected in the target firm's share price. Average wealth effects for the overall sample and for various sub-samples classified by different periods are presented in Table 6 and Table 7¹⁵.

Overall, M&As announced between 2000 and 2014 create substantial positive cumulative abnormal returns (statistically significant at the 1% level) for the target and combined.

6.1.1 Overall Results for Target, Bidder, and Combined Utilizing S&P500 Index Return

Panel A in Table 6 displays the results for target banks in which the CARs are computed utilizing the S&P500 returns. Over the entire sample period, the CARs to the target banks are on average 23.64% (3-day event window), 23.38% (5-day event window), and 26.14% (36-day event window), respectively with all three at 1% significance level.

The results are consequent with the relevant literature that stock price of target banks increase significantly in other words, shareholders of target banks gain significantly around the announcement of a merger. These results are in line with most of the researchers who

¹⁵ Please note that, we utilized S&P500 CRISP Index and U.S. Banking Index as a benchmark to compute Abnormal Returns in Table 6 and Table 7, respectively.

have found significant *positive* returns to the target banks such as Jensen and Ruback (1983), Loube (1984), Desai and Stover (1985), James and Weir (1987), Neely (1987), Trifts and Scanlon (1987), Wall and Gup (1989), Hawavini and Swary (1990), Cornett and De (1991), Cornett and Tehranian (1992), Houston and Ryngaert (1994), Madura and Wiant (1994), Zhang (1995), Hudgins and Seifert (1996), Pilloff (1996), Siems (1996), Esty, Narasimhan, and Tufano (1999), Becher (2000), Andrade et al. (2001), Delong (2001), Hart and Apilado (2002), Delong and DeYoung (2004), and Asimakopoulos and Athanasoglou (2013), etc.

Table 6- Cumulative Abnormal Returns (CARs) with SP500 Crisp Index

	3-day (-1, +1) event window		5-day (-2, +2) event window		36-day (-30, +5) event window	
Year	CARs (%)	p-value	CARs (%)	p-value	CARs (%)	p-value
Panel A						
Target Banks						
2000 – 2014	23.64	.0001	23.38	.0001	26.14	.0001
2000 – 2007	19.71	.0001	19.45	.0001	21.56	.0001
2008 – 2009	27.97	.0010	28.05	.0016	37.58	.0023
2010 – 2014	29.44	.0001	29.06	.0001	31.55	.0001
Panel B						
Bidder Banks						
2000 – 2014	-1.24	.0134	-0.84	.1031	-1.16	.1478
2000 – 2007	-1.91	.0001	-2.04	.0001	-2.89	.0001
2008 – 2009	-2.03	.5566	-0.97	.7669	5.01	.4235
2010 – 2014	0.05	.9634	1.21	.3019	0.50	.7633
Panel C						
Combined						
2000 – 2014	2.42	.0001	2.77	.0001	3.26	.0002
2000 – 2007	1.19	.0009	1.03	.0067	0.81	.1078
2008 – 2009	5.00	.1519	6.03	.0951	14.46	.0877
2010 – 2014	4.01	.0008	5.05	.0001	5.14	.0016

This table represents the CARs results with respect to U.S. Banking Index utilized. P-values test the statistical significance of the CARs

The CARs to target banks within 3-day (-1, +1) event window for all sub-periods are positive and statistically significant at 1%. CARs to target banks for 2000 – 2014 (whole), 2000 – 2007(pre-crisis), 2008 – 2009 (crisis) and 2010 –2014 (post-crisis) periods are 23.64% (statistically significant at the 1%), 19.71% (statistically significant at the 1%), 27.97% (statistically significant at the 1%) and 29.44% (statistically significant at the 1%), respectively.

For the same periods, the CARs to target banks within 5-day (-2, +2) event window are 23.38%, 19.45%, 28.05% and 29.06% (the results are statistically significant at 1% level), respectively.

For the same periods, the CARs to target banks within 36-day (-30, +5) event window are 26.14% (statistically significant at 1%), 21.56% (statistically significant at 1%), 37.58% (statistically significant at 5%) and 31.55% (statistically significant at 1%), respectively.

Panel B in Table 6 displays the CARs for the bidder banks. The CARs to the bidder banks are -1.24% (statistically significant at 5 %), -0.84%, and -1.16% within the 3-day (-1, +1), 5-day (-2, +2), and 36-day (-30, +5) event windows, respectively.

These results are in line with the findings of prior studies that the shareholders of the bidder firms experience a loss around the announcement of an M&A. These results are consistent with some researchers such as Neely (1987), Hawavini and Swary (1990), Aggrawal, Jajje, Gershon, and Mandelker (1992), Baradwaj, Dubofsky, and Fraser (1992), Cornett and Tehranian (1992), Holdren, Bowers, and Mason (1994), Madura and Wiant (1994), Palia (1994), Houston and Ryngaert (1994), Pilloff (1996), Siems (1996), Loughran and Vjih (1997), Subrahmanyam, Rangan, and Rosenstein (1997), Rau and Vermaelen (1998), Esty, Narasimhan, and Tufano (1999), DeLong (2001), Amilhud, DeLong, and Saunders (2002), Fuller, Netter, and Mike (2002), DeLong and DeYoung (2004), Moeller, Schlingemann, and Stulz (2005) who found in their respective studies that bidder banks had *negative* abnormal returns.

Bidder results are consistent with hubris hypothesis and hubris & synergy hypothesis as these hypotheses expect bidder banks to have negative CARs. However, our overall results for the

banks are not consistent with the synergy hypothesis as this hypothesis expects the bidder banks to realize non-negative CARs.

The CARs to the bidder banks within 3-day (-1,+1) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are -1.24% (statistically significant at the 5%) , -1.91% (statistically significant at the 1%), -2.03% and 0.05%, respectively.

Within 5-day (-2, +2) event window, the CARs to the bidder banks within 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are -0.84%, -2.04% (statistically significant at the 1%), -0.97%, and 1.21%, respectively.

Within 36-day (-30, +5) event window, the CARs to the bidder banks within 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are -1.16%, -2.89% (statistically significant at the 1%), 5.01%, and 0.50%, respectively.

Panel C of Table 6 exhibits the CARs to the combined. CARs are positive and statistically significant at the 1 percent level in all three event windows for the full period. Combined CARs came to be 2.42%, 2.77% and 3.26%, respectively for 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) event windows.

These results exhibit that the combined bank experiences a positive but small return around the announcement of a merger and suggests a transfer of wealth from the bidder to the target and combined. These results are consistent with the prior literature that shareholders of combined gain significantly around the announcement of a merger. This finding is also substantiated by Becher (2000) who observed 3% positive return for the combined, Anderson, Becher, and Campbell (2004), and DeLong and DeYoung (2004).

Combined results are consistent with synergy hypothesis and hubris & synergy hypothesis as these hypotheses expect bidder banks/firms to have positive CARs. However, our overall results for the combined are not consistent with the hubris hypothesis as this hypothesis expects the combined to realize non-positive CARs.

The CARs to combined within 3-day (-1, +1) event window, for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are 2.42% (statistically significant at the 1%), 1.19% (statistically significant at the 1%), 5.00%, and 4.01% (statistically significant at the 1%), respectively.

The CARs to combined within 5-day (-2, +2) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are 2.77% (statistically significant at the 1%), 1.03% (statistically significant at the 1%), 6.03% (statistically significant at the 10%), and 5.05% (statistically significant at the 1%), respectively.

The CARs to combined within 36-day (-30, +5) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are 3.26% (statistically significant at the 1%), 0.81%, 14.46% (statistically significant at the 10%), and 5.14% (statistically significant at the 1%), respectively.

Overall, our results by utilizing S&P500 Index return data in the computation of Abnormal Returns point out that target banks realize positive CARs, bidder banks realize negative CARs, and the combined experience positive CARs around the merger announcement. These results also imply that the target banks increase their values at the expense of the bidder banks and the overall result is positive for the combined.

There is a significant increase in CARs within the 36-day (-30, +5) event windows in Crisis period (2008-2009) for targets, bidders and combined.

6.1.2 Overall Results for Targets, Bidders, and Combined Utilizing U.S. Banking Index Return

Panel A in Table 7 displays the results for target banks in which the CARs are computed utilizing the U.S. Banking Index returns. Over the entire sample period, the CARs to the target banks are on average 23.41% (3-day event window), 23.14% (5-day event window), and 26.04% (36-day event window), respectively with all three at 1% significance level.

The results are consistent with the prior literature that shareholders of target banks gain significantly around the announcement of a merger. These results are in line with most of the researchers who have found significant *positive* returns to the target banks such as Jensen and Ruback (1983), Loube (1984), Desai and Stover (1985), James and Weir (1987), Neely (1987), Trifts and Scanlon (1987), Wall and Gup (1989), Hawavini and Swary (1990), Cornett and De (1991), Cornett and Tehranian (1992), Houston and Ryngaert (1994), Madura and Wiant (1994), Zhang (1995), Hudgins and Seifert (1996), Pilloff (1996), Siems (1996), Esty, Narasimhan, and Tufano (1999), Becher (2000), Andrade et al. (2001), DeLong (2001), Hart and Apilado (2002), DeLong and DeYoung (2004), and Asimakopoulos and Athanasoglou (2013), etc.

The CARs to target banks within 3-day (-1, +1) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 – 2014 periods are 23.41% (statistically significant at the 1%), 19.55% (statistically significant at the 1%), 25.99% (statistically significant at the 1%) and 29.48% (statistically significant at the 1%), respectively.

For the same periods, the CARs to target banks within 5-day (-2, +2) event window are 23.14% (statistically significant at the 1%), 19.35% (statistically significant at the 1%), 25.41% (statistically significant at the 1%) and 29.07% (statistically significant at the 1%), respectively.

For the same periods, the CARs to target firms within 36-day (-30, +5) event window are 26.04% (statistically significant at the 1%), 22.10% (statistically significant at the 1%), 28.07% (statistically significant at the 5%) and 32.29% (statistically significant at the 1%), respectively.

Target banks results are consistent with synergy hypothesis, hubris hypothesis and hubris & synergy hypothesis as all three hypotheses expect target banks/firms to have positive CARs.

Table 7- Cumulative Abnormal Returns (CARs) with U.S. Banking Index

	3-day (-1, +1) event window		5-day (-2, +2) event window		36-day (-30, +5) event window	
Year	CARs (%)	p-value	CARs (%)	p-value	CARs (%)	p-value
Panel A						
Target Banks						
2000 – 2014	23.41	.0001	23.14	.0001	26.04	.0001
2000 – 2007	19.55	.0001	19.35	.0001	22.10	.0001
2008 – 2009	25.99	.0013	25.41	.0015	28.07	.0012
2010 – 2014	29.48	.0001	29.07	.0001	32.29	.0001
Panel B						
Bidder Banks						
2000 – 2014	-1.41	.0041	-1.07	.0354	-1.07	.1333
2000 – 2007	-2.06	.0001	-2.09	.0001	-2.11	.0003
2008 – 2009	-4.09	.2005	-4.19	.1823	-5.72	.0570
2010 – 2014	0.24	.8350	1.29	.2707	1.64	.3320
Panel C						
Combined						
2000 – 2014	2.24	.0001	2.52	.0001	3.29	.0001
2000 – 2007	1.05	.0025	0.97	.0087	1.55	.0048
2008 – 2009	2.68	.3310	2.69	.2728	3.39	.4095
2010 – 2014	4.20	.0004	5.12	.0001	6.22	.0001

This table represents the CARs results with respect to U.S. Banking Index utilized. P-values test the statistical significance of the CARs

Panel B of Table 7 displays the results for the bidder banks. For the full 2000–2014 period, the CARs to their shareholders are negative under each event window and statistically significant within 3-day (-1, +1) and 5-day (-2, +2) event windows. The CAR values are –1.41% (statistically significant at 1 %), -1.07% (statistically significant at 5 %), and –1.07% within the 3-day (-1, +1), 5-day (-2, +2), and 36-day (-30, +5) event windows, respectively.

These results are in line with the findings of prior studies that the shareholders of the bidder firms experience a loss around the announcement of an M&A. These results are consistent with some researchers such as Neely (1987), Hawavini and Swary (1990), Aggrawal, Jajje, Gershon, and Mandelker (1992), Baradwaj, Dubofsky, and Fraser (1992), Cornett and Tehranian (1992), Holdren, Bowers, and Mason (1994), Madura and Wiant (1994), Palia (1994), Houston and Ryngaert (1994), Pilloff (1996), Siems (1996), Loughran and Vjih (1997), Subrahmanyam, Rangan, and Rosenstein (1997), Rau and Vermaelen (1998), Esty, Narasimhan, and Tufano (1999), DeLong (2001), Amilhud, DeLong, and Saunders (2002), Fuller, Netter, and Mike (2002), DeLong and DeYoung (2004), Moeller, Schlingemann, and Stulz (2005) who found in their respective studies that bidder banks had *negative* abnormal returns.

The CARs to bidder banks in 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are -1.41% (statistically significant at 1%), -2.06% (statistically significant at 1%), -4.09% and 0.24%, respectively within 3-day (-1,+1) event window.

For the same periods, the CARs to bidder banks within 5-day (-2, +2) event window are -1.07% (statistically significant at 5%), -2.09% (statistically significant at 1%), -4.19% and 1.29%, respectively.

Within 36-day (-30, +5) event window, the CARs to the bidder banks in 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are -1.07%, -2.11% (statistically significant at the 1%), -5.72% (statistically significant at the 10%), and 1.64%, respectively.

Bidder results are consistent with hubris hypothesis and hubris & synergy hypothesis as these hypotheses expect bidder banks/firms to have negative CARs. However, our overall results for the banks/firms are not consistent with the synergy hypothesis as this hypothesis expects the bidder banks/firms to realize non-negative CARs.

Panel C of Table 7 summarizes CARs to the combined entity are positive and statistically significant at the 1 percent level in all event windows for the full period.

CARs to combined came to be 2.24%, 2.52% and 3.29% and all statistically significant at 1% for 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) event windows, respectively.

These results are consistent with the prior literature that combined shareholders or combined stock prices rose significantly around the announcement of a merger or acquisition. These results exhibit that the combined experiences a positive but small return around the announcement of a merger or acquisition and suggests a wealth transfer from the bidder banks to the target banks. This finding is also substantiated by Becher (2000) who observed 3% positive return for the combined, Anderson, Becher, and Campbell (2004), and Delong and DeYoung (2004).

The CARs to combined within 3-day (-1, +1) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods CARs are 2.24% (statistically significant at 1%), 1.05% (statistically significant at 1%), 2.68%, and 4.20% (statistically significant at 1%), respectively.

The CARs to combined within 5-day (-2, +2) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are 2.52% (statistically significant at 1%), 0.97% (statistically significant at 1%), 2.69%, and 5.12% (statistically significant at 1%), respectively.

The CARs to combined within 36-day (-30, +5) event window for 2000 – 2014, 2000 – 2007, 2008 – 2009 and 2010 –2014 periods are 3.29% (statistically significant at the 1%), 1.55% (statistically significant at the 1%), 3.39% and 6.22% (statistically significant at the 1%), respectively.

Combined results are consistent with synergy hypothesis and hubris & synergy hypothesis as these hypotheses expect bidder banks/firms to have positive CARs. However, our overall results for the combined are not consistent with the hubris hypothesis as this hypothesis expects the combined to realize non-positive CARs.

Overall, the results obtained by utilizing U.S. Banking Index return data in estimating the market parameters point out that target banks realize a positive return, bidder banks realize

a negative return, and the combined experiences a positive return around the merger announcement as it was the case by utilizing S&P500 Index return data. These results also imply that the target banks increase their values at the expense of the bidder banks and the overall result is positive for the combined.

6.2 Overall Results with Respect to the Hypotheses

Our research directly tests three hypotheses; synergy hypothesis, hubris hypothesis and hubris & synergy hypothesis outlined in previous chapters. CARs results and the expected results for each hypothesis is compared in Table 8 and Table 9¹⁶.

As mentioned before, the most essential motive of companies engaging in mergers and acquisitions is the synergy. The synergy hypothesis proposes that the value of the combined firm is higher than the sum of the individual firm values (Bradley, Desai, and Kim, 1988; Seth, 1990; Maquiera, Megginson, and Nail, 1998; Hubbard and Palia, 1990).

