



Financial Institutions Mergers; A strategy Choice of Wealth Maximisation and Economic Value

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Abstract

This study examines the short and long horizons wealth maximisation effect of financial institutions mergers, and their determinants in the pre- and post-merger periods. Results show that FIs mergers destroy share value for the bidding firms pursuing a Market penetration strategy. FIs are advised to pursue Market Development and Product Development strategies because they enable shareholders' value creation in short and the long horizons. Local bank to bank mergers create shareholders value and enhance liquidity and economic value in the short run. Bank to Bank cross border mergers create value for bidders' in the long term but are associated with high costs and higher risks. Shareholders value drives long-run economic value for North American banks, but it is adversely affected by credit risk appetite in Australasian bank focused mergers.

JEL: G01, G12, G2, G32, G34, E58, O43

Key Words: *Shareholder Value; Financial crisis impact; Ring-fencing; Diversification Strategies; Economic Value Addition; Event Study and Buy and Hold methods.*

1. Introduction

Despite the limitations put in recent financial regulations, on diversification and conglomeration through ring-fencing, financial institutions are still diversifying and benefiting from regulatory arbitrage and immunity through mergers.

Between the great depression in the 1930s and the aftermath of the 2007-2009 financial crisis, there have been waves of financial stress followed by tightening regulations, then innovations to break those out followed by deregulations. The Recent financial crisis (2007-2009), has led regulators to prohibit several growth strategies and financial institutions (FIs) diversification initiatives. Increasing capital buffers and limiting financial institutions ability to diversify through ring-fencing were the main tools. However, quite recently, several financial institutions expressed discontent with the recent regulation, because of their profits draining criteria. Hoeing (2018) documents a bill to the US Congress that permits banks to deduct cash held on behalf of clients from the calculation of Leverage. Doing so would lower the amount of capital the banks need as buffers and allow them to yield more cash to shareholders in the form of dividends and share buybacks. Such moves are expected to grow further in an attempt to repeal many of the 2012-2015 financial regulations.

The renewed debate on optimal bank structure floats two different 'diversification hypotheses':

H₁ - Bank diversification allows banks to diversify risk and enable generating economies of scope and scale and increased efficiencies through cost-saving and revenue enhancements (Houston *et al.*, 2001; Vennet, 2002; Hirtle and Stiroh, 2007) and

H₂ - Bank diversification increases systemic risk (Berger *et al.*, 2012) and decreases efficiency and creates negative economies of scope (Laeven and Levine, 2007; Stiroh and Rumble, 2006; Gambacorta and Rixtel, 2013).

Therefore, this study utilises the product/market development matrix (Ansoff, 1980) to examine the diversification theory of financial institutions, on the relative merits of how the strategic orientation of mergers impacts bidders shareholders value, annual performance and firms' economic value.

The contribution of this study feeds into the strand of diversification versus focus or 'ring-fencing' scholarly and policy debate. That is, by identifying what types of activities/products are more likely to create shareholder value for financial institutions, and banks at their forefront. We examine how financial institutions have diversified or focused their activities and geographical presence, and the impact of each orientation on bidders shareholders' value and year-end performance. This study provides an improvement over current finance literature

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2 because it deploys two different strategies in the analysis. At a univariate level, we examine the
3 shareholder value creation and market reaction to merger announcements over the short and
4 long horizons of the event. Followed by regressing the resultant Cumulative Abnormal Returns
5 (CARs) and Buy and Hold Abnormal Returns (BHARs) over financial performance variables
6 at the multivariate level. Namely, the methodology of the event study is used to calculate
7 abnormal returns (CARs and BHARs), and the observed performance strategy that monitors
8 FIs financial ratios from two years before the merger to two years after.
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14 The rest of the paper proceeds as follows; section 2 provides the literature review and the
15 motivation of the study, section 3 outlines the methodological approach and data, section 4
16 analyses results and section 5 concludes.
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2. Financial Institutions mergers: a literature review

Rhoades (1994) argues that event studies in that same period yield mixed results. Generally, there are positive abnormal returns to targets and negative or no abnormal returns for bidders upon the announcement of an M&A deal; regardless of the geographic and chronologic spans of these studies. Consistently, Kwan and Laderman (1999), surveying the US bank consolidation studies published between 1974 and 1998, find similarly mixed results. Their analysis focuses on the effects of expanding banking powers to include securities and insurance activities in addition to banks engaging in real estate activities. Kwan and Laderman (1999) conclude that although bank diversification into securities and insurance activities is more profitable and provides diversification benefits, it is riskier to the portfolio of banks.