The hubris (or pride) hypothesis (Roll, 1986) implies that managers seek to acquire firms for their own personal motives and that the pure economic gains to the acquiring firm are not the only motivation or even the primary motivation in the acquisition. Roll (1986) also states that if the hubris hypothesis explains takeovers, the following should occur for those takeovers motivated by hubris: The stock price of the acquiring firm should fall after the market becomes aware of the takeover bid. This should occur because the takeover is not in the best interests of the acquiring firm's stockholders and does not represent an efficient allocation of their wealth. The stock price of the target should increase with the bid for control. This should occur because the acquiring firm is not only going to pay a premium but also may pay a premium for excess of the value of the target.

The combined effect of the rising value of the target and the falling value of the acquiring firm should not be positive. This takes into account the costs of completing the takeover process.

¹⁶ Please note that, we utilize SP500 CRISP Index Return Data and U.S. Banking Index Return Data as a benchmark to compute Abnormal Returns in Table 8 and Table 9, respectively.

6.2.1 Overall Results Utilizing S&P500 Index Return Data with Respect to the Hypotheses

Table 8 compares our results produced using S&P500 Index Return with the expectation of each hypothesis.

Table 8- Comparison of Hypotheses with Different Sub-periods Utilizing SP500 Crisp Index

		Actual Results Compared with Expected Results (3-day event window)			
		2000 – 2014	2000 – 2007	2008 – 2009	2010 – 2014
Hubris	Expected Results				
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Negative</i>	✓**	✓***	✓	✗
<i>Combined</i>	<i>Non-positive</i>	✗***	✗***	✗	✗***
Synergy					
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Non-negative</i>	✗**	✗***	✗	✓
<i>Combined</i>	<i>Positive</i>	✓***	✓***	✓	✓***
Hubris and Synergy					
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Negative</i>	✓**	✓***	✓	✗
<i>Combined</i>	<i>Positive</i>	✓***	✓***	✓	✓***

Source: Author's own workout. *, **, *** denote statistical significance at the 10%, 5%, and 1 % level, respectively.

Looking at the comparison table overall, only CARs to the target banks satisfy all three hypotheses for the whole period as well as for the sub-periods as CARs to target banks are positive across the board. CARs to the Bidder banks are all negative except the period of 2010-2014. CARs to the combined are all positive which satisfy both the *synergy hypothesis* and the *hubris & synergy hypothesis*.

6.2.2 Overall Results Utilizing U.S. Banking Index Return Data with Respect to the Hypotheses

Table 9 compares our results produced using U.S. Banking Index Return with the expectation of each hypothesis.

Table 9- Comparison of Hypotheses with Different Sub-periods Utilizing U.S. Banking Index

		Actual Results Compared with Expected Results (3-day event window)			
		2000 – 2014	2000 – 2007	2008 – 2009	2010 – 2014
Hubris	Expected Results				
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Negative</i>	✓***	✓***	✓	✗
<i>Combined</i>	<i>Non-positive</i>	✗***	✗***	✗	✗***
Synergy					
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Non-negative</i>	✗***	✗***	✗	✓
<i>Combined</i>	<i>Positive</i>	✓***	✓***	✓	✓***
Hubris and Synergy					
<i>Target</i>	<i>Positive</i>	✓***	✓***	✓***	✓***
<i>Bidder</i>	<i>Negative</i>	✓***	✓***	✓	✗
<i>Combined</i>	<i>Positive</i>	✓***	✓***	✓	✓***

Source: Author's own workout. *, **, *** denote statistical significance at the 10%, 5%, and 1 % level, respectively.

Looking at the comparison table overall, only CARs to the target banks satisfy all three hypotheses for the whole period as well as for the sub-periods as CARs to target banks are positive across the board. CARs to the Bidder banks are negative except in the period of 2010-2014. CARs to the combined are all positive which satisfy both the *synergy hypothesis* and the *hubris & synergy hypothesis*.

6.2.3 Comparison of S&P500 and U.S. Banking Index Return Data with Respect to the Hypotheses

In terms of comparing the S&P500 and U.S. Banking Index return data; there is no major difference between the benchmarks, which makes our analysis more robust with respect to the true detection of CARs.

As can be seen from the Table 8 and Table 9, the only difference between S&P500 Index return and U.S. Banking Index return is the significance of the results for bidder banks for the full period in which when S&P500 utilized, it is to be at 5% significance level and when US Banking Index utilized, it is to be at 1% significance level within 3-day (-1,+1) event window. The below mentioned results can be inferred from both Table 8 and Table 9 with respect to the hypotheses:

As outlined by Roll (1986), for the whole period (2000-2014) and the sub-periods except the post-crisis period (2010-2014), our sample analysis assure the first two conditions of *hubris hypothesis*, which are value of target goes up and value of bidder goes down, however it does not assure the last condition, which is the value of combined firm should be negative, however in our case it is positive. Thus, we can conclude that our findings are mostly in line with *hubris hypothesis* except the value of combined firm. Under this hypothesis, bidder firms overpay to realize these gains as they may aggrandize their ability to create value once they acquire or merge with the target bank and take the control of the bank.

As far as the *synergy hypothesis*, for the whole period (2000-2014) and the sub-periods, our sample analysis assures two conditions, which are the CARs to targets and combined firms to be positive. On the other hand, our sample analysis does not assure the other condition in full, which is the CAR to bidder firms to be non-negative however it is negative except sub-period of 2010-2014. Thus, we can conclude that our findings are mostly in line with *synergy hypothesis* except the CARs to the bidder banks.

For the whole period (2000-2014) and the sub-periods, our sample analysis satisfies the three conditions of *hubris and synergy hypothesis*, which are the CARs to targets and combined banks to be positive and CARs to bidders to be negative. Only in the sub-period of 2010-

2014, bidder banks have positive CARs as the market rewarded the bidder banks along with the targets due to a recovery in the U.S. economy and the U.S. Banking sector. Thus, we can conclude that our findings are mostly in line with *synergy and hubris hypothesis* except the CARs to the bidder banks.

6.3 Year over Year Results for Targets, Bidders, and Combined

In this section, year over year CARs to the targets, bidders and combined are computed to analyze the pattern(s) over the years. The CARs are computed in 3-day (-1,+1) event window utilizing the S&P500 Index Return and the U.S. Banking Index Return in Table 10 and Table 11 in order to compare the results of both tables. Another variance table is generated by subtracting the results using S&P500 Index and the results using the U.S. Banking Index so as to realize the differences better.

6.3.1 Year over Year Results with S&P500 Index Return Data

Table 10 along with Figure 10 exhibit the year over year number of M&As, Deal Values of M&As and CARs to targets, bidders and combined under 3-day (-1,+1) event window with S&P500 Index Return utilized.

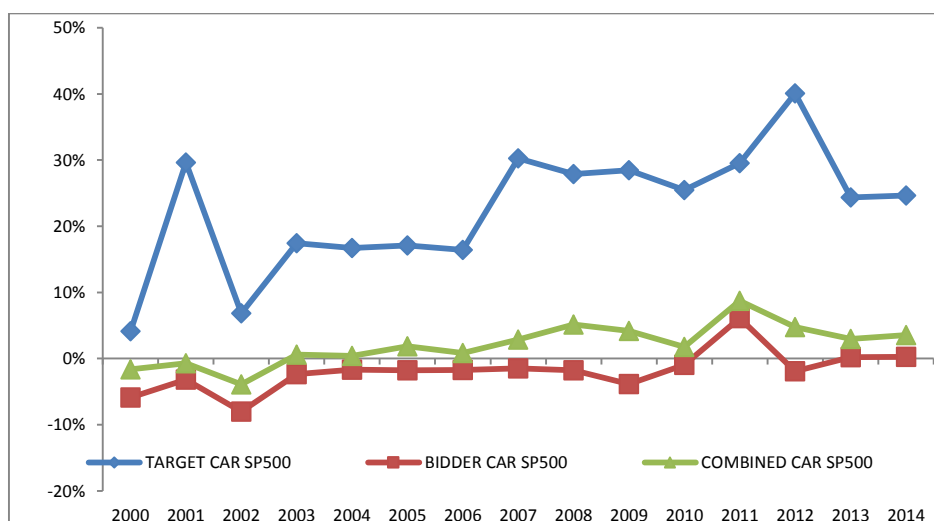
Target banks realized the highest CARs of 40.08% at 1% significance level in 2012, in which the CARs to bidders and combined were -1.93% at 10% significance level and 4.74% at 5% significance level, respectively. Target banks realized the lowest CARs of 6.82% in 2002, in which the CARs to bidders and combined were -7.99% and -3.89%, respectively and the results were not statistically significant as there was only one M&A deal in 2002.

Year 2007 was the most significant year as all three CARs were statistically significant. In 2007, CARs to targets, bidders and combined 30.26 at 1% significance level, -1.50% at 5% significance level and 2.86% at 1% significance level, respectively.

Table 10- U.S. Bank M&A 3-Day (-1, +1) Event Window Sample Statistics: SP500 Crisp Index

Year	M&As	Deal values of M&As	Mean Deal Value	Target (%)	Bidder (%)	Combined (%)
2000	2	1,327,317	663,659	4.11***	-5.88	-1.63
2001	1	1,123,565	1,123,565	29.63	-3.19	-0.69
2002	1	247,708	247,708	6.82	-7.99	-3.89
2003	21	310,263,117	14,774,434	17.42***	-2.36***	0.59
2004	30	368,839,312	12,294,644	16.69***	-1.69***	0.43
2005	15	77,313,115	5,154,208	17.11***	-1.78**	1.84*
2006	27	294,690,132	10,914,449	16.42***	-1.71***	0.86*
2007	28	427,466,959	15,266,677	30.26***	-1.50**	2.86***
2008	13	160,979,390	12,383,030	27.90***	-1.75	5.13
2009	2	359,130	179,565	28.45*	-3.85**	4.16*
2010	9	20,909,607	2,323,290	25.46	-0.94	1.78
2011	7	13,068,702	1,866,957	29.51***	6.11	8.75
2012	20	32,698,245	1,634,912	40.08***	-1.93*	4.74**
2013	21	31,135,783	1,482,656	24.38***	0.19	2.97***
2014	17	75,077,907	4,416,347	24.66***	0.28	3.54***
All	214	1,815,499,989	8,483,645	23.64***	-1.24***	2.42***

This table provides year over year CARs to targets, bidders and combined with some summary statistics of the sample. Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in U.S. \$ thousands.



Source: Produced using the sample data.

Figure 10- U.S. Bank M&A 3-Day (-1, +1) Event Window: SP500 Crisp Index

6.3.2 Year over Year Results with U.S. Banking Index Return Data

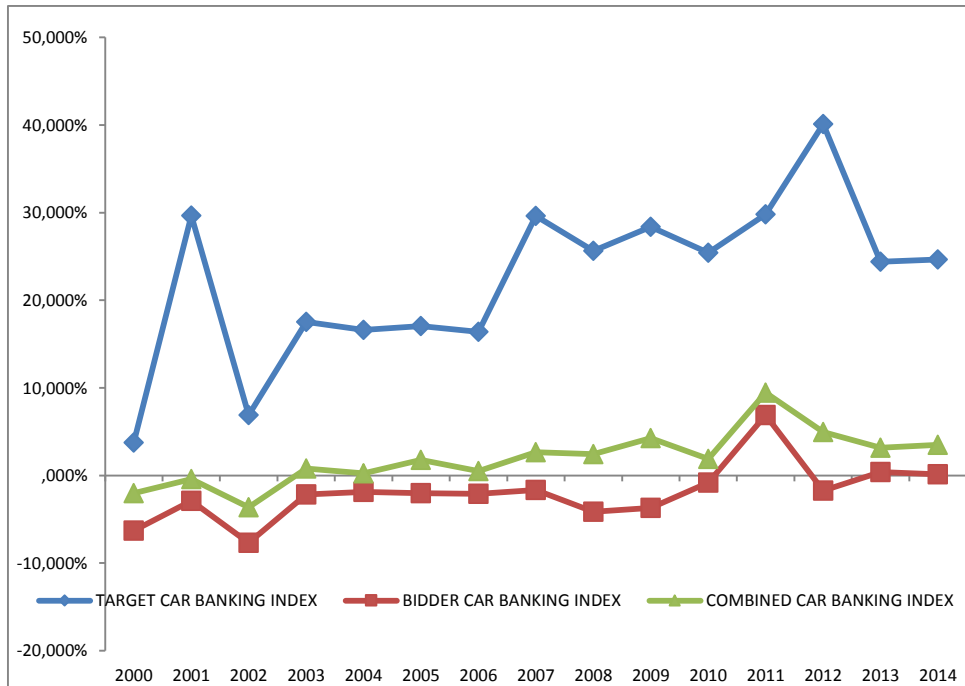
Table 11 along with Figure 11 below exhibit the year over year number of M&As, Deal Values of M&As and CARs to targets, bidders and combined under 3-day (-1,+1) event window with U.S. Banking Index utilized.

Table 11- Bank M&A 3-Day (-1, +1) Event Window Sample Statistics: U.S. Banking Index

Year	M&As	Deal values of M&As	Mean Deal Value	Target (%)	Bidder (%)	Combined (%)
2000	2	1,327,317	663,659	3.76**	-6.31	-2.01
2001	1	1,123,565	1,123,565	29.66	-2.88	-0.41
2002	1	247,708	247,708	6.91	-7.68	-3.63
2003	21	310,263,117	14,774,434	17.53***	-2.16***	0.78
2004	30	368,839,312	12,294,644	16.60***	-1.86***	0.26
2005	15	77,313,115	5,154,208	17.05***	-2.01***	1.79*
2006	27	294,690,132	10,914,449	16.38***	-2.11***	0.51
2007	28	427,466,959	15,266,677	29.64***	-1.66***	2.66***
2008	13	160,979,390	12,383,030	25.63***	-4.14	2.44
2009	2	359,130	179,565	28.37*	-3.71**	4.25*
2010	9	20,909,607	2,323,290	25.43	-0.82	1.89
2011	7	13,068,702	1,866,957	29.82***	6.88	9.47
2012	20	32,698,245	1,634,912	40.11***	-1.71	4.95***
2013	21	31,135,783	1,482,656	24.41***	0.41	3.17***
2014	17	75,077,907	4,416,347	24.65***	0.15	3.51***
All	214	1,815,499,989	8,483,645	23.41***	-1.41***	2.24***

This table provides year over year CARs to targets, bidders and combined with some summary statistics of the sample. Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in U.S. \$ thousands.

Target banks realized the highest CARs of 40.11% at 1% significance level in 2012, in which the CARs to bidders and combined were -1.71% and 4.95% at 1% significance level, respectively. Target banks realized the lowest CARs of 3.76% at 5% confidence level in 2000, in which the CARs to bidders and combined were -6.31% and -2.01%, respectively and the results were not statistically significant as there was only one M&A deal in 2000.



Source: Produced using the sample data.

Figure 11- U.S. Bank M&A 3-Day (-1, +1) Event Window: U.S. Banking Index

Year 2007 was the most significant year as all three CARs were statistically significant at 1% level. In 2007, CARs to targets, bidders and combined 29.64 at 1% significance level, -1.66% at 1% significance level and 2.66% at 1% significance level, respectively.

6.3.3 Comparison of Year over Year CARs between S&P500 Index Return and U.S. Banking Index Return Data

Table 12 along with Figure 12 encompass the variance analysis of two different Table 10 (Bank M&A 3-Day (-1, +1) Event Window Sample Statistics: SP500 Crisp Index) and Table 11 (Bank M&A 3-Day (-1, +1) Event Window Sample Statistics: U.S. Banking Index).

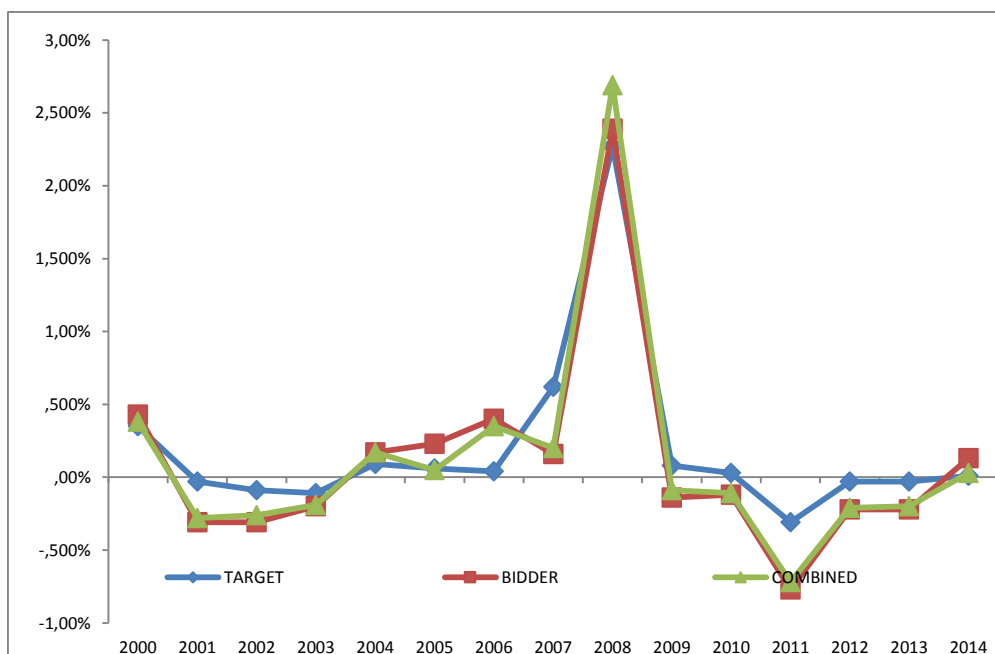
As can be seen from the difference table (Table 12) and figure (Figure 12), there is no significant differences of CARs to the bidders, targets and combined according to each year except the year of 2008 in which the Global Financial Crisis had started.

Table 12- Difference of Bank M&A 3-Day (-1, +1) Event Window Sample Statistics between S&P500 Index and U.S. Banking Index

Year	M&As	Deal values of M&As	Mean Deal Value	Target (%)	Bidder (%)	Combined (%)
2000	2	1,327,317	663,659	0,35	0,43	0,38
2001	1	1,123,565	1,123,565	-0,03	-0,31	-0,28
2002	1	247,708	247,708	-0,09	-0,31	-0,26
2003	21	310,263,117	14,774,434	-0,11	-0,2	-0,19
2004	30	368,839,312	12,294,644	0,09	0,17	0,17
2005	15	77,313,115	5,154,208	0,06	0,23	0,05
2006	27	294,690,132	10,914,449	0,04	0,4	0,35
2007	28	427,466,959	15,266,677	0,62	0,16	0,2
2008	13	160,979,390	12,383,030	2,27	2,39	2,69
2009	2	359,130	179,565	0,08	-0,14	-0,09
2010	9	20,909,607	2,323,290	0,03	-0,12	-0,11
2011	7	13,068,702	1,866,957	-0,31	-0,77	-0,72
2012	20	32,698,245	1,634,912	-0,03	-0,22	-0,21
2013	21	31,135,783	1,482,656	-0,03	-0,22	-0,2
2014	17	75,077,907	4,416,347	0,01	0,13	0,03
All	214	1,815,499,989	8,483,645	0,23	0,17	0,18

This table provides year over year CARs to targets, bidders and combined with some summary statistics of the sample. Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in U.S. \$ thousands.

In 2008, the CARs to bidders, targets and combined came more than 2% less using the U.S. Banking Index than using the S&P500 Index. S&P500 Index decreased by 37.58% and the U.S. Banking Index decreased by 49.94% for the whole year. There is a 12.36% negative decomposition in the U.S. Banking Index than the overall market index. This might explain the variance between two index return for that particular year in which the Global Financial Crisis started.



Source: Produced using the sample data.

Figure 12- Year over Year Difference between S&P500 Index Return and U.S. Banking Index Return Data

6.3.4 Year over Year Results with S&P500 Index Return Data with Different Event Windows

Table 13 exhibits the year over year number of M&As, Deal Values of M&As and CARs to targets, bidders and combined under 5-day (-2,+2) event window.

Target banks realized the highest CARs of 41.86% at 1% significance level in 2012, in which the CARs to bidders and combined were -1.39% and 5.50% at 1% significance level, respectively. Target banks realized the lowest CARs of 5.08% in 2000, in which the CARs to bidders and combined were -7.78% and -2.20%, respectively and the results were not statistically significant as there were only two M&A deal in 2000. The CARs to targets, bidders and combined were statistically significant concurrently in the years of 2005, 2006, 2007 and 2013.

Table 13-U.S. Bank M&A 5-Day (-2, +2) Event Window Sample Statistics

Year	M&As	Deal values of M&As	Mean Deal Value	Target (%)	Bidder (%)	Combined (%)
2000	2	1,327,317	663,659	5.08	-7.78	-2.20
2001	1	1,123,565	1,123,565	29.50	-1.59	0.77
2002	1	247,708	247,708	5.27	-10.16	-5.88
2003	21	310,263,117	14,774,434	17.80***	-2.28**	0.62
2004	30	368,839,312	12,294,644	16.21***	-2.11***	-0.03
2005	15	77,313,115	5,154,208	15.67***	-1.65*	1.79**
2006	27	294,690,132	10,914,449	16.67***	-1.26*	1.26**
2007	28	427,466,959	15,266,677	30.06***	-2.07**	2.32**
2008	13	160,979,390	12,383,030	27.42***	-1.81	5.22
2009	2	359,130	179,565	32.13*	4.45	11.32
2010	9	20,909,607	2,323,290	22.91	1.50	2.91**
2011	7	13,068,702	1,866,957	29.32***	7.69	10.97
2012	20	32,698,245	1,634,912	41.86***	-1.39	5.50***
2013	21	31,135,783	1,482,656	24.13***	1.63*	4.39***
2014	17	75,077,907	4,416,347	23.24***	0.93	4.05***
All	214	1,815,499,989	8,483,645	23.38***	-0.84*	2.77***

This table represents year-over-year CARs to target, bidder and combined. Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in U.S. \$ thousands.

It is worth to note that 36-day (-30, +5) event window significantly differs from both 3-day (-1, +1) and 5-day (-2, +2) event windows in terms of the lowest target CARs. The CARs to targets, bidders and combined were statistically significant concurrently in 2012.

Table 14 exhibits the number of M&As, deal values of M&As and CARs to targets, bidders and combined under 36-day (-30,+5) event window on an annual basis.

Target banks realized the highest CARs of 43.22% at 1% significance level in 2012, in which the CARs to bidders and combined were -1.96% at 10% significance level and 5.26% at 1% significance level, respectively. Target banks realized the lowest CARs of 16.11% at 1% significance level in 2005, in which the CARs to bidders and combined were -3.79% at 1% significance level and -0.05%.

Table 14- Bank M&A 36-Day (-30, +5) Event Window Sample Statistics

Year	M&As	Deal values of M&As	Mean Deal Value	Target (%)	Bidder (%)	Combined (%)
2000	2	1,327,317	663,659	18.82**	-4.92	4.03
2001	1	1,123,565	1,123,565	30.94	6.27	8.15
2002	1	247,708	247,708	24.20	-5.32	2.86
2003	21	310,263,117	14,774,434	20.43***	-2.99**	0.68
2004	30	368,839,312	12,294,644	18.80***	-3.07***	-0.51
2005	15	77,313,115	5,154,208	16.11***	-3.79***	0.05
2006	27	294,690,132	10,914,449	18.82***	-0.68	2.46**
2007	28	427,466,959	15,266,677	30.69***	-4.35***	0.58
2008	13	160,979,390	12,383,030	37.62***	6.20	15.50*
2009	2	359,130	179,565	37.34	-2.06	7.72
2010	9	20,909,607	2,323,290	34.27*	-2.63	1.95
2011	7	13,068,702	1,866,957	31.10**	13.07	15.0
2012	20	32,698,245	1,634,912	43.22***	-1.96*	5.26***
2013	21	31,135,783	1,482,656	26.40***	-0.52	3.36**
2014	17	75,077,907	4,416,347	22.94***	1.14	4.81**
All	214	1,815,499,989	8,483,645	26.14***	-1.16	3.26***

This table represents year-over-year CARs to target, bidder and combined. Value is computed by multiplying the stock price and the number of shares outstanding on the event date of the M&A. Values are in U.S. \$ thousands.

6.4 Comparison of Pre- and Post-Crisis CARs for Targets, Bidders, and Combined

In order to capture the effect of mergers differences before and after the Global Financial Crisis, we divided our sample into two periods and the same analysis is also carried out for the first period (2000–2007) mainly represents pre-crisis period and the second period (2010–2014) represents post-crisis period.

Table 15 exhibits pre- and post-Crisis CARs to the targets, bidders and combined utilizing S&P500 Index return in computing the CARs. As can be seen from the Table, CARs to target banks in pre-Crisis period (2000-2007) are much lower than those in post-Crisis period. The CARs to target banks in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 19.71%, 19.45% and 21.56% all at 1% significance level, respectively, whereas the CARs to target banks in post-Crisis period (2010-2014) for 3-day

(-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 29.44%, 29.06% and 31.55% all at 1% significance level, respectively.

Comparing the two periods for the target banks, at 1% significance level, we can reject the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in all three event windows (3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) meaning that the CARs to the target banks before and after the Global Financial Crisis are statistically significantly different than each other.

CARs to bidder banks in pre-Crisis period are also lower than those in post-Crisis period (slightly higher than zero). The CARs to bidder banks in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are -1.91% at 1% significance level, -2.04% at 1% significance level and -2.89% at 1% significance level, respectively, whereas the CARs to bidder banks in post-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 0.05%, 1.21% and 0.50%, respectively.

Comparing the two periods for the bidder banks, we can reject the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) within 5-day (-2,+2) event window at 1% significance level, and 36-day (-30,+5) event window at 10% significance level, meaning that the CARs to the bidder banks before and after the Global Financial Crisis are statistically significantly different than each other within 5-day (-2,+2) and 36-day (-30,+5) event windows, respectively.

CARs to combined in pre-Crisis period are much lower than those in post-Crisis period, similar to target banks. The CARs to combined in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 1.19% at 1% significance level, 1.03% at 1% significance level and 0.81%, respectively, whereas the CARs to combined in post-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 4.01% at 1% significance level, 5.05 at 1% significance level and 5.14% at 1% significance level, respectively.

Table 15- Pre- and Post-Crisis Cumulative Abnormal Returns (CARs) with SP500 Crisp Index

Year	3-day (-1, +1) event window				5-day (-2, +2) event window				36-day (-30, +5) event window			
	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis
Panel A												
Target Banks												
2000 – 2007	19.71				19.45				21.56			
2010 – 2014	29.44	2.50	-2.89***	0.0046	29.06	2.81	-2.80***	0.0060	31.55	2.79	-2.63***	0.0098
Panel B												
Bidder Banks												
2000 – 2007	-1.91				-2.04				-2.89			
2010 – 2014	0.05	7.82	-1.63	0.1072	1.21	5.95	-2.66***	0.0092	0.50	5.42	-1.93*	0.0562
Panel C												
Combined												
2000 – 2007	1.19				1.03				0.81			
2010 – 2014	4.01	6.24	-2.36**	0.0208	5.05	5.34	-3.42***	0.0010	5.14	5.77	-2.63***	0.0100

This table displays the CARs for targets, bidders, and combined around the announcement date of a bank merger or acquisition. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively. For F-test, H_0 =Variances are equal. P-value represents the significant of difference.

Table 16- Pre- and Post-Crisis Cumulative Abnormal Returns (CARs) with U.S. Banking Index

Year	3-day (-1, +1) event window				5-day (-2, +2) event window				36-day (-30, +5) event window			
	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis	CARs (%)	F-Value	t-value of t-test: pre-crisis vs. post crisis	p-value of t-test: pre-crisis vs. post crisis
Panel A												
Target Banks												
2000 – 2007	19.55	2.50	-2.95***	0.0039	19.35	2.79	-2.83***	0.0055	22.10	2.70	-2.72***	0.0077
2010 – 2014	29.48				29.07				32.29			
Panel B												
Bidder Banks												
2000 – 2007	-2.06	8.95	-1.93*	0.0576	-2.09	7.19	-2.79***	0.0064	-2.11	5.09	-2.12**	0.0362
2010 – 2014	0.24				1.29				1.64			
Panel C												
Combined												
2000 – 2007	1.05	6.47	-2.65***	0.0096	0.97	5.60	-3.52***	0.0007	1.55	4.82	-2.85***	0.0054
2010 – 2014	4.20				5.12				6.22			

This table displays the CARs for targets, bidders, and combined around the announcement date of a bank merger or acquisition. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively. For F-test, H₀=Variances are equal. P-value represents the significant of difference.

Comparing the two periods for the combined banks, we can reject the the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in 5-day (-2,+2) and 36-day (-30,+5) event windows at 1% significance level and we can reject the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in 3-day (-1,+1) at 5% significance level meaning that the CARs to the combined before and after the Global Financial Crisis are statistically significantly different than each other within 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows, respectively.

Table 16 exhibits pre- and post-Crisis CARs to the targets, bidders and combined utilizing U.S. Banking Index return in computing the CARs. As can be seen from the Table, CARs to target banks in pre-Crisis period (2000-2007) are much lower than those in post-Crisis period. The CARs to target banks in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 19.55%, 19.35% and 22.10% all at 1% significance level, respectively, whereas the CARs to target banks in post-Crisis period (2010-2014) for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 29.48%, 29.07% and 32.29% all at 1% significance level, respectively.

Comparing the two periods for the target banks, we can reject the the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in all three event windows (3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) at 1% significance level, meaning that the CARs to the target banks before and after the Global Financial Crisis are statistically significantly different than each other.

CARs to bidder banks in pre-Crisis period are also lower than those in post-Crisis period (slightly higher than zero). The CARs to bidder banks in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are -2.06% at 1% significance level, -2.09% at 1% significance level and -2.11% at 1% significance level, respectively, whereas the CARs to bidder banks in post-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 0.24%, 1.29% and 1.64%, respectively.

Comparing pre- and post-Crisis periods for the bidder banks, we can reject the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in all three event windows with different significance levels. We can reject the the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) within 3-day (-1,+1) event window at 10% significance level, within 5-day (-2,+2) event window at 1% significance level and within 36-day (-30,+5) event window at 5%

significance level, meaning that the CARs to the bidder banks before and after the Global Financial Crisis are statistically significantly different than each other within all event windows.

CARs to combined in pre-Crisis period are lower than those in post-Crisis period, similar to target banks. The CARs to combined in pre-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 1.05% at 1% significance level, 0.97% at 1% significance level and 1.55% at 1% significance level, respectively, whereas the CARs to combined in post-Crisis period for 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows are 4.20% at 1% significance level, 5.12 at 1% significance level and 6.22% at 1% significance level, respectively.

Comparing the pre-crisis and post-crisis periods for the combined, we can reject the the null hypothesis ($H_0 = CAR_{S_{pre-crisis}} = CAR_{S_{post-crisis}}$) in 5-day (-2,+2) and 36-day (-30,+5) event windows all at 1% significance level meaning that the CARs to the combined before and after the Global Financial Crisis are statistically significantly different than each other within 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5) event windows, respectively.

In terms of overall comparison of S&P500 Index return and U.S. Banking Index return, U.S. Banking Index return provides us more robust results as pre-crisis and post-crisis CARs to targets, bidders and combined are statistically significantly different than each other within all three event windows whereas when S&P500 utilized for the bidder bank within 3-day (-1, +1) event window, the results are not statistically significant.

6.5 Method of Payment

The prior literature in mergers and acquisitions posits that choice of payment method used to finance the M&A deal can affect the abnormal returns to the targets, bidders, and combined. Dutta, Saadi and Zhu (2013) studies 545 cross-borders and 755 domestic deals to examine the effect of payment methods in the context of cross-border M&A deals. They investigate all Canadian M&A deals that occurred between 1993 and 2002 and involved a

Toronto Stock Exchange (TSX) listed bidding company. Their research reveals a significant and positive effect for stock financed deals in the cross-border acquisitions.