Amel *et al.* (2004) present a summary of studies conducted between 1990 and 2001 on commercial banking *vis-à-vis* universal banking and financial conglomeration. They conclude that commercial bank M&As do not, on average, generate significant shareholder value, and it does not improve cost and profit efficiencies. Amel *et al.* (2004) suggest that there is no clear evidence on how shareholder value adjusts in response to M&As. This result supports the argument presented by DeYoung *et al.* (2009), in their review of a financial institution (FI) M&As in the post-2000 literature; suggesting that, there are not enough studies that examined the performance of universal banking and financial institutions' conglomeration attempts rigorously, before and after mergers.

Hence, there exists a theoretical inconclusiveness on the financial institution structure that can provide adequate and sustainable wealth maximisation; the diversified, the universal and conglomerate, or the focused structure. This ambiguity also stems from the empirical evidence on how markets react to different types of bank M&As, especially when stability is seen through wealth maximisation improved profitability.

Beitel *et al.* (2004), conclude that stock markets prefer focused M&A transactions over diversified ones in Europe. Target shareholders receive higher returns when the deal is more diversifying, while bidders are more successful in the activity focused, and geographically focused transactions. Targets seem to create more value in cross-border transactions. Expected performance following an FI merger play a vital role too; risk reduction potential through diversification, profit and cost efficiencies (cost-to-asset-ratio, returns on assets and equities). DeLong (2001b) examines the differential in stock market reactions to U.S. bank diversification and focus announcements. Results emphasise on the positive response of stock markets towards deals that tend to focus, both activity and geography, while the other types of M&As do not create value. Williams and Liao (2008) and Bellotti and Williams (2008) examine emerging

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2 markets cross-border bank M&A deals that took place between 1998 and 2005. They find value
3 creation and significant abnormal returns pattern for target banks, value destruction for bidder
4 banks, but not if the activity is focused. These results contradict with Cybo-Ottone and Murgia
5 (2000) who investigate market reaction to European FIs M&A took place between 1988 and
6 1997. They show that European financial market positively appreciates bank consolidations
7 that aim at focusing activities and those that diversify towards insurance activities only. The
8 combined performance of both bidders and targets is statistically significant for those deals.
9 However, bank diversification towards securities firms or foreign institutions results in zero or
10 negative returns for bidders, and narrow positive with lower significance for targets. DeLong
11 (2001a) and (2003) confirm these results are valid in U.S. bank mergers during 1991 – 1995
12 period. Their results support the assumption that markets reward mergers that focus their
13 geography and activity and can enhance the long-term performance of banks and financial
14 institutions.

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16 Amihud *et al.* (2002) and Beitel *et al.* (2004) examine European financial markets
17 mergers. They report that the effects of cross-border mergers on returns of acquiring banks are
18 significantly negative. Beitel *et al.* (2004) propose that activity focus and geographic focus
19 significantly drive M&As and that high diversification impacts negatively the value creation
20 for the bidding FIs. They argue that, from a combined point of view, the diversification
21 hypothesis cannot be supported for European bidding banks and that non-diversifying
22 transactions significantly create more value than diversifying transactions. Campa and
23 Hernando (2006) diverge significantly from these results. Their analysis of 244 bank merger
24 deals in the European countries (EU15) reports having lower excess returns for targets when
25 the target is cross-border. This outcome contradicts with Lepetit *et al.* (2004), who confirms
26 the existence of a positive and significant increase in value for target banks among all deals.
27 However, they find positive and significant market reaction exists in cross-product
28 diversification and geographic specialisation but not activity-focus deals.