Table 17- Summary Statistics of the Sample with Respect to Method of Payments

Time Period	Cash+Mix	Common Stock	Cash+Mix	Common Stock
2000 – 2014	154	60	72%	28%
2000 – 2007	89	36	71%	29%
2008 – 2009	10	5	67%	33%
2010 – 2014	55	19	74%	26%

'Cash + Mix' indicates any combination of financing includes cash. Common stock indicates that the M&A was financed by stock only.

Table 17 displays the number and percentage of the M&As that are financed by 'Cash+Mix' and 'Common Stock'. For overall sample period, 72% of M&As are financed by 'cash + mix' and 28% of deals are financed by 'common stock'.

Table 18- CARs to Targets, Bidders and Combined with Respect to Method of Payment

	3-day (-1, +1) event window				5-day (-2, +2) event window				36-day (-30, +5) event window			
	Cash + Mix (%)	Common Stock (%)	F-Value	T-value	Cash + Mix (%)	Common Stock (%)	F-Value	T-value	Cash + Mix (%)	Common Stock (%)	F-Value	T-value
Panel A: Targets												
2000 – 2014	24.84	20.55	1.58	-1.20	24.51	20.48	1.57	-1.11	27.68	22.18	2.34	-1.22
2000 – 2007	21.52	15.15	1.83	-2.26**	21.27	14.95	1.84	-2.30**	24.01	15.50	1.30	-2.48**
2008 – 2009	27.80	28.32	2.36	0.04	28.61	26.93	3.92	-0.11	39.29	34.16	8.35	-0.17
2010 – 2014	29.79	28.45	2.58	-0.16	28.99	29.25	2.20	0.03	31.49	31.70	3.02	0.02
Panel B: Bidders												
2000 – 2014	-1.91	0.49	5.70	1.57	-1.21	0.01	3.64	0.88	-1.62	0.04	5.63	0.68
2000 – 2007	-2.05	-1.54	3.81	0.57	-1.99	-2.18	2.93	-0.19	-2.54	-3.75	1.17	-1.00
2008 – 2009	-5.81	5.52	1.13	1.68	-3.21	3.50	3.13	0.98	2.07	11.15	4.41	0.68
2010 – 2014	-0.96	3.15	14.37	0.95	0.41	3.52	7.66	0.78	-0.82	4.32	11.50	0.87
Panel B: Combined												
2000 – 2014	1.82	3.98	5.85	1.39	2.37	3.79	5.38	0.90	2.89	4.22	5.36	0.51
2000 – 2007	1.15	1.27	1.49	0.15	1.17	0.67	1.30	-0.61	1.25	-0.27	1.27	-1.38
2008 – 2009	0.76	13.48	8.36	1.49	3.04	12.04	6.37	0.98	12.02	19.34	5.35	0.33
2010 – 2014	3.12	6.62	8.25	0.88	4.19	7.55	8.90	0.87	3.89	8.75	8.85	0.90

This table displays the CARs for targets, bidders, and combined around the announcement date of a bank merger or acquisition. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively.

Table 18 exhibits the CARs for targets, bidders and combined with respect to the payment methods ('cash+mix' vs. 'common stock') over three different event windows (3-day, 5-day and 36-day) and different sub-periods.

Panel A of Table 18 represents the CARs to target banks. CARs of 'cash+mix' and 'common stock' transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 24.84% vs. 20.55%; 21.52% vs. 15.15 (5% statistically significant difference); 27.80% vs. 28.32% and 29.79% vs. 28.45, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 24.51% vs. 20.48%; 21.27% vs. 14.95% (5% statistically significant difference); 28.61% vs. 26.93% and 28.99% vs. 29.25%, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 36-day (-30,+5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 27.68% vs. 22.18% ; 24.01% vs. 15.50% (5% statistically significant difference); 39.29% vs. 34.16% and 31.49% vs. 31.70%, respectively.

Overall, we can infer that for the target banks, cash involved transactions are higher than common stock only-financed transactions pre-crisis period being 5% statistically significant.

Panel B of Table 18 represents the CARs to bidder banks. CARs of 'cash+mix' and 'common stock' transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -1.91% vs. 0.49%; -2.05% vs. -1.54; -5.81% vs. 5.52% and -0.96% vs. 3.15, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period),

2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -1.21% vs. 0.01%; -1.99% vs. -2.18%; -3.21% vs. 3.50% and 0.41% vs. 3.52%, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 36-day (-30, +5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -1.62% vs. 0.04%; -2.54% vs. -3.75%; 2.07% vs. 11.15% and -0.82% vs. 4.32%, respectively.

Overall, for the bidder banks, common stock only-financed transactions' CARs are higher than cash-financed transactions' CARs indicating the market rewards the bidder banks when common stock is used in financing the M&A transaction.

Panel C of Table 18 represents the CARs to combined. CARs of 'cash+mix' and 'common stock' transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 1.82% vs. 3.98%; 1.15% vs. 1.27; 0.76% vs. 13.48% and 3.12% vs. 6.62, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 2.37% vs. 3.79%; 1.17% vs. 0.67; 3.04% vs. 12.04% and 4.19% vs. 7.55, respectively.

CARs of 'cash+mix' and 'common stock' transactions to the target banks within 36-day (-30,+5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 2.89% vs. 4.22%; 1.25% vs. -0.27; 12.02% vs. 19.34% and 3.89% vs. 8.75, respectively.

Overall, for the combined, common stock only-financed transactions' CARs are higher than cash-financed transactions' CARs for the whole period, but not statistically significant in line with bidder banks.

6.6 Geographic Location

In this section, we attempt to answer the question as to whether the targets, bidders and combined abnormal returns are affected by geographically focusing (intrastate or instate) versus geographically diversifying (interstate) mergers.

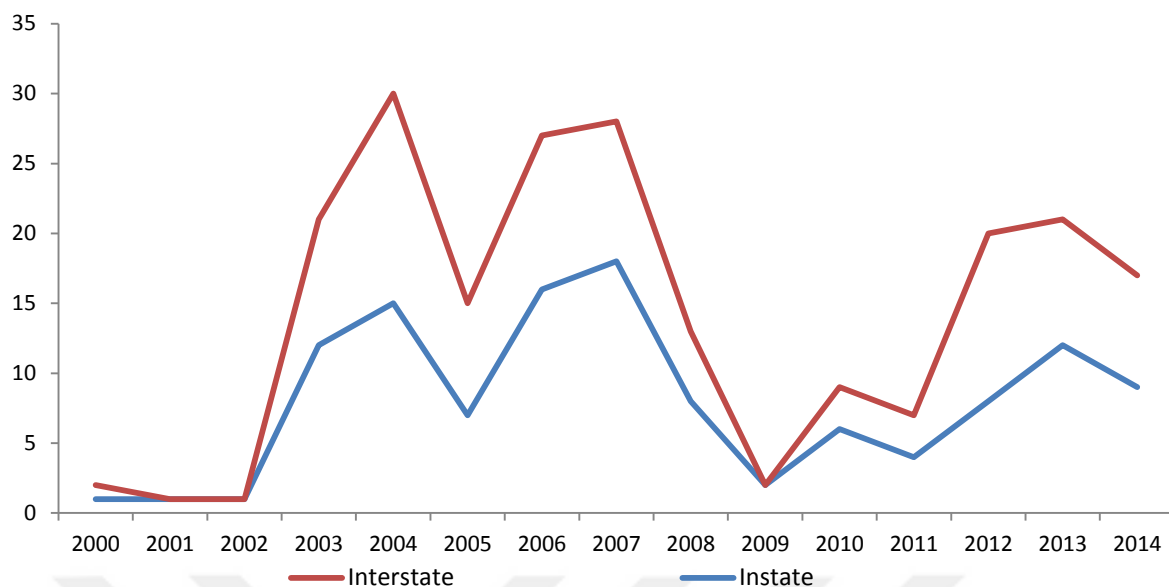
Table 19- Sample Statistics of the Sample with Respect to Geographic Location

Time Period	Instate	Interstate	Instate (%)	Interstate (%)
2000 – 2014	120	94	56%	44%
2000 – 2007	71	54	57%	43%
2008 – 2009	10	5	67%	33%
2010– 2014	39	35	53%	47%

This table presents the number and percentage of M&As by geographic location. Instate is defined as those M&As where the bidder and target banks are headquartered in the same state. Interstate indicates that the bidder bank is not headquartered in the same state as the target bank.

Table 19 and Figure 13 demonstrate the summary statistics for the bank merger and acquisitions sample based on these two variables. For the overall 2000–2014 period 56.07% of the M&As are geographically focusing (instate/intrastate) whereas 43.93% of the M&A’s are geographically diversifying (interstate).

Table 20 displays the CARs to the targets, bidders and combined with respect to the geographic location of target and bidder banks. If a bidder banks attempts to acquire or merge with a target bank in the same state it is called “Instate or Intrastate Merger” and if a bidder bank attempts to acquire or merge with a target bank in a different state it is called “Interstate Merger”.



Source: Produced using the sample data.

Figure 13- Year Over Year US Bank M&A Sample Summary Statistics by Geographic Location

Table 20 exhibits the CARs for targets, bidders and combined with respect to the geographic diversification (interstate vs. instate) over three different event windows (3-day, 5-day and 36-day) and different sub-periods.

Panel A of Table 20 represents the CARs to target banks. CARs of ‘interstate’ and ‘instate’ transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 21.75% vs. 25.11%; 17.88% vs. 21.10; 35.55% vs. 24.19% and 25.76% vs. 32.73, respectively.

The CARs of ‘interstate’ and ‘instate’ transactions to the target banks within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 21.71% vs. 24.69%; 17.43% vs. 20.99; 35.53% vs. 24.31% and 26.32% vs. 31.52, respectively.

The CARs of ‘interstate’ and ‘instate’ transactions to the target banks within 36-day (-30, +5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period),

2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 23.75% vs. 28.01%; 18.56% vs. 23.84; 61.76% vs. 25.49% and 26.32% vs. 36.24, respectively.

Panel B of Table 20 represents the CARs to bidder banks. The CARs of ‘interstate’ and ‘instate’ transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -1.08% vs. -1.37%; -1.49% vs. -2.22; 3.83% vs. -4.96% and -1.16% vs. 1.17, respectively.

The CARs of ‘interstate’ and ‘instate’ transactions to the bidder banks within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -0.92% vs. -0.78%; -1.70% vs. -2.30; 3.01% vs. -2.96% and -0.28% vs. 2.55, respectively.

The CARs of ‘interstate’ and ‘instate’ transactions to the bidder banks within 36-day (-30, +5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are -1.62% vs. -0.79%; -2.90% vs. -2.88; 11.17% vs. 2.06% and -1.46% vs. 2.27, respectively.

Panel C of Table 20 represents the combined CARs. The CARs of ‘interstate’ and ‘instate’ transactions to the target banks within 3-day (-1, +1) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 1.15% vs. 3.10%; 0.20% vs. 1.93 (statistically significant at 5%); 9.91% vs. 2.55% and 2.44% vs. 5.45, respectively.

The CARs of ‘interstate’ and ‘instate’ transactions to the combined within 5-day (-2, +2) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 1.77% vs. 3.55% (statistically significant at 5%); -0.01% vs. 1.82 (statistically significant at 1%); 10.23% vs. 3.94% and 3.32% vs. 6.61, respectively.

Table 20- CARs to Targets, Bidders and Combined with Respect to the Geographic Diversification

Year	3-day (-1, +1) event window					5-day (-2, +2) event window					36-day (-30, +5) event window				
	Inter state (%)	Instate (%)	F- Value	T-value	P- value	Inter state (%)	Instate (%)	F- Value	T-value	P- value	Inter state (%)	Instate (%)	F- Value	T-value	P- value
Panel A: Targets															
2000 – 2014	21.75	25.11	1.08	-1.14	.2540	21.71	24.69	1.05	-1.00	.3179	23.75	28.01	1.35	-1.25	.2140
2000 – 2007	17.88	21.10	1.30	-1.09	.2772	17.43	20.99	1.33	-1.23	.2195	18.56	23.84	1.31	-1.66	.1001
2008 – 2009	35.55	24.19	5.14	0.61	.5711	35.53	24.31	4.72	0.57	.5946	61.76	25.49	4.28	1.83*	.0900
2010 – 2014	25.76	32.73	1.34	-1.15	.2531	26.32	31.52	1.30	-0.83	.4087	26.32	36.24	1.26	-1.45	.1519
Panel B: Bidders															
2000 – 2014	-1.08	-1.37	3.94	0.30	.7608	-0.92	-0.78	3.66	-0.15	.8837	-1.62	-0.79	1.64	-0.53	.5989
2000 – 2007	-1.49	-2.22	1.09	1.15	.2524	-1.70	-2.30	1.72	0.83	.4072	-2.90	-2.88	2.07	-0.02	.9850
2008 – 2009	3.83	-4.96	2.33	1.25	.2323	3.01	-2.96	2.37	0.87	.4010	11.17	2.06	3.87	0.68	.5078
2010 – 2014	-1.16	1.17	7.46	-1.04	.3053	-0.28	2.55	5.28	-1.26	.2126	-1.46	2.27	4.95	-1.16	.2500
Panel C: Combined															
2000 – 2014	1.55	3.10	1.93	-1.58	.1156	1.77	3.55	1.79	-1.77*	.0777	1.68	4.51	1.36	-1.66	.0993
2000 – 2007	0.20	1.93	2.75	-2.52**	.0132	-0.01	1.82	3.26	-2.68***	.0086	-1.05	2.23	2.53	-3.58***	.0006
2008 – 2009	9.91	2.55	4.70	1.06	.3104	10.23	3.94	6.53	0.66	.5392	26.77	8.31	8.24	1.11	.2854
2010 – 2014	2.44	5.45	5.59	-1.36	.1795	3.32	6.61	5.05	-1.53	.1308	2.30	7.68	2.76	-1.79*	.0787

This table displays the CARs for targets, bidders, and combined around the announcement date of a bank merger or acquisition. *, **, *** denote statistical significance at the 10%, 5%, and 1% level, respectively. For F-test, H₀=Variances are equal. P-value represents the significant of difference.

The CARs of 'interstate' and 'instate' transactions to the combined within 36-day (-30, +5) event window for the periods 2000-2014 (whole period), 2000-2008 (pre-crisis period), 2008-2009 (crisis period) and 2010-2014 (post-crisis period) are 1.68% vs. 4.51%; -1.05% vs. 2.23% (statistically significant at 1%); 26.77% vs. 8.31% and 2.30% vs. 7.68, respectively.

6.7 Regression Analysis

The regression results for targets, bidders and combined are incorporated in Table 21, with respect to different event windows (3-day, 5-day and 36-day).

Panel A of Table 21 exhibits the regression results of CARs to target banks. Within 3-day (-1, +1) event window, relative size of target to bidder ratio is negatively correlated with the CARs for target banks at 10% significance level meaning that as the relative size increases the CARs for target banks decrease. Within 3-day (-1, +1) event window, geographic location dummy variable (1=instate, 0=interstate) is significant at 10% meaning that instate M&As are positively correlated to the CARs for target banks and statistically significant.

Within 5-day (-2, +2) and 36-day (-30, +5) event windows, relative size is negatively correlated with the CARs for target banks but not statistically significant. Within the same event windows, method of payment dummy variable (1=cash + mix, 0= common stock) and geographic location dummy variable (1=instate, 0=interstate) are positively correlated with the CARs for target banks but not statistically significant.

Constant terms for 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) are 16.01%, 15.93% and 16.89%, respectively. This means when all right hand side variables take the value of zero, the average CARs to target banks will be 16.01%, 15.93% and 16.89% within 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5), respectively.

For target banks regression results, overall, we can infer that as the relative size increases the CARs decrease and 'instate' and 'cash+mix'-financed M&As move in the same direction with the CARs for the target banks.

Panel B of Table 21 exhibits the regression results of Bidder Banks CARs. Within 3-day (-1, +1) event window, relative size of target to bidder ratio is negatively correlated with the CARs for target banks meaning that as the relative size increases the CARs for bidder banks decrease. Within 3-day (-1, +1) event window, method of payment dummy variable (1=cash + mix, 0= common stock) is significant at 5% meaning that ‘cash+mix’-financed M&As are negatively correlated to the CARs for target banks and statistically significant.



Table 21- Regression Analysis Summary Statistics

Dependent Variable: CARs for	3-day (-1, +1) event window			5-day (-2, +2) event window			36-day (-30, +5) event window		
Independent variables	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value
Panel A: Target Banks									
Constant	0.16014	2.48**	.0141	0.15934	2.52**	.0124	0.16898	2.29**	.0230
ln(MV of target/MV of bidder)	-0.01932	-1.76*	.0808	-0.01220	-1.12	.2643	-0.00080	-0.06	.9497
Method of payment dummy variable	0.03582	1.12	.2662	0.03377	1.04	.3010	0.05443	1.43	.1543
Geographic location dummy variable	0.05076	1.73*	.0859	0.04255	1.43	.1546	0.04397	1.26	.2079
R ²	16.27%			15.80%			12.84%		
Panel B: Bidder Banks									
Constant	0.01665	0.71	.4800	0.01381	0.61	.5438	0.01001	0.29	.7751
ln(MV of target/MV of bidder)	-0.00141	-0.35	.7251	-0.00149	-0.38	.7046	-0.00302	-0.50	.6169
Method of payment dummy variable	-0.02546	-2.18**	.0306	-0.1345	-1.15	.2524	-0.1596	-0.88	.3780
Geographic location dummy variable	-0.00108	-0.10	.9196	0.00140	0.13	.8965	0.00882	0.53	.5937
R ²	7.77%			10.16%			10.70%		
Panel C: Combined									
Constant	0.07747	3.58***	.0004	0.07620	3.66***	.0003	0.08158	2.32**	.0216
ln(MV of target/MV of bidder)	0.01475	4.18***	.0001	0.01513	4.25***	.0001	0.01690	2.81***	.0055
Method of payment dummy variable	-0.01790	-1.62	.1060	-0.00968	-0.87	.3845	-0.00637	-0.34	.7347
Geographic location dummy variable	0.00977	0.98	.3261	0.01037	1.04	.3005	0.01832	1.08	.2794
R ²	18.41%			21.51%			16.97%		
Number of Obs.	214			214			214		

This table presents the results of the regression analysis of the cumulative abnormal return (CAR) for targets, bidders and combined. CAR is regressed against the natural logarithm of the target-to-bidder ratio, a method of payment dummy variable (1 if financed by any combination of cash involved, and 0 if financed by common stock only), a geographic location dummy variable (1 if the M&A is interstate and 0 if instate. In order to provide a snapshot of regression analysis and save some space, we do not include the dummy variable for each year on this table. Please keep in mind R²s encompass dummy variable of each year. *, **, *** denote statistical significance at the 10%, 5%, and 1 % level, respectively. P value tests the significance of the relationships.

Within 5-day (-2, +2) and 36-day (-30,+5) event windows, relative size and , method of payment dummy variable (1=cash + mix, 0= common stock) are negatively correlated with the CARs for target banks but not statistically significant. Within the same event window, geographic location dummy variable (1=instate, 0=interstate) is positively correlated with the CARs for target banks but not statistically significant.

Constant terms for 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) are 1.66%, 1.38% and 1.00%, respectively. This means when all right hand side variables take the value of zero, the average CARs to target banks will be 1.66%, 1.38% and 1.00% within 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5), respectively.

For bidder banks regression results, overall, we can infer that as the relative size increases the CARs decrease and ‘interstate’ and ‘common stock’-financed M&As move in the same direction with the CARs for the target banks.

Panel C of Table 21 exhibits the regression results of combined CARs. Within all event windows (3-day, 5-day and 36-day), relative size of target to bidder ratio is positively correlated and statistically significant at 1% level with the CARs for combined meaning that as the relative size increases the CARs for combined increase as well.

Within 5-day (-2, +2) and 36-day (-30, +5) event windows, method of payment dummy variable (1=cash + mix, 0= common stock) is negatively correlated with the CARs for combined and geographic location dummy variable (1=instate, 0=interstate) is positively correlated with the CARs for combined but not statistically significant.

Constant terms for 3-day (-1, +1), 5-day (-2, +2) and 36-day (-30, +5) are 7.74%, 7.62% and 8.15%, respectively. This means when all right hand side variables take the value of zero, the average CARs to target banks will be 7.74%, 7.62% and 8.15% within 3-day (-1,+1), 5-day (-2,+2) and 36-day (-30,+5), respectively.

For combined regression results, overall, we can infer that as the relative size increases the CARs for combined increase and statistically significant at 1%, 'common stock'-financed and 'instate' M&As posit higher combined CARs but not statistically significant.

Regression results with respect to the relative size independent variable suggest that there is a negative relationship between the relative size of target bank to the bidder bank and the CARs to the targets (10% significance level) and the bidders (statistically insignificant). These findings are in line with DeLong (2001).



7. SUMMARY AND CONCLUSION

In this study, short-term impact of announced M&A's on stock prices was examined by utilizing a standard event-study methodology for a sample of 214 U.S. banks spanning a period of 15 years (2000-2014). To the best of our knowledge, this study is the first in utilizing the U.S. Banking Index return data in addition to the S&P500 Index data in estimation of market parameters. According to the overall results, M&A announcements on average create significant value (statistically significant at the 1% level) for the shareholders of the target banks and the combined but do not create value for the shareholders of acquirer banks. Our results are consistent with Houston and Ryngaert (1994) and Becher (2000). This overall result is valid when both variables (S&P500 index return and U.S. Banking index return) are employed in the analysis. The only meaningful difference between the two occurred in the year of 2008 because the CARs to bidder, target and combined came more than 2% less using the U.S. Banking Index than using the S&P500 Index computing the ARs and CARs. This can be explained by the fact that S&P500 Index decreased by 37.58% where the U.S. Banking Index decreased by 49.94% in 2008.

Our research directly tests three hypotheses in finance literature: synergy hypothesis, hubris hypothesis and hubris & synergy hypothesis. Target banks results are consistent with synergy hypothesis, hubris hypothesis and hubris & synergy hypothesis as all three hypotheses expect target banks/firms to have positive CARs. Bidder bank results are consistent with hubris hypothesis and hubris & synergy hypothesis as these hypotheses expect bidder banks to have negative CARs. However, our overall results for the bidder banks are not consistent with the synergy hypothesis as this hypothesis expects the bidder banks to realize non-negative CARs. Combined results are consistent with synergy hypothesis and hubris & synergy hypothesis as these hypotheses expect combined to have positive CARs. However, our overall results for the combined are not consistent with the hubris hypothesis as this hypothesis expects the combined to realize non-positive CARs.

Empirical results suggest that pre-crisis (2000-2007) and post-crisis (2010-2014) CARs to targets, bidders and combined are different and statistically significant. In terms of comparison, pre-crisis (2000-2007) and post-crisis (2010-2014) periods variances are tested. Equality of variances between two periods is rejected at 1% significance level for the targets and combined in all three event windows. Equality of variances between two periods is rejected at 1% significance level within 5-day (-2, +2) and 36-day (-30, +5) event windows and at 10% significance level within 3-day (-1, +1) event windows for bidder banks. The CARs to targets, bidders and combined increased significantly after the Global Financial Crisis, which coincides with Dodd-Frank Act, enacted in 2010. This new regulation could be one of the reasons of significant higher CARs in post-crisis period because this new regulation could reduce the risk levels by making the market more reliable and transparent with more strict rules. Another reason could be since stronger and healthier banks could survive the crisis and left in the post-crisis period, this could increase the quality of target pool for the acquirers.

With respect to the method of payment in M&A transactions, overall, we can infer that for the target banks, cash involved transactions leads higher CARs than common stock only-financed transactions. For the bidder banks, common stock only-financed transactions' yields higher CARs than cash-financed transactions' indicating the market rewards the bidder banks when common stock is used in financing the M&A transaction, but not statistically significant. For the combined, common stock only-financed transactions' results higher CARs than cash-financed transactions for the whole period, but not statistically significant.

With respect to the geographic diversification in M&A transactions, for targets and combined geographically focused instate mergers and acquisitions yields higher CARs than geographically diversified interstate mergers and acquisitions. For the bidder banks, there is no clear trend within different event windows and the periods. Our results are in line with Delong (2001) as geographically focused M&As may be rewarded more than interstate M&As. In other words geographically diversified M&As are rewarded by the capital markets most probably for operating synergy reasons such as the enhancement of management efficiency, reduction of

overhead costs, maximization of market power and create more value through reduction of overinvestment or economies of scale and scope.

With respect to the regression results, for target banks, as the relative size increases, the CARs decrease and 'instate' and 'cash+mix'-financed M&As move in the same direction with the CARs for the target banks. For bidder banks, as the relative size increases, the CARs for bidder banks decrease and there is a negative correlation between the CARs and 'instate' and 'cash+mix'-financed M&As for the bidder banks. For combined as the relative size increases, the CARs for combined increase and statistically significant at 1%, 'cash+mix'-financed M&As move in the same direction with the CARs to the combined and 'instate' M&As posit higher CARs for combined but not statistically significant.

In the future, including U.S. Financial Index and compare the results with U.S. Banking Index and S&P500 Index can lead to a more comprehensive study. This study can be replicated by focusing purely on the effects of regulation, which have direct impact on U.S. Banking Industry and testing the regulations' effects. This study can also be extended by testing the three hypothesis within each group of 'instate' vs. 'interstate', 'cash+mix' -financed vs. 'common stock only'-financed M&A deals.

REFERENCES

Agrawal, A., Jeffrey F. J., & Gershon N. M. (1992). The Post-Merger Performance of Acquiring Firms: A Re-examination of an Anomaly. *Journal of Finance*, 47: 1605-1621.

Agrawal, A., Walkling, R. A. (1994). Executive Careers and Compensation Surrounding Takeover Bids. *Journal of Finance* 49, 985-1014.

Alien L., Cebenoyan, A.S. (1991). Bank Acquisitions and Ownership Structure: Theory and Evidence. *Journal of Banking & Finance*, Volume 15, Issue 2, Pages 425-448

Amihud, Y., DeLong, G., Saunders, A. (2002). The Effects of Cross-Border Bank Mergers on Bank Risk and Value. *Journal of International Money and Finance* 21, 857-877.

Amihud, Y., Lev, B., & Travlos, N. (1990). Corporate Control and the Choice of Investment Financing: The Case of Corporate Acquisitions. *The Journal of Finance* 45, 603–616.

Andrade, G., Mitchell, M.L., Stafford, E. (2001). New Evidence and Perspectives on Mergers. *J. Econ. Perspect.* 15, 103–120.

Ashley, John W. (1962). Stock Prices and Changes in Earnings and Dividends. *Journal of Political Economy* 70:1, 82—85.

Asimakopoulos, I., & Athanoglou, P. P. (2013). Revisiting the Merger and Acquisition Performance of European Banks, *International Review of Financial Analysis*, Elsevier, vol. 29(C), pages 237-249

Asquith, P. (1983). Merger Bids, Uncertainty, and Stockholder Returns, *Journal of Financial Economics* 11 (1), 51-83.

Baker, C. A. (1956). Effective Stock Splits. *Harvard Business Review* 34:1, 101—106.

Baker, C. A. (1957). Stock Splits in a Bull Market. *Harvard Business Review* 35:3, 72—79.

Baker, C. A. (1958). Evaluation of Stock Dividends. *Harvard Business Review*, 36:4, 99—114.

Baradwaj, B., David D., & Donald F. (1992). Bidder Returns in Interstate and Intrastate Bank Acquisitions. *Journal of Financial Services Research* 5, 261-273.

Becher, D. (2000). The Valuation Effects of Bank Mergers. *Journal of Corporate Finance* 6, 189–214.

Becher, D. (2008). Bidder Returns and Merger Anticipation: Evidence from Banking Deregulation. *Journal of Corporate Finance*.

Berger A.N. (2003). The Economic Effects of Technological Progress: Evidence from the Banking Industry. *J Money, Credit Bank* 35:141–176

Boehmer, E., Musumeci, J., & Poulsen, A.B. (1991). Event-Study Methodology under Conditions of Event-Induced Variance. *Journal of Financial Economics*.

Bradley, M., Desai A., and Kim E. H., (1983). The Rationale behind Interfirm Tender Offers: Information or Synergy? *Journal of Financial Economics* 11.

Brown, S., and Warner, J. (1985). Using Daily Stock Returns: The Case of Event Studies,” *Journal of Financial Economics* 14, pp. 3-31.

Carrington, T. (1984). U.S. Won't Let 11 Biggest Banks in Nation Fall. *Wall Str. J.* September 20th.

Casciaro, T., & Piskorski, M. (2005). Power Imbalance, Mutual Dependence, and Constraint Absorption: A Closer Look at Resource Dependence Theory Administrative Science Quarterly Vol. 50, No. 2 (Jun., 2005), pp. 167-199.

Cornett, M., De, S. (1991a). Common Stock Returns in Corporate Takeover Bids: Evidence from Interstate Bank Mergers. Journal of Banking and Finance 15, 273–295.

Cornett, M., De, S. (1991b). Medium of Payment in Corporate Acquisitions: Evidence from Interstate Bank Mergers. Journal of Money, Credit, and Banking 23, 767–776.

Cornett, M., Tehranian, H. (1992). Changes in Corporate Performance Associated with Bank Acquisitions. Journal of Financial Economics 31, 211-234.

Corrado, C. (1989). A Nonparametric Test for Abnormal Security Price Performance in Event Studies. Journal of Financial Economics 23, 385–395.

Cossio, F., Trifts, J. W., & Scanlon, K., P. (1988). “Bank Equity Returns: The Difference between Intrastate and Interstate Bank Mergers.” Working Paper. Columbia: University of South Carolina, College of Business Administration.

DeLong, G. (2001). Stockholder Gains from Focusing versus Diversifying Bank Mergers. Journal of Financial Economics 59, 221-252.

DeLong, G., & Buch, C. M. (2003). Cross-Border Bank Mergers: What Lures the Rare Animal? Journal of Banking & Finance 2077–2102.

DeLong, G., and DeYoung, R. (2004). Learning by Observing: Information Spillovers in the Execution and Valuation of Commercial Bank M&A's. Working paper WP 2004–17, Federal Reserve Bank of Chicago.

DePamphilis, D. M. (2010). *Mergers, Acquisitions, and Other Restructuring Activities*. Los Angeles, California. Elsevier Science Publishers.

Desai, A. S., & Stover, R. D. (1985). Bank Holding Company Acquisitions, Stockholder Returns, and Regulatory Uncertainty. *Journal of Financial Research*, Volume 8, Issue 2, pages 145–156.

Dodd, P. (1980). Merger Proposals, Management Discretion and Stockholder Wealth. *Journal of Financial Economics* 8, 105-138.

Dodd, P., & Richard R. (1977). Tender Offers and Stockholder Returns: An Empirical Analysis, *Journal of Financial Economics* 5, 351-374.

Dolley, James C. (1933). Common Stock Split-Ups, Motives and Effects. *Harvard Business Review*, 12(1): 70–81.

Dubofsky, D. A. & Fraser D. R. (1989). Regulatory Change and the Market for Bank Control,” in Benton E. Gup (ed.) *Bank Mergers: Current Issues and Perspectives*. Boston: Kluwer, 121-39.

Dunn, K.D., Intintoli, V.J., & McNutt, J.J. (2015). An Examination of Non-Government-Assisted US Commercial Bank Mergers during the Financial Crisis. *Journal of Economics and Business*, 77, 16–41.

Dutta, S., Saadi, S., & Zhu, P. (2013). Does Payment Method Matter in Cross-Border Acquisitions? *International Review of Economics and Finance* 25, 91–107.

Esty, B., Narasimhan, B., & Tufano, P. (1999). Interest-Rate Exposure and Bank Mergers. *Journal of Banking & Finance* 23 (2), 255-285.

Faccio, M. & Masulis, R. (2005). The Choice of Payment Method in European Mergers and Acquisitions. *Journal of Finance* 60, 1345–1388.

Faccio, M., Lang & L., H., P. (2002). The Ultimate Ownership of Western European Corporations. *Journal of Financial Economics* 65, 365–395.

Fama, E. F., Lawrence, F., Jensen, M. & Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*.