29
30 In the USA financial market, Fields *et al.* (2007) report positive and significant abnormal
31 returns for banks bidding for a bancassurance merger. This positivity further extends to finding
32 low risk transmitted from insurance targets to bidding banks. Results coincide with the
33 international evidence provided by Dontis-Charitos *et al.* (2011) International evidence.
34 Dontis-Charitos *et al.* (2011) argue that bank-insurance ventures sharing the same language
35 tend to reap positive excess because they interrelate via similar cultural, trade practices,
36 business ethics and legal backgrounds. This analogy is consistent with Ekkayokkaya *et al.*
37 (2009) conclude that diversifying deals are value-enhancing and remain unaffected by the
38 introduction of the Euro currency, while focused bids generated losses in the post-euro
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2 introduction phase. Chen and Tan (2011) confirm the same for the European market, FIs
3 mergers. Positive cumulative abnormal returns (CARs) are observed for bidders, and two
4 factors contributed to this; relative deal size and being a serial acquirer.
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3. Data and Methodology

We deploy a descriptive, correlation and quasi-experimental research design. This approach enables the construction of a panel of immediate and medium-term variables of impact and performance. This approach contributes to identifying the market-product developing strategy that creates the best value for shareholders and for merging firms. The market-product development strategies are scaled over the Ansoff's (1980) matrix of:

- a) Market Penetration where an FI merges with an FI that conducts the **same** business in the **same jurisdiction**,
- b) Market Development, where an FI merges with another FI that conducts the **same** business in a **different jurisdiction**,
- c) Product Development where an FI merges with another FI that conducts a **different portfolio** in the **same jurisdiction**,
- d) Diversification, (or conglomeration in FIs terminology) where an FI merges with another FI that conducts a **different portfolio** in a **different jurisdiction**.

3.1 Data

The dataset comprises publicly traded financial institutions mergers and acquisitions that took place between 1992 and 2018. Where the merger leads the acquiring FIs to increase their existing ownership in the Target FIs from the range of 0% - 20% targeting the 51 - 100% range. A significant advancement over the current literature is in assessing mergers, not only for bank bidders but also for the three pillars institutions of the financial sector. Therefore, we examine mergers where bidders and targets are a financial institution that acquired another financial institution (Insurance, Real Estate or Investment companies). These criteria make it the most comprehensive data set and most accommodating among studies that explored the impact of bank M&As on shareholders' and firms' values simultaneously.

=====**Table I**=====

Stock prices of FIs institutions are procured from Bloomberg using Bloomberg Industry Classification Systems (BICS) Ticker code of FIs that took part and completed an M&A deal. Deal size is set to be greater than or equal to \$U.S. 100 Million, because smaller transactions are usually done by specialised boutique firms, where ambiguity of payment and reporting methods increases (Beitel and Schiereck, 2001), and deals that are over 100 million dollars are

likely to have high 'institutional presence' in deal commissioning and negotiation (John *et al.*, 2014). The following tables provide a summary of the total number of deals and respective total values and deals distribution of the sample over the selection criteria.

=====**Table II**=====

3.2 Methodology

This study examines financial institutions merger effect on bidders' shareholder's value and their observed performance. This examination deploys three techniques simultaneously; an event study analysis, a Buy and Hold event study analysis and observed performance analysis. Deal Criteria, strategic orientation (as in Ansoff (1980) growth strategies), acquiring bank size, and payment method are set individually as control variables.

3.2.1 Event Study; Market Perception

Following Dolley (1933) and Ball and Brown (1968)¹, we utilise the event study methodology to FIs wealth maximisation through shareholders value by measuring firms abnormal returns (AR). ARs are the deviation of actual stock returns from expected stock returns, as a result of an event, to account for the impact of this event on firms' stock prices. These ARs represents the magnitude of shareholders value maximisation (positive or negative) created following the event. Under the "agency problem" theory and the "hubris hypothesis", an intended M&A does not necessarily imply that the management aims to maximise shareholders wealth. In the context of this study, the event is the merger or acquisition announcements of financial institutions that took place between 1993 and 2018, and that are above \$US 100 million in deal value. H_0 states that markets are not affected by banks' M&A announcements. Alternative hypothesis H_1 , testifies that markets are affected by banks M&A announcements, and enables measuring the magnitude of this effect to differentiate how various bidding and target FIs shares react towards various deals types of focusing and diversifying activities and/or geography.