Fishman, M. J. (1989). Preemptive Bidding and the Role of the Medium of Exchange in Acquisitions. *The Journal of Finance*, Vol. 44, No. 1, pp. 41-57

Focarelli, D, Panetta, F, Salleo, C. (2002). Why Do Banks Merge? *Journal of Money, Credit and Banking*, 34(4), 1047–1066.

Fuller, K.; Netter, J.; & Stegemoller, M. (2002). What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions, *Journal of Finance*, iss. 4, pp. 1763-93

Haleblian, J., Kim, J. Y. J., & Rajagopalan, N. (2006). The Influence of Acquisition Experience and Performance on Acquisition Behavior: Evidence from the US Commercial Banking Industry. *Academy of Management Journal*, 49(2): 357–370.

Hart, J. R. & Apilado, V. P. (2002). Inexperienced Banks and Interstate Mergers. *Journal Economics Business*, vol.54, 313–330.

Hawawini, G. A. & Swary, I. (1990). *Mergers and Acquisitions in the U.S. Banking Industry*, Elsevier Science Publishers.

Holdren, D., P., Bowers, H., M., & Mason, W. (1994). Bank Holding Company Acquisition Activity: Evidence from Pre- and Post-Deregulation Periods. *The Financial Review*, vol. 29, issue 2, pages 275-92.

Houston, J. F. & Ryngaert, M. D. (1994). The Overall Gains from Large Bank Mergers. *Journal of Banking and Finance* 18(6): 1155-1176.

Houston, J. F. & Ryngaert, M.D. (1997). Equity Issuance and Adverse Selection: A Direct Test Using Conditional Stock Offers. *Journal of Finance* 52: 197–219.

Houston, J. F. & Ryngaert, M.D. (2001). Where Do Merger Gains Come From? Bank Mergers from the Perspective of Insiders and Outsiders. *Journal of Financial Economics* 60, 285-331

Hudgins, S. C. & Seifert, B. (1996). Stockholders and International Acquisitions of Financial Firms: An Emphasis on Banking. *Journal of Financial Services Research* 10(2): 163-180.

Humphrey DB, Willeson M, Bergendahl G, & Lindblom T. (2006) Benefits From a Changing Payment Technology in European Banking. *J Bank Finance* 30:1631–1652.

Hudgins, S. C. & Seifert. B. (1996). Stockholders and International Acquisitions of Financial Firms: an Emphasis on Banking. *Journal of Financial Services Research* Vol. 10(No. 2): pp. 163-180.

James, C. & Weir, P. (1987). “Returns to acquirers and competition in the acquisition market: the case of banking.” *Journal of Political Economy* 95: 355–370.

Jarrell, G.A., & Bradley, M., (1980). The Economic Effects of Federal and State Regulation of Cash Tender Offers, *Journal of Law and Economics* 23:371-88,

Jarrell, G.A., Brickley, J.A. & Netter, J.M., (1988). The Market for Corporate Control: the Empirical Evidence since 1980. *J. Econ. Perspect.* 2, 49–68.

Jensen, M. C., & Ruback, R. S. (1983). The Market for Corporate Control. *Journal of Financial Economics* 11 (April): 5-50.

Kim, E. H., & Singal, V. (1993). *The American Economic Review*, Volume 83, Issue 3, 549-569.

King, DR, Slotegraaf, R, & Kesner, I. (2008). Performance Implications of Firm Resource Interactions in the Acquisition of R&D-Intensive Firms. *Organization Science*, 19(2): 327-340.

Kolaric, S., & Schiereck D. (2013) Shareholder Wealth Effects of Bank Mergers and Acquisitions in Latin America. *Management Research: Journal of the Iberoamerican Academy of Management*, Vol. 11 Iss: 2, pp.157 – 177

Kummer, D., R. & Hoffmeister J. R. (1978). Valuation Consequences of Cash Tender Offers, *Journal of Finance* vol. 33, no. 2, 505-516.

Langeteig, T. C. (1978). An Application of a Three-Factor Performance Index to Measure Stockholder Gains from Merger. *Journal of Financial Economics*, 6, 365-383.

Loughran, T. & A. M. Vijh. (1997). Do Long-Term Shareholders Benefit from Corporate Acquisitions? *Journal of Finance* 52, 1765-1790.

MacKinlay C. (1997). Event Studies in Economics and Finance. *Journal of Economics Literature*, Vol.35 (1):13–39.

Madura, J. & Wiant, K. J. (1994). Long-Term Valuation Effects of Bank Acquisitions. *Journal of Banking and Finance* 18(6): 1135-1154.

Malatesta, P. H. (1983). The Wealth Effect of Merger Activity and the Objective Functions of Merging Firms. *Journal of Financial Economics*, 11: 155-181.

Mandelker, G. (1974). Risk and Return: The Case of Merging Firms, *Journal of Financial Economics* 1, no. 4, 303-336.

McGuckin, R. H. & Nguyen, S. V. (1995). On Productivity and Plant Ownership Change: New Evidence from the LRD. *The Rand Journal of Economics*, 26 (2), pp. 257-276.

Meyer, K. E., & Thaijongrak, O. (2012). The Dynamics of Emerging Economy MNEs: How the Internationalization Process Model Can Guide Future Research. *Asia Pacific Journal of Management*, 30(4): 1125–1153

Mishkin, F.S. (1998). Bank Consolidation: A Central Banker's Perspective. In: Amihud, Y., Miller, G. (Eds.), *Bank Mergers and Acquisitions*. Kluwer Academic Publishers, Norwell, MA, 3-20.

Moeller, S. B., & Schlingemann, F. P. (2005). Global Diversification and Bidder Gains: A Comparison between Cross-Border and Domestic Acquisitions. *Journal of Banking and Finance* 29, 533-564

Myers, J., & Bakay, A. (1948). Influence of Stock Split-Ups on Market Price. *Harvard Business Review*, Vol. 26, pp. 251–55.

Myers, S., & Majluf, N. (1984). Corporate Financing and Investment Decisions When Firms Have Information Investors Do Not Have. *Journal of Financial Economics*, 87, 355–374.

Neely, Walter P., (1987). “Banking Acquisitions: Acquirer and Target Shareholder Returns,” *Financial Management*, vol. 16, pp. 66–74.

Palia, D. (1994). Recent Evidence of Bank Mergers. *Financial Markets, Instruments, and Institutions*, 3, no. 5, 36-59.

Pettway, R., H. & Jack W. T. (1985). Do Banks Overbid When Acquiring Failed Banks? *Financial Management*, 14: 5-15.

Pfeffer, J. (1972). Size and Composition of Corporate Board of Directors. *Administrative Science Quarterly*, 21, 218-228.

Pilloff, Steven J. (1996). Performance Changes and Shareholder Wealth Creation Associated with Mergers of Publicly Traded Banking Institutions, *Journal of Money, Credit and Banking*, vol. 28, p. 294-310.

Rau, P. R. & Vermaelen, T. (1998). Glamour, Value and the Post-Acquisition Performance of Acquiring Firms. *Journal of Financial Economics*, 49, 223–253.

Rhoades, S. & A., A. (1994). Summary of Merger Performance Studies in Banking, 1980-1993, and an Assessment of the Operating Performance and Event Study Methodologies. Staff Study 167, Board of Governors of the Federal Reserve System.

Roll, R. (1986). The Hubris Hypothesis of Corporate Takeovers. *Journal of Business* 59, 197–216.

Sanders, G. (2001). Behavioral Responses of CEOs to Stock Ownership and Stock Option Pay. *Academy of Management Journal*, Vol. 44, No. 3, 477-492.

Siems, T. F. (1996). Bank Mergers and Shareholder Wealth: Evidence from 1995's Megamerger Deals. *Financial Industry Studies*, Federal Reserve Bank of Dallas - Research Department.

Subrahmanyam, V., Nanda R., & Stuart R., (1997). The Role of outside Directors in bank Acquisitions. *Financial Management*, Vol. 26, autumn, 23-36.

Sushka, M., E., & Bendeck, Y. (1988). Bank Acquisitions and Stockholders' Wealth. *Journal of Banking and Finance*, vol. 12 (December 1988), pp. 551–62.

Travlos, N. G. (1987). Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance*, Vol. 42, No. 4, pp. 943-963

Trautwein, F. (1990). Merger Motives and Merger Prescriptions. *Strategic Management Journal*, Volume 11, Issue 4, pages 283–295, May/June 1990.

Trifts, J. W., & Scanlon, K. R. (1987) Interstate Bank Mergers: The Early Evidence; *Journal of Financial Research*. Volume 10, pp. 305-11.

Wall, L. D. & B. E. Gup. (1989). Market Valuation Effects of Bank Acquisitions. *Bank Mergers, Current Issues and Perspectives*. Boston, Kluwer Academic Publishers.

Walter, I. (2004). *Mergers and Acquisitions in Banking and Finance*. Oxford University Press.

Williamson, O. E. (1985). *Mergers, Acquisitions, and Leveraged Buyouts: An Efficiency Assessment*.

Yagil, J. (1996). Mergers and Macro-Economic Factors. *Review of Financial Economics*, Volume 5, Issue 2, 1996, Pages 181–190.

Zola, M., & Meier, D. (2008). What is M&A Performance? *Academy of Management Perspectives* 22, 55–77.

Zhang, H. (1995). Wealth Effects of US Bank Takeovers. *Applied Financial Economics*, 5(5), 329-336.



APPENDICES

A- TURKISH SUMMARY

Amerikan bankacılık sektörü son 30 yılda büyük bir konsolidasyon dönemine girmiştir. 1985 yılında 14.417 olan ticari banka sayısı, 2015 birinci çeyrek sonu itibariyle 5.501 rakamına düşmüştür. Bu 30 yıllık düşüş trendi, 2001 ve 2008-2009 kriz dönemlerinde kısa dönemli sekteye uğrasa da hala devam etmektedir. Bizim görüşümüze göre, kanun ve yönetmeliklerin desteği olmadan sürdürülebilir düşüş trendi bu kadar uzun süre devam edemezdi.

Birleşme ve satın almalar birçok finansal firma ve banka tarafından önemli bir büyüme stratejisi olarak kullanılmaktadır. Finans literatürüne göre, satın alma ve birleşmelerin temel motivasyonu satın alan bankanın ortaklarının değerini maksimize etmektir. Ancak, bazen yöneticilerin ve devletlerin rolleri ile teknolojik değişimler gibi başka motivasyonlar da devreye girmektedir.

Bahsi geçen banka birleşme ve satın almalarının performansını ölçmek için finans literatüründe birçok çalışma gerçekleştirilmiştir. Bu performansı ölçmede kullanılan en yaygın yöntemlerden birisi is standart olay çalışması analizidir. Bu analiz ile genelde satın alan, hedef ve toplam değerde kısa dönemli hisse senedi performansları hesaplanmaktadır. Bu analiz kapsamındaki adımlar genellikle aşağıdaki şekilde gerçekleştirilir:

- (1) Olay penceresi ve tahmin penceresi belirlenir.
- (2) Tahmin penceresi içerisinde her bir hisse senedi bir performans göstergesi (genellikle S&P500 Endeks getirisi) ile regresyona sokularak market parametreleri (alfa ve beta) belirlenir.
- (3) Bu market parametreleri kullanılarak, her bir hisse senedinin beklenen getirileri hesaplanır.
- (4) Gerçekleşen hisse senedi getirilerinden beklenen hisse senedi getirileri çıkarılarak Anormal Getirileri (AG) olay penceresindeki her bir gün için hesaplanır.

(5) Olay penceresindeki her bir günün anormal getirileri toplanarak her bir hisse senedi için Kümülatif Anormal Getiri (KAG) hesaplanır.

(6) Örnekleme dahil olan bütün hisse senetlerinin KAG'larının aritmetik ortalaması alınarak ortalama KAG değerleri bulunur.

Jensen ve Ruback (1983), Desai ve Stover (1985), James ve Weir (1987), Neely (1987), Trifts ve Scanlon (1987), Wall ve Gup (1989), Hawavini ve Swary (1990), Cornett ve De (1991), Cornett ve Tehranian (1992), Houston ve Ryngaert (1994), Madura ve Wiant (1994), Zhang (1995), Hudgins ve Seifert (1996), Pilloff (1996), Siems (1996), Esty, Narasimhan, ve Tufano (1999), Becher (2000), Andrade vd. (2001), Delong (2001), Hart ve Apilado (2002), Delong ve DeYoung (2004), ve Asimakopoulos ve Athanasoglou (2013) gibi birçok araştırmacı çalışmalarında hedef bankalar için pozitif KAG'lar bulmuşlardır.

Hawavini ve Swary (1990), Aggrawal, Jajje, Gershon, ve Mandelker (1992), Baradwaj, Dubofsky, ve Fraser (1992), Cornett ve Tehranian (1992), Holdren, Bowers, ve Mason (1994), Madura ve Wiant (1994), Palia (1994), Houston ve Ryngaert (1994), Pilloff (1996), Siems (1996), Loughran ve Vijh (1997), Subrahmanyam, Rangan, ve Rosenstein (1997), Rau ve Vermaelen (1998), Esty, Narasimhan, ve Tufano (1999), Delong (2001), Amilhud, Delong, ve Saunders (2002), Fuller, Netter, ve Mike (2002), Delong ve DeYoung (2004), Moeller, Schlingemann, ve Stulz (2005) gibi birçok araştırmacı ise çalışmalarında satın alan bankalar için negatif KAG'lar bulmuşlardır.

Desai ve Stover (1985), James ve Weir (1987), Neely (1987), Cornett ve De (1991) ve Becher (2008) gibi birkaç araştırmacı ise çalışmalarında satın alan bankalar için pozitif KAG'lar bulmuşlardır. Trifts ve Scanlon (1987), Allen ve Cebenoyan (1991), Holdren, Bowers, ve Mason (1994), Becher (2000), Hart ve Apilado (2002) gibi araştırmacılar ise istatistiksel olarak anlamlı KAG'lar bulmamışlardır.

Becher (2000), Houston, James, ve Ryngaert (2001), Anderson, Becher, ve Campbell (2004), Zhang (1995), Hart ve Apilado (2002), Dodd ve Ruback (1977), Bradley (1980), Kolaric ve Schiereck (2013) gibi birkaç arařtırmacı ise alıřmalarında toplam deęer iin pozitif KAG'lar elde etmiřlerdir.

Bu alıřmada, 214 adet Amerikan bankasının 15 yıllık periyottaki (2000-2014) satın alma ve birleřmelerinin hisse senedi fiyatlarına olan kısa dnem etkileri standart olay alıřması analizi yntemi ile irdelenmiřtir. Bizim bildięimiz kadarıyla, market model parametrelerini tahminde S&P500 Endeksi'ni kontrol etmek iin ilk defa Amerikan Bankacılık Endeksi verileri bu alıřma ile gerekleřmiřtir. Elde edilen sonulara gre, satın alma ve birleřme haberleri, ortalama olarak hedef bankaların ve birleřme sonucu oluřan bankanın ortaklarına kayda deęer bir deęer artıřı getirirken, satın alan bankaların ortaklarına herhangi bir deęer artıřı getirmemiřtir. Bizim bulgularımız Houston ve Ryngaert (1994) ve Becher (2000) ile tutarlılık gstermektedir. Bu genel sonular hem S&P500 Endeksi hem de Amerikan Bankacılık Endeksi iin geerlidir. Bu iki endeks arasındaki tek farklılık 2008 yılında gerekleřmiřtir. Bu yılda satın alan, satan ve toplamdaki KAG'lar Bankacılık Endeksi kullanıldıęında ortalama olarak %2,5 daha az gerekleřmiřtir. Bunun sebebi, 2008 yılında S&P500 Endeksi'nin %37,58, Amerikan Bankacılık Endeksi'nin ise %49,4 dřmesi ile aıklanabilir.

Bizim alıřmamız finans literatrnde yer alan doęrudan u hipotezi test etmektedir: Sinerji hipotezi, Kibir hipotezi ve Kibir ve Sinerji Hipotezi. Hedef banka sonuları, her u hipotez ile de beklenen sonular ile tutarlıdır nk hedef bankaların hepsi pozitif KAG'lara sahiptir. Satın alan banka sonuları, Kibir ile Kibir ve Sinerji Hipotezi ile uyumludur nk bu hipotezler, satın alan bankaların negatif KAG'lara sahip olmasını beklemektedirler. Ancak, bununla beraber satın alan bankaların negatif olmayan KAG'lara sahip olmamasından dolayı, sonularımız Sinerji Hipotezi ile tutarsızdır. Toplam deęer sonuları, Sinerji ile Kibir ve Sinerji Hipotezi ile tutarlıdır, nk bu hipotezlerde toplam deęerin pozitif olması beklenmektedir. Ancak, toplam deęer KAG'ları Kibir Hipotezi ile uyumlu deęildir, nk Kibir Hipotezi toplam deęerin negatif olmasını beklemektedir.

HİPOTEZLERİN S&P 500 ENDEKSİ KULLANILARAK FARKLI PERİYOTLARDA TESTİ

		Beklenen ve Gerçekleşen Sonuçların Karşılaştırılması (3 Günlük Olay Penceresi)			
		2000 – 2014	2000 – 2007	2008 – 2009	2010 – 2014
Kibir	Beklenen Sonuç				
<i>Hedef</i>	<i>Pozitif</i>	✓***	✓***	✓***	✓***
<i>Satın Alan</i>	<i>Negatif</i>	✓**	✓***	✓	✗
<i>Toplam</i>	<i>Pozitif Dışı</i>	✗***	✗***	✗	✗***
Sinerji					
<i>Hedef</i>	<i>Pozitif</i>	✓***	✓***	✓***	✓***
<i>Satın Alan</i>	<i>Negatif Dışı</i>	✗**	✗***	✗	✓
<i>Toplam</i>	<i>Pozitif</i>	✓***	✓***	✓	✓***
Kibir ve Sinerji					
<i>Hedef</i>	<i>Pozitif</i>	✓***	✓***	✓***	✓***
<i>Satın Alan</i>	<i>Negatif</i>	✓**	✓***	✓	✗
<i>Toplam</i>	<i>Pozitif</i>	✓***	✓***	✓	✓***

Kaynak: Yazarın kendi derlemesi. *, **, *** istatistiksel olarak sırasıyla 10%, 5%, ve 1 % oranlarda anlamlılık derecelerini belirtir.

Yukarıdaki tablo S&P 500 Endeksi verileri kullanılarak hesaplanan KAG'ların istatistiksel olarak anlamlılık düzeylerini çeşitli periyotlara göre özetlemektedir. Ampirik sonuçlara göre, Küresel Finansal Kriz öncesi (2000-2007) ve Küresel Finansal Kriz sonrası (2010-2014) KAG'ların değerlerinde birbirinden farklı ve istatistiksel olarak anlamlı olduğu gözlemlenmiştir. Karşılaştırma açısından, Kriz öncesi (2000-2007) ve Kriz sonrası (2010-2014) dönemlerin varyansları test edilmiştir. Hedef ve toplam değer açısından, tüm olay pencerelerinde, iki dönemin varyansının eşitliği %1 anlamlılık seviyesinde reddedilmiştir. Satın alan bankalar için, iki dönemin varyanslarının eşitliği 5-gün (-2, +2) ve 36-gün (-30, +5) olay penceresinde %1 anlamlılık, 3-gün (-1,+1) olay penceresinde ise %10 anlamlılık derecesinde reddedilmiştir. 2010 yılında yürürlüğe giren Dodd-Frank Yasası'ndan sonra satın alan, satan ve toplamdaki KAG'lar Küresel Finansal Kriz sonrasındaki dönemde (2010-2014) kayda değer bir şekilde arttığı gözlemlenmiştir. Dodd-Frank Yasası ile birlikte finansal piyasa ve bankacılık sektörüne daha katı kurallar getirilmiştir. Bu katı kuralların piyasayı daha güvenilir ve şeffaf bir yapıya dönüştürmesine, bunun da piyasadaki risk seviyesinin azalmasına ve Kriz sonrasındaki

KAG'ların kayda değer artışında etkili olabileceği düşünülmektedir. Diğer olabilecek sebep ise, kriz sonrasında ayakta kalan güçlü ve sağlıklı bankaların potansiyel hedef banka havuzunun daha da kaliteli hale gelmesine sebep olabileceğidir.

Satın alma ve birleşmelerde kullanılan finansman (ödeme) yöntemlerinde, hedef bankalar için nakitin dahil olduğu işlemlerdeki KAG'lar, sadece hisse senedi ile finanse edilen işlemlerden daha yüksek gerçekleşmiştir. Satın alan bankalar için, sadece hisse senedi ile finanse edilen işlemler, nakit ile finanse edilen işlemlerden daha yüksek KAG'lara sahip olması piyasanın satın alan bankaları, sadece hisse senedi kullandığında ödüllendirdiğini göstermektedir, ancak sonuçlar istatistiksel olarak anlamlı değildir. Toplam değerinde, sadece hisse senedi ile gerçekleştirilen işlemler, nakit ile gerçekleştirilen işlemlerden daha yüksek KAG'lar elde etmektedir, ancak sonuçlar istatistiksel olarak anlamlı değildir.

Satın alma ve birleşmelerdeki coğrafi çeşitlendirme açısından, hedef ve toplam değerinde, aynı eyalet içerisinde gerçekleştirilen satın alma ve birleştirme eyaletler arasındaki satın alma ve birleşmelere göre daha yüksek KAG'lar getirmiştir. Satın alan bankalarda farklı dönem ve olay pencereleri için belli bir eğilim bulunmamaktadır. Bulduğumuz sonuçlar DeLong (2001) ile uyumlu olarak coğrafi olarak odaklanmış satın alma ve birleşmeler sermaye piyasaları tarafından daha fazla ödüllendirilmektedirler ki bunun nedenleri operasyon kaynaklı sinerji ile beraber yönetimin etkinliğinin artırılması, genel giderlerin azaltılması, piyasa gücünün maksimize edilmesi ve ekonomik büyüklüğün veya ekonomik odaklanmanın getirdiği faydalar olarak sıralanabilir.

Regresyon sonuçlarına göre, hedef bankalar için göreceli büyüklük (hedef bankının satın alan bankaya oranının logaritması) arttıkça KAG'lar azalmakla birlikte, aynı eyalet içindeki işlemler ve nakitin dahil olduğu işlemler ile KAG'lar aynı yönde hareket etmektedirler. Satın alan bankalar için ise, göreceli büyüklük (hedef bankının satın alan bankaya oranının logaritması) arttıkça KAG'lar azalmakla birlikte, aynı eyalet içindeki işlemler ve nakitin dahil olduğu işlemler ile KAG'lar arasında negatif korelasyon mevcuttur. Toplam değerinde, göreceli büyüklük (hedef bankının satın alan bankaya oranının logaritması) arttıkça KAG'lar artmakla birlikte,

nakitin dahil olduđu işlemler ile KAG'lar arasında negatif korelasyon mevcuttur ve aynı eyalet içindeki işlemler ile KAG'lar aynı yönde hareket etmektedirler.

Gelecekte, S&P500 Endeksi ve Amerikan Bankacılık Endeksi'nin yanında Amerikan Finansal Sektör Endeksi'ninde çalışmada kullanılması çalışmayı daha kapsamlı hale getirebilecektir. Bu çalışma, yalnızca Amerikan Bankacılık Endeksi'ne etki eden yasalara odaklanarak ve bu yasaların test edilmesi olarak da gerçekleştirilebilir. Bu çalışma, aynı zamanda üç hipotezin her bir grup içerisinde – 'aynı eyalet içinde gerçekleşen satın alma ve birleşmeler' ile 'farklı eyaletlerde gerçekleşen satın alma ve birleşmeler' veya 'nakitin dahil olduđu satın alma ve birleşmeler' ile 'sadece hisse senedi ile yapılan satın alma ve birleşmeler' test edilerek gerçekleştirilebilir.

B- SAMPLE MARKET VALUE AND SIZE STATISTICS

BUYER NAME	TARGET NAME	Bidder Market Value	Target Market Value	Total Market Value	Target/ Bidder
NBT Bancorp Inc.	BSB Bancorp, Inc.	186,667	203,858	390,524	109.2%
BOK Financial Corporation	CNBT Bancshares, Inc.	852,487	84,306	936,793	9.9%
International Bancshares Corporation	National Bancshares Corporation of Texas	1,032,759	90,806	1,123,565	8.8%
Interchange Financial Services Corporation	Bridge View Bancorp	176,724	70,984	247,708	40.2%
Cathay Bancorp, Inc.	GBC Bancorp	768,733	347,665	1,116,398	45.2%
South Financial Group, Inc. (The)	MountainBank Financial Corporation	1,174,521	92,636	1,267,157	7.9%
Wells Fargo & Company	Pacific Northwest Bancorp	79,852,481	480,380	80,332,861	0.6%
BancTrust Financial Group, Inc.	CommerceSouth, Inc.	129,279	42,903	172,182	33.2%
Sky Financial Group Inc.	GLB Bancorp, Inc.	2,035,978	70,726	2,106,704	3.5%
First Commonwealth Financial Corporation	Pittsburgh Financial Corp.	746,670	22,622	769,292	3.0%
Humboldt Bancorp	California Independent Bancorp	192,581	61,441	254,022	31.9%
PNC Financial Services Group, Inc.	United National Bancorp	13,610,924	624,901	14,235,826	4.6%
Fulton Financial Corporation	Resource Bankshares Corporation	2,204,247	154,942	2,359,189	7.0%
First Midwest Bancorp, Inc.	CoVest Bancshares, Inc.	1,405,387	91,969	1,497,356	6.5%
UnionBanCal Corporation	Business Bancorp	781,110	98,515	879,625	12.6%
Pacific Capital Bancorp	Pacific Crest Capital, Inc.	1,125,797	108,611	1,234,408	9.6%

Seacoast Financial Services Corporation	Abington Bancorp, Inc.	605,334	127,290	732,624	21.0%
Bank of America Corporation	FleetBoston Financial Corporation	110,083,821	41,249,259	151,333,080	37.5%
Provident Bankshares Corporation	Southern Financial Bancorp, Inc.	737,673	261,601	999,274	35.5%
National City Corporation	Allegiant Bancorp, Inc.	19,845,685	409,360	20,255,044	2.1%
BB&T Corporation	Republic Bancshares, Inc.	21,678,434	393,352	22,071,786	1.8%
Susquehanna Bancshares, Inc.	Patriot Bank Corp.	1,011,657	152,729	1,164,386	15.1%
North Fork Bancorporation, Inc.	Trust Company of New Jersey (The)	5,922,831	710,763	6,633,593	12.0%
Union Bankshares Corporation	Guaranty Financial Corporation	233,033	51,567	284,600	22.1%
Hanmi Financial Corporation	Pacific Union Bank	300,862	262,847	563,710	87.4%
Independent Bank Corp.	Falmouth Bancorp, Inc.	424,212	34,770	458,982	8.2%
Sky Financial Group Inc.	Second Bancorp Incorporated	2,424,780	261,968	2,686,748	10.8%
J.P. Morgan Chase & Co.	Bank One Corporation	80,019,431	50,551,665	130,571,097	63.2%
South Financial Group, Inc. (The)	CNB Florida Bancshares, Inc.	1,695,137	127,205	1,822,342	7.5%
International Bancshares Corporation	Local Financial Corporation	1,953,879	373,257	2,327,135	19.1%
Regions Financial Corporation	Union Planters Corporation	8,386,729	5,913,242	14,299,970	70.5%
Huntington Bancshares Incorporated	Unizan Financial Corporation	5,175,581	549,664	5,725,245	10.6%
North Fork Bancorporation, Inc.	GreenPoint Financial Corp.	6,578,058	6,034,133	12,612,191	91.7%
National City Corporation	Provident Financial Group, Inc.	2,235,168	1,897,848	4,133,016	84.9%

Sun Bancorp, Inc.	Community Bancorp of New Jersey	361,287	76,332	437,619	21.1%
Umpqua Holdings Corporation	Humboldt Bancorp	563,223	296,393	859,616	52.6%
South Financial Group, Inc. (The)	Florida Banks, Inc.	1,765,778	132,230	1,898,009	7.5%
Whitney Holding Corporation	Madison Bancshares, Inc.	1,660,936	46,677	1,707,612	2.8%
Leesport Financial Corp.	Madison Bancshares Group, Ltd.	90,064	90,064	180,129	100.0%
Omega Financial Corporation	Sun Bancorp, Inc.	300,581	144,826	445,407	48.2%
Central Pacific Financial Corp.	CB Bancshares, Inc.	431,829	322,357	754,186	74.6%
SunTrust Banks, Inc.	National Commerce Financial Corporation	18,882,363	6,530,193	25,412,557	34.6%
National City Corporation	Wayne Bancorp, Inc.	21,454,006	178,630	21,632,636	0.8%
Fulton Financial Corporation	First Washington FinancialCorp	502,726	87,980	590,706	17.5%
Wachovia Corporation	SouthTrust Corporation	59,190,091	13,090,210	72,280,300	22.1%
KeyCorp	EverTrust Financial Group, Inc.	12,392,117	137,490	12,529,607	1.1%
PNC Financial Services Group, Inc. (The)	Riggs National Corporation	14,259,589	662,879	14,922,468	4.6%
Webster Financial Corporation	First City Bank	2,178,650	23,634	2,202,284	1.1%
Fifth Third Bancorp	First National Bankshares of Florida, Inc.	27,563,520	1,162,796	28,726,316	4.2%
Westamerica Bancorporation	Redwood Empire Bancorp	1,714,567	128,599	1,843,166	7.5%
F.N.B. Corporation	NSD Bancorp, Inc.	1,002,454	82,424	1,084,878	8.2%
South Financial Group, Inc. (The)	Pointe Financial Corporation	2,247,340	77,976	2,325,315	3.5%

Community Banks, Inc.	PennRock Financial Services Corp.	345,638	295,783	641,421	85.6%
Sky Financial Group, Inc.	Belmont Bancorp.	3,007,264	60,203	3,067,467	2.0%
City Holding Company	Classic Bancshares, Inc.	605,948	54,940	660,888	9.1%
Fulton Financial Corporation	SVB Financial Services, Inc.	2,788,470	87,371	2,875,841	3.1%
Mercantile Bankshares Corporation	Community Bank of Northern Virginia	3,997,563	174,872	4,172,436	4.4%
Capital One Financial Corporation	Hibernia Corporation	18,618,328	2,592,576	21,210,904	13.9%
Associated Banc-Corp	State Financial Services Corporation	4,115,848	208,936	4,324,784	5.1%
Millennium Bankshares Corporation	Albemarle First Bank	724,379	18,187	742,566	2.5%
Capital Bank Corporation	1st State Bancorp, Inc.	99,965	99,508	199,473	99.5%
Fulton Financial Corporation	Columbia Bancorp	2,828,970	258,254	3,087,224	9.1%
Whitney Holding Corporation	First National Bancshares, Inc.	2,105,293	95,783	2,201,076	4.5%
FNB Corp.	Integrity Financial Corporation	111,818	114,398	226,216	102.3%
Pinnacle Financial Partners, Inc.	Cavalry Bancorp, Inc.	212,116	143,422	355,538	67.6%
Alabama National Bancorporation	Florida Choice Bankshares Inc.	1,066,869	113,035	1,179,904	10.6%
Marshall & Ilsley Corporation	Gold Banc Corporation, Inc.	10,008,880	573,075	10,581,955	5.7%
Prosperity Bancshares, Inc.	SNB Bancshares, Inc.	854,763	107,613	962,376	12.6%
BB&T Corporation	Main Street Banks, Inc.	23,410,917	617,063	24,027,980	2.6%
First Community Bancorp	Foothill Independent Bancorp	955,068	209,774	1,164,842	22.0%