¹ Brown and Warner (1985) worked on making event study methodology more statistically valid through enhancing the rigor of models used and its significance testing (focusing on performance problems in monthly data and daily data separately that are also enhanced through Kothari and Warner (2007) by resolving methodology issues of events clustering, abnormal returns aggregation and variances changing.

Therefore, abnormal returns $AR_{i,t}$ for institution i at time t are the difference between its actual returns $R_{i,t}$ and its expected returns $E(R_{i,t})$ estimated using the market model that regresses (OLS) returns in the estimation window over the market M returns $R_{M,t}$;

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (1)$$

Where

$$R_{i,t} = \alpha_{i,t} + \beta_i R_{m,t} + \varepsilon_{i,t} \quad (2)$$

Hence,

$$AR_{i,t} = R_{i,t} - \hat{\alpha} - \hat{\beta} R_{m,t} \quad (3)$$

Then aggregate AR s to find cumulative abnormal returns CAR to check for their magnitude and significance accept or reject the H_0 .

In this study, the analysis is based on an estimation period of 200 trading days (-241 to -41) before the event announcement(s) ($t = 0$), leaving an 81-day (-40, +40) window for the event study period. Average abnormal returns are then aggregated for each day in the event window using equation (4). This formula aggregates the abnormal returns for the N number of stocks to find the average abnormal return at time t for every stock i .

$$AAR_t = \frac{\sum_{i=1}^N AR_{i,t}}{N} \quad (4)$$

Another aggregation takes place for average abnormal returns over the t days in the event windows T to form the cumulative average abnormal return (CAAR) equation (5).

$$CAAR_T = \sum_{t=1}^T AAR_t \quad (5)$$

Expanding over the current literature is the utilisation Buy and Hold Abnormal Returns (BHAR) to examine the merger impact on acquirers returns over the longer run. The Buy and Hold methodology employs geometric returns, rather than arithmetic returns in calculating the overall return over the event period of interest, allowing for compounding, whereas the CAR does not (Brooks, 2013). BHARs are the difference between the realised buy-and-hold return and the normal buy-and-hold return;

$$BHAR_{i(T_1, T_2)} = \prod_{t=T_1}^{T_2} (1 + R_{i,t}) - \prod_{t=T_1}^{T_2} (1 + E[R_{i,t}]) \quad (6)$$

And mean Buy and Hold Abnormal Returns would be

$$\overline{BHAR}_{i(T_1, T_2)} = \frac{\sum_{i=1}^N BHAR_{i(T_1, T_2)}}{N} \quad (7)$$

The t -test is applied, in time series and cross-sectionally, to test for the statistical significance of the ARs using the following equation; where t_1 and t_2 are time references for the days of the window and Count (t_1, t_2) is the number of days in this window.

$$t - \text{stat} = \frac{CAR[t_1, t_2]}{(1/N^2 \sum_{i=1}^N \sigma_i^2)} \quad (8)$$

To handle any potential cases of normality in the distribution of ARs posed by event date clustering (Rezitis, 2008; Hernando *et al.*, 2009; Knapp *et al.*, 2006), the BMP Boehmer *et al.* (1991) test is applied.

$$BMP = \frac{SCAR_{t_1, t_2}}{\frac{1}{N^2} \sum_{i=1}^n (SCAR_{t_1, t_2} - \overline{SCAR_{t_1, t_2}})^2} \quad (9)$$

Where the standardised CAR is $SCAR_{t_1, t_2} = \frac{CAR_{t_1, t_2}}{\sigma_{it_1, t_2}}$, and σ_{it} is estimated by the market model as $(t_2 - t_1 + 1) \cdot \sigma_{ei}^2$. Furthermore, nonparametric tests of Corrado (1989) and sign tests are also employed. These tests have the advantage that; they do not consider the abnormal returns distribution. Using ranks neutralises the statistical effect (such as outliers, skewness etc.) of abnormal returns. Assuming that $\overline{K_{it}}$ is the rank for bank i at time t and T is the number of observations for the estimation and event period, the average expected rank for bank i is $\overline{K_i} = 0.5 + Ti/2$. Hence, Corrado (1989) test C would be;

$$C = \frac{\frac{1}{N} \sum_{i=1}^N (K_{i0} - \overline{K_i})}{\sqrt{\frac{1}{T} \sum_{t=1}^T \frac{1}{N^2} \sum_{i=1}^N (K_{i0} - \overline{K_i})^2}} \frac{1}{\sqrt{L}} \quad (10)$$

Furthermore, the significance test is conducted via the Generalised Sign (GS) Test proposed initially by Cowan (1992). It is based on the ratio of positive cumulative abnormal returns P_0^+ over the event window. Under the null hypothesis, this ratio should not systematically deviate from the ratio of positive cumulative abnormal returns over the estimation window $P_{Est.}^+$. Since the ratio of positive cumulative abnormal returns is a binominal random variable, the GS test statistics would be:

$$t_{GS} = \frac{P_0^+ - P_{Est.}^+}{\sqrt{P_{Est.}^+ (1 - P_{Est.}^+) / N}} \quad (11)$$

Since Buy and Hold abnormal returns are often positively skewed (Barber and Lyon, 1997; Kothari and Warner, 1997), a skewness-adjusted t-test, developed by (Johnson, 1978) is applied;

$$T_{Skewness - Adjusted} = \sqrt{N} \left[S + \frac{1}{3} \hat{\gamma} S^2 + \frac{1}{6N} \hat{\gamma} \right] \quad (12)$$

$$\text{where } S = \frac{\overline{BHAR_{i(T_1, T_2)}}}{\hat{\sigma} BHAR} \text{ and } \hat{\gamma} = \frac{\sum_{i=1}^N [BHAR_{i(T_1, T_2)} - \overline{BHAR_{i(T_1, T_2)}}]^3}{N \hat{\sigma}^3 BHAR}.$$

3.2.2 Observed Performance

In an approach of “strategic performance” similar to the one adopted by Chatterjee *et al.* (1992), Ramaswamy (1997) and Altunbas and Ibanez (2008), we examine strategic variables of financial institutions and their changes from pre-merger to post-merger. The model links performance adjustment pre- and post-merger to a strategic indicator and a set of control variables that are likely to influence performance. Therefore, the concepts of strategic choices of market and/or product development (Ansoff, 1980) assume that the major aspects of FIs strategic orientation can be seen in the resources allocation decisions that managements make. In particular, we examine the strategic features of FIs engaged in a merger with another FI that pursuit Investment, Insurance, Commercial banking or real estate (property) as lines of business. Balance sheet, income statement and cash flow items are downloaded, using FIs tickers, from Thomson Reuters Datastream. Ratios of profitability, liquidity, credit risk, capital structure and efficiency and outputs of loans are then calculated for two and one year before the merger announcement, the year-end of merger announcement, and one and two years after merger announcement and completion.

The value creation of bank mergers is also examined through analysing Economic Value Addition (EVA), which is a measure of a company's financial performance based on the residual wealth calculated by deducting its cost of capital from its operating profit and adjusted for taxes on a cash basis. EVA can also be referred to as economic profit, as it attempts to capture the true economic profit of a company. This measure was devised by management consulting firm Stern Value Management, originally incorporated as Stern Stewart and Co and published in the Journal of Applied Corporate Finance (Stern *et al.*, 1995). EVA measures the wealth an FIs creates (or destroys) each year. It is a company's after-tax profit from operations minus a charge for the cost of all capital employed to produce those profits – not just the cost

of debt, but the cost of equity as well. EVA is the incremental difference in the rate of return over a company's cost of capital. Essentially, it is used to measure the value a FI and banks generates from funds invested into it (Chen and Dodd, 1997; Kan and Ohno, 2012). This also contributes to examining if financial firms are “shareholder value-efficient” (Fiordelisi, 2007). If EVA is negative, it means the company is not generating value from the funds invested into the business. Conversely, a positive EVA shows an FI is producing value from the funds invested in it. Hence,

$$EVA_{t-1,t} = NOPAT_{t-1,t} - (IC_{t-1,t} * K_{t-1,t}^e) \quad (13)$$

Where;

NOPAT is the Net Operating Profits (Income) after Tax, IC=Invested Capital and $K_{t-1,t}^e$ is the estimated cost of capital (See Appendix A for details).

Hence, the success of merger deals could be seen through other determinants that have well performed in several time terms after the deal. For instance, performance is examined 20 and 40 days after announcement through CAR, at year-end for the whole financial year performance, by comparison of post and pre-event year-end measures, sustainability growth rate and economic value addition. **Table III** below shows these variables and their specific codes.

Abnormal returns and observed performance are then **panelled** over regional and jurisdictional constructs to be **Robustly** regressed. Robust regression helps avoid the inefficiency of least squares under fat-tailed non-normality and their significantly larger biases relative to robust regression coefficient estimators under bias inducing distributions of daily (fluctuating) calculated abnormal returns (Maravina, 2012; Ramdani and Witteloostuijn, 2010; Hoechle, 2007). In addition to its advantage of allowing great flexibility in modelling differences in behaviour across individual cases and events. Hence, the robust regression model would be based on;

$$Abnormal\ Returns_{it} = Strategic\ Orientation'_{it}\beta + Performance'_{it}\alpha + \epsilon_{it}$$

where the performance vector includes EVA, and

$$Economic\ Value\ Addition_{it} = Strategic\ Orientation'_{it}\beta + Performance'_{it}\alpha + \epsilon_{it}$$

where Performance vector excludes EVA but includes CAR and CBHAR.

=====**Table III**=====

4. Results

The data set covers 1485 Financial Institution mergers. Table IV below shows financial accounting data aggregated for all the 1,485 acquiring financial institutions. Panel A shows mean, median and standard deviation, while panel B shows the change of these variables between the year of the merger and the following one year and two years, and between one-year post-merger and one-year pre-merger. Over 64% of FIs mergers are completed within the same year of the announcement, and around 35% are completed the following year. Hence presenting the change in financial performance between the year before the announcement and the years of announcement/completion (Year0 & Year+1).

=====Table IV=====

Financial and accounting measures adjustments show, on average, improvements for acquiring FIs in the year of announcement. Except for the economic value addition, which are negatives with large standard deviation. Suggesting further examination of how different mergers types and FIs create value through mergers. As over 99% of deals are completed in the same year of announcement or the following year, Panel B provides a more realistic summary of financial performance. The comparison between the year before the merger announcement and the year of announcement (completion for 65% of deals) shows; positive return on equity, enhanced liquidity, and EVA. This proves the positive impact of mergers on FIs returns on equity and on invested capital, leading to creating economic value (adding). However, negative cost to income ratio reflecting cost deficiencies or income deterioration. Other expenses to total assets exhibit increase, however, not necessarily reflect an increase in expenses rather the decrease in total assets as a signal of fixed assets disposal due to consolidations. Panel D shows that all financial variables exhibit positive change a year after the merger, except for EVA, which returned to the negative position maintained in the year of the announcement. All the improvements are more stable (lower variations-st.dev.) with higher medians. This suggests further examination of the "Shareholder value efficiency" (Fiordelisi, 2007), hence the next stage of investigation examines shareholders value at various time spans and in regression over financial/accounting indices.

4.1 Shareholders value and FIs mergers

Two years following the merger completion (35% announcement), bidders exhibit improvement in liquidity status and continued positive capital structure. However, bidding FIs appear to have deteriorated returns on equity, the cost to income ratio and by large economic value and total assets. Mainly reflecting, lower drive, or failure, to create value or enhance efficiencies after two years from merger. It remains imperative to differentiate over the control variables associated with financial institutions mergers and acquisitions; focus vs. diversification, deal value, regions and jurisdictions and payment types.

Table V provides an analysis of how financial/accounting performance variables changes in response to FIs merger announcements over deal types; Diversification, Market Development, Market penetration and product development.

====Table V====

Results show that market development through cross-border or cross-state deals provides the highest return on equity in the same year of the merger, 31.5%, followed by diversification at 15.93%. Market penetration and product development have brought FIs negative return on equity with -0.798% and -10.388% respectively. However, in the year following the merger, diversification continued to provide a positive return on equity while market development turned to negative ROE (1.823% & -1.235%). Product development proved to be more profitable in the longer run than in the short run and market development and market penetration (8.251% & -0.7549%). Return on Invested capital follows a similar paradigm. Liquidity and cost to income ratio support market penetration and not any of the geographic diversification options. Market penetration proves to be cost-efficient, even a year on the merger.

Although the cost of capital appears with little variation among merger strategies, product development and market penetration deals can decrease capital cost faster than diversification and market development deals. Examining ROE and ROIC along with liquidity changes against the weighted average of cost of capital (WACC) remits to theorises that; diversification and market development deals expand geographically and can provide higher return but at a cost that is high and long-standing in debts and balance sheets. Economic value addition exhibit positive mean only for diversifying deals. However, comparing the change in from before merger to the year of the merger, EVA shows the highest deterioration in EVA for diversifying deals. Market development also exhibits negative EVA in year-1 to year0 change. A year on the merger provides different mapping; diversification provides the highest EVA (28,226.97)

1 followed market penetration (6,987.05). Market development mergers also improve EVA
 2 position a year on the merger, although remains negative. Product development appears to
 3 enhance economic value in the short run but destroys economic value a year after the merger.
 4 Hence, diversification (new products and new markets) and market penetration (existing
 5 products in existing markets) provide the most sustainable economic value addition, lower cost
 6 of capital and higher cost efficiency. Mitigating the time needed for mergers to realise potential
 7 returns and payback in scale and costs efficiencies.
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14 Table VI below shows CARs, along with their significance testing and probabilities,
 15 segregated over deal types of product and geographic orientations. While table VII shows
 16 BHARs and their significance over the same deal types.
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22 =====Table VI=====

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 26 Overall, FIs mergers destroy value for the bidding firms. CARs are all significant when
 27 tested over parametric and non-parametric significance tests, including the ones adjusting for
 28 normality of distribution. Market penetration mergers exhibit similar results. Diversification
 29 strategies do not appear to have a significant influence on acquiring FIs shareholders value in
 30 the short horizon of the merger. However, results for market and product development appear
 31 not significant overall, they do exhibit positive CARs, and significant in the windows of (0, 0)
 32 and (-1, +3) respectively. This reaction is a realisation of the anticipated synergy from different
 33 types of deals and their values.
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40 Table VII shows the long horizon event study results and the Buy and Hold abnormal
 41 returns, also segregated over the various strategies that describe the FIs mergers. Results show
 42 overall positive and significant value creation in 50 and 80 trading days, following the merger
 43 announcement. Market development mergers exhibit positive and significant BHARs 50 days
 44 on merger announcement. Lowering the confidence threshold from 95% to 90% increases the
 45 number of long-horizon windows and categories that show a significant reaction in BHAR to
 46 the merger announcement.
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52 =====Table VII=====

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 55 Therefore, bidding FIs destroy shareholders value in the immediate effect of mergers
 56 announcement with clear evidence from focused FIs mergers. However, in the longer run,
 57 product development mergers are more consistently value-creating than other consolidation
 58 strategies. Although diversification helps to diversify risk and sources of income, it could be
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1 seeking a too-big-to-fail status (Elsas *et al.*, 2010), and involves much higher risks
2 (environmental, cultural and legal) (Berger *et al.*, 2013). This outcome justifies the positive
3 perception in the short horizon event study but negative in the long run. Markets applaud
4 Product development. Positive and significant abnormal returns in both short and long horizons.
5 A result that reflects the high potential to enhance productivity, and benefit from economies of
6 scale and strategic similarities. In addition to the economies of scope and efficiencies
7 enhancement when combined with positive BHARs of market development and market
8 penetration. Results contradict with the literature that elaborates on the lack of technical
9 efficiencies (Laeven and Levine, 2007), and the opaqueness and brand identity loss and agency
10 problems (Elyasiani and Wang, 2012) due to such mergers.

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19 When segregating the data set over deal criteria, several exciting results surface.
20 Megadeals, with a value of US\$10 Billion, appear to preserve more value for bidding FIs
21 shareholders than those involved in a non-mega deal. **Table VIII** below shows that, although
22 they both exhibit negative CARs in the prompt windows of (0, 0), (-1, +1, +3 &+5) days, mega
23 deals bidders exhibit 10 folds more value creation. However insignificant, BHARs are all
24 positive for bidding FIs. Nevertheless, mega deals can generate ten more folds abnormal returns
25 in the long run than non-mega deals. Reflecting shareholders appreciation of the general
26 capability of large deals to capitalise upon the actual size and reputation and geographical
27 coverage of bidders and targets to enhance efficiency and drive profit and value. As a result of
28 larger diversification benefits, stronger capital positions in addition to projected cuts to
29 operating costs and costs of capital (Carow and Kane, 2002; Houston *et al.*, 2001; Kane, 2000).
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39 =====**Table VIII**=====

40 Financial institutions mergers that are paid by \$US currency create significantly more
41 value for bidders, in the short horizon than the ones paid for in Euro and British Pound. Deals
42 paid by other currencies (local currencies) tend to create value upon merger announcement
43 when the rest of deals destroy value (windows (0, 0) and (-1, +1)). **Table IX** also shows that
44 payment in bidders local currencies have a long-lasting value effect with BHARs being positive
45 and significant until 230 days after the deal announcement.
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51 =====**Table IX**=====

52 Payment type (method) also show a significant association with shareholders value effect
53 of FIs mergers. **Table X** shows little to non-significant adjustment in shareholders' value when
54 the deal is paid for by "Stock and Debt", "Cash, Stock and Debt" and when the payment type
55 is "Undisclosed". However, when the deal is paid for using "Cash" the short and long-horizon
56 effect is significant and positive, from announcement windows to +200 and +230 days
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1 windows. Evidencing a clear preference of shareholders to this type of deals, because cash
 2 payments for such large transactions reflect the bidder's adequacy and liquidity, which enables
 3 FIs to face any future challenges, resulting from or not resulting from the decision of the
 4 merger. Furthermore, the literature suggests that "cash" in itself as a medium of payment for
 5 merger deals is interpreted as good news, opposite to when it is "stock" (Franks *et al.*, 1991;
 6 Travlos, 1987).

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 12 When the merger is paid by "Stock" or "Cash or Stock" shareholders value resembles the
 13 mainstream reaction known from bidders' shareholders in FIs mergers, negative small
 14 magnitude CAR. However, deals with these types of payments sustain negative shareholders
 15 value to the long horizon too with negative insignificant BHARs.

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 19 The 2007-2011 financial crisis seems to have influenced shareholders values of bidding
 20 FIs in M&As. Deals that took place before the crisis confirm the literature of negative ARs in
 21 short horizons and positive ARs in long horizons. The crisis appears to have a long-lasting
 22 negative effect on shareholders' value. BHARs during the financial crisis were consistently
 23 negative and 4 to 7 times more in magnitude compared to the same windows before the crisis.
 24 **Table XI** also shows shareholders value has improved in response to FIs mergers from the
 25 beginning of 2012. ARs in the short horizons are either positive or negative, but 3 to 5 folds
 26 less compared to ARs during the crisis. Moreover, abnormal returns in the long horizon turned
 27 to become all positive with significant 2 to 4 folds greater than before the crisis.

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=====Table XI=====

Figure 1 shows the timeline of financial performance variables means; during before,
 during and after the financial crisis. Towards the end of 2007 and beginning of 2008, there was
 a sharp decline in bidders FIs liquidity, ROE, and economic value. Credit risk has also
 culminated during this period but dipped in 2009; reflecting the lessened credit activities
 expected from banks due to the crisis.

=====Figure 1=====

Notably, returns on invested capitals during the 2007-2011 crisis were not much affected,
 and in harmony with credit risk and liquidity increase in 2007. An outcome that shows how
 bailout policies are enforced to keep the financial sector afloat through capital injections in
 defaulted banks (Kaufman, 2014; Dunn *et al.*, 2015). Distinctly, 2002 witnessed heightened
 liquidity, credit risk and return on invested capital but lower returns on equity; a representation
 of FIs policies in the wake of the dotcom bubble; through savings on operational costs and

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2 utilising the available funds (liquidity) in issuing loans (Petersen and Wiegelmann, 2014;
3 Andriosopoulos and Yang, 2015).
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8 **4.1.1 Mergers strategies