Premier Community Bankshares Incorporated	Albemarle First Bank	111,213	21,024	132,237	18.9%
Umpqua Holdings Corporation	Western Sierra Bancorp	1,214,597	311,903	1,526,499	25.7%
Placer Sierra Bancshares	Southwest Community Bancorp	394,205	141,050	535,255	35.8%
Capital One Financial Corporation	North Fork Bancorporation, Inc.	24,889,364	13,889,856	38,779,220	55.8%
Mercantile Bankshares Corporation	James Monroe Bancorp, Inc.	4,779,302	128,904	4,908,206	2.7%
TD Banknorth Inc.	Interchange Financial Services Corporation	3,462,887	387,655	3,850,542	11.2%
Alliance Financial Corporation	Bridge Street Financial, Inc.	102,845	48,684	151,529	47.3%
Webster Financial Corporation	NewMil Bancorp, Inc.	2,531,931	117,543	2,649,474	4.6%
First Commonwealth Financial Corporation	Laurel Capital Group, Inc.	952,293	43,264	995,557	4.5%
Banc Corporation	Community Bancshares, Inc.	228,229	92,843	321,072	40.7%
MB Financial, Inc.	First Oak Brook Bancshares, Inc.	992,349	266,705	1,259,054	26.9%
First Community Bancorp	Community Bancorp, Inc.	1,366,207	235,823	1,602,030	17.3%
First Republic Bank	BWC Financial Corp.	1,084,005	166,847	1,250,852	15.4%
Regions Financial Corporation	AmSouth Bancorporation	16,226,586	10,016,451	26,243,037	61.7%
U.S. Bancorp	Vail Banks, Inc.	54,945,051	89,976	55,035,028	0.2%
Citizens Banking Corporation	Republic Bancorp Inc.	1,154,938	788,395	1,943,333	68.3%
Community Bancorp	Valley Bancorp	223,366	108,143	331,509	48.4%
Cullen	Frost Bankers, Inc.	3,069,349	343,081	3,412,429	11.2%
NewAlliance Bancshares, Inc.	Westbank Corporation	1,550,081	86,814	1,636,895	5.6%

Prosperity Bancshares, Inc.	Texas United Bancshares, Inc.	1,079,901	326,466	1,406,367	30.2%
Sterling Financial Corporation	Northern Empire Bancshares	1,187,555	305,661	1,493,217	25.7%
UCBH Holdings, Inc.	Summit Bank Corporation	1,705,887	114,825	1,820,713	6.7%
PNC Financial Services Group, Inc.	Mercantile Bankshares Corporation	20,729,632	5,638,891	26,368,524	27.2%
Old National Bancorp	St. Joseph Capital Corporation	1,263,746	69,440	1,333,186	5.5%
U.S. Bancorp	United Financial Corp.	59,430,728	63,996	59,494,725	0.1%
Bank of New York Company, Inc.	Mellon Financial Corporation	29,885,720	17,619,456	47,505,175	59.0%
Huntington Bancshares Incorporated	Sky Financial Group, Inc.	5,869,486	2,834,983	8,704,469	48.3%
Wells Fargo & Company	Placer Sierra Bancshares	120,150,595	529,237	120,679,832	0.4%
Umpqua Holdings Corporation	North Bay Bancorp	1,670,962	125,100	1,796,062	7.5%
Chittenden Corporation	Merrill Merchants Bancshares, Inc.	1,369,539	95,566	1,465,105	7.0%
Colonial BancGroup, Inc.	Commercial Bankshares, Inc.	3,739,677	293,365	4,033,041	7.8%
Greene County Bancshares, Inc.	Civitas BankGroup, Inc.	359,769	127,296	487,065	35.4%
United Bankshares, Inc.	Premier Community Bankshares, Inc.	1,489,210	115,241	1,604,451	7.7%
State Street Corporation	Investors Financial Services Corp.	22,275,592	3,945,963	26,221,554	17.7%
LSB Bancshares, Inc.	FNB Financial Services Corporation	139,148	105,194	244,342	75.6%
Sterling Financial Corporation	North Valley Bancorp	1,554,261	182,845	1,737,106	11.8%
East West Bancorp, Inc.	Desert Community Bank	2,435,192	114,719	2,549,911	4.7%

Susquehanna Bancshares, Inc.	Community Banks, Inc.	1,161,791	584,866	1,746,657	50.3%
Wells Fargo & Company	Greater Bay Bancorp	121,046,802	1,427,642	122,474,444	1.2%
Harleysville National Corporation	East Penn Financial Corporation	458,563	51,007	509,571	11.1%
PNC Financial Services Group, Inc.	Yardville National Bancorp	24,778,980	396,475	25,175,454	1.6%
Yadkin Valley Financial Corporation	Cardinal State Bank	201,886	-28,944	172,942	-14.3%
Marshall & Ilsley Corporation	First Indiana Corporation	12,118,435	516,768	12,635,203	4.3%
PNC Financial Services Group, Inc.	Sterling Financial Corporation	24,616,870	519,645	25,136,515	2.1%
WesBanco, Inc.	Oak Hill Financial, Inc.	554,707	176,685	731,392	31.9%
KeyCorp	U.S.B. Holding Co., Inc.	13,812,742	335,325	14,148,067	2.4%
Virginia Financial Group, Inc.	FNB Corporation	13,812,742	335,325	14,148,067	2.4%
Fifth Third Bancorp	First Charter Corporation	20,007,085	702,351	20,709,436	3.5%
First National Bancshares, Inc.	Carolina National Corporation	54,442	50,291	104,733	92.4%
National Penn Bancshares, Inc.	KNBT Bancorp, Inc.	824,715	377,126	1,201,842	45.7%
Frontier Financial Corporation	Washington Banking Company	1,052,365	143,667	1,196,032	13.7%
Independent Bank Corp.	Slade's Ferry Bancorp.	415,121	61,338	476,458	14.8%
SunTrust Banks, Inc.	GB&T Bancshares, Inc.	23,742,127	151,276	23,893,403	0.6%
F.N.B. Corporation	Omega Financial Corporation	936,801	386,064	1,322,866	41.2%
S&T Bancorp, Inc.	IBT Bancorp, Inc.	702,695	162,713	865,408	23.2%
Hampton Roads Bankshares, Inc.	Shore Financial Corporation	114,703	45,018	159,721	39.2%

MainSource Financial Group, Inc.	1st Independence Financial Group, Inc.	252,923	31,936	284,859	12.6%
Village Bank and Trust Financial Corp.	River City Bank	28,066	17,873	45,939	63.7%
Valley National Bancorp	Greater Community Bancorp	2,393,863	133,163	2,527,026	5.6%
First Merchants Corporation	Lincoln Bancorp	355,578	74,382	429,960	20.9%
Yadkin Valley Financial Corporation	American Community Bancshares, Inc.	143,658	68,756	212,415	47.9%
Hampton Roads Bankshares, Inc.	Gateway Financial Holdings, Inc.	160,754	78,975	239,729	49.1%
Wells Fargo & Company	Wachovia Corporation	114,357,697	13,406,490	127,764,186	11.7%
PNC Financial Services Group, Inc.	National City Corporation	20,401,744	1,598,255	21,999,999	7.8%
Independent Bank Corp.	Benjamin Franklin Bancorp, Inc.	406,950	109,396	516,346	26.9%
Pennsylvania Commerce Bancorp, Inc.	Republic First Bancorp, Inc.	163,557	97,073	260,630	59.4%
M&T Bank Corporation	Provident Bankshares Corporation	6,171,604	313,339	6,484,943	5.1%
Premier Financial Bancorp, Inc.	Abigail Adams National Bancorp, Inc.	44,943	8,695	53,637	19.3%
Eastern Virginia Bankshares, Inc.	First Capital Bancorp, Inc.	51,251	23,768	75,019	46.4%
Danvers Bancorp, Inc.	Beverly National Corporation	227,901	56,210	284,111	24.7%
Jacksonville Bancorp, Inc.	Atlantic BancGroup, Inc.	17,308	4,118	21,426	23.8%
F.N.B. Corporation	Comm Bancorp, Inc.	1,005,600	44,453	1,050,053	4.4%
First Niagara Financial Group, Inc.	NewAlliance Bancshares, Inc.	2,497,777	1,342,922	3,840,699	53.8%
Trustmark Corporation	Cadence Financial Corporation	1,306,448	19,536	1,325,984	1.5%
Old National Bancorp	Monroe Bancorp	880,427	70,088	950,515	8.0%

Community Bank System, Inc.	Wilber Corporation	770,284	95,149	865,433	12.4%
M&T Bank Corporation	Wilmington Trust Corporation	9,247,362	385,396	9,632,758	4.2%
Nara Bancorp, Inc.	Center Financial Corporation	329,174	264,956	594,130	80.5%
Hancock Holding Company	Whitney Holding Corporation	1,275,622	1,352,988	2,628,610	106.1%
Comerica Incorporated	Sterling Bancshares, Inc.	6,837,300	910,717	7,748,018	13.3%
Brookline Bancorp, Inc.	Bancorp Rhode Island, Inc.	532,239	206,272	738,511	38.8%
FNB United Corp.	Bank of Granite Corporation	4,570	13,290	17,860	290.8%
Valley National Bancorp	State Bancorp, Inc.	2,328,497	185,925	2,514,423	8.0%
Susquehanna Bancshares, Inc.	Tower Bancorp, Inc.	1,083,975	244,318	1,328,293	22.5%
Eagle Bancorp, Inc.	Alliance Bankshares Corporation	277,688	23,246	300,933	8.4%
Sandy Spring Bancorp, Inc.	CommerceFirst Bancorp, Inc.	406,297	14,368	420,665	3.5%
Old National Bancorp	Indiana Community Bancorp	1,153,132	71,349	1,224,481	6.2%
Tompkins Financial Corporation	VIST Financial Corp.	444,698	71,809	516,507	16.1%
Independent Bank Corp.	Central Bancorp, Inc.	605,388	51,829	657,217	8.6%
Park Sterling Corporation	Citizens South Banking Corporation	135,473	71,567	207,040	52.8%
Trustmark Corporation	BancTrust Financial Group, Inc.	1,628,865	53,545	1,682,410	3.3%
Berkshire Hills Bancorp, Inc.	Beacon Federal Bancorp, Inc.	483,662	82,447	566,109	17.0%
United Financial Bancorp, Inc.	New England Bancshares, Inc.	213,948	73,736	287,684	34.5%
WesBanco, Inc.	Fidelity Bancorp, Inc.	591,163	39,222	630,385	6.6%

City Holding Company	Community Financial Corporation	479,756	17,012	496,768	3.5%
SCBT Financial Corporation	Savannah Bancorp, Inc.	563,308	65,007	628,315	11.5%
Western Alliance Bancorporation	Western Liberty Bancorp	793,318	38,381	831,699	4.8%
M&T Bank Corporation	Hudson City Bancorp, Inc.	11,367,529	3,934,591	15,302,120	34.6%
Old Line Bancshares, Inc.	WSB Holdings, Inc.	74,788	23,345	98,134	31.2%
FirstMerit Corporation	Citizens Republic Bancorp, Inc.	1,669,848	809,715	2,479,563	48.5%
Crescent Financial Bancshares, Inc.	ECB Bancorp, Inc.	129,706	44,716	174,422	34.5%
Columbia Banking System, Inc.	West Coast Bancorp	716,025	428,735	1,144,760	59.9%
NBT Bancorp Inc.	Alliance Financial Corporation	725,475	218,968	944,442	30.2%
F.N.B. Corporation	Annapolis Bancorp, Inc.	1,492,156	30,806	1,522,962	2.1%
PacWest Bancorp	First California Financial Group, Inc.	827,929	197,235	1,025,164	23.8%
Investors Bancorp, Inc. (MHC)	Roma Financial Corporation (MHC)	1,997,522	280,541	2,278,063	14.0%
Lakeland Bancorp, Inc.	Somerset Hills Bancorp	294,287	62,292	356,579	21.2%
United Bankshares, Inc.	Virginia Commerce Bancorp, Inc.	1,263,964	410,504	1,674,468	32.5%
Renasant Corporation	First M&F Corporation	477,451	108,003	585,453	22.6%
F.N.B. Corporation	PVF Capital Corp.	1,656,759	100,848	1,757,607	6.1%
SCBT Financial Corporation	First Financial Holdings, Inc.	740,655	301,122	1,041,777	40.7%
SI Financial Group, Inc.	Newport Bancorp, Inc.	117,097	55,195	172,292	47.1%
First Merchants Corporation	CFS Bancorp, Inc.	455,619	109,307	564,926	24.0%

Independent Bank Corp.	Mayflower Bancorp, Inc.	745,724	21,959	767,683	2.9%
C&F Financial Corporation	Central Virginia Bankshares, Inc.	164,823	855	165,678	0.5%
Union First Market Bankshares Corporation	StellarOne Corporation	491,155	429,276	920,430	87.4%
F.N.B. Corporation	BCSB Bancorp, Inc.	1,608,261	69,510	1,677,771	4.3%
MB Financial, Inc.	Taylor Capital Group, Inc.	1,492,196	616,899	2,109,095	41.3%
Mercantile Bank Corporation	Firstbank Corporation	171,963	142,569	314,532	82.9%
Old National Bancorp	Tower Financial Corporation	1,402,246	106,288	1,508,534	7.6%
Umpqua Holdings Corporation	Sterling Financial Corporation	1,897,892	1,654,463	3,552,355	87.2%
East West Bancorp, Inc.	MetroCorp Bancshares, Inc.	4,151,544	202,895	4,354,439	4.9%
Banner Corporation	Home Federal Bancorp, Inc.	736,140	183,298	919,439	24.9%
Huntington Bancshares Incorporated	Camco Financial Corporation	6,952,464	80,802	7,033,266	1.2%
Cascade Bancorp	Home Federal Bancorp, Inc.	285,058	186,027	471,085	65.3%
Heritage Financial Corporation	Washington Banking Company	257,593	221,331	478,924	85.9%
Rockville Financial, Inc.	United Financial Bancorp, Inc.	353,671	355,778	709,449	100.6%
IBERIABANK Corporation	Teche Holding Company	1,847,986	145,533	1,993,518	7.9%
TriCo Bancshares	North Valley Bancorp	237,044	312,975	550,019	132.0%
Park Sterling Corporation	Provident Community Bancshares, Inc.	305,127	3,600	308,727	1.2%
Community Bank Shares of Indiana, Inc.	First Financial Service Corporation	85,925	17,808	103,733	20.7%
Valley National Bancorp	1st United Bancorp, Inc.	1,899,422	275,575	2,174,997	14.5%

National Penn Bancshares, Inc.	TF Financial Corporation	1,451,522	132,700	1,584,222	9.1%
Old National Bancorp	LSB Financial Corp.	1,439,852	63,347	1,503,199	4.4%
Bank of the Ozarks, Inc.	Interinvest Bancshares Corporation	2,451,200	175,767	2,626,967	7.2%
Peoples Bancorp Inc.	NB&T Financial Group, Inc.	263,170	71,961	335,132	27.3%
BB&T Corporation	Bank of Kentucky Financial Corporation	26,984,400	356,748	27,341,148	1.3%
Cape Bancorp, Inc.	Colonial Financial Services, Inc.	116,917	50,469	167,387	43.2%
WesBanco, Inc.	ESB Financial Corporation	1,017,326	229,506	1,246,833	22.6%
Chemical Financial Corporation	Monarch Community Bancorp, Inc.	982,890	25,098	1,007,988	2.6%
Berkshire Hills Bancorp, Inc.	Hampden Bancorp, Inc.	630,080	107,211	737,291	17.0%
Sterling Bancorp	Hudson Valley Holding Corp.	2,780,623	500,424	3,281,047	18.0%
BB&T Corporation	Susquehanna Bancshares, Inc.	27,133,624	2,378,289	29,511,913	8.8%
BNC Bancorp	Valley Financial Corporation	508,511	95,274	603,785	18.7%

Source: SNL Financial, CRISP and author's own calculations.

C- CURRICULUM VITAE

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EDUCATION

Degree	Institution	Year of Graduation
MBA	Zicklin School of Business, CUNY	2005
BS	İstanbul University	2001

PROFESSIONAL EXPERIENCE

Year	Place	Enrollment
2014- Present	TÜBİTAK	Manager and Executive Group Secretary for Venture Capital and Private Equity Group
2013-2014	Karatay University	Lecturer
2002-2012	Various Financial Institutions including Goldman Sachs, Prudential Equity Group, Deutsche Bank and BlackRock	Analyst, Associate and Manager

FOREIGN LANGUAGES

English (Advanced), German (Intermediate), Spanish (Intermediate) and Arabic (Basic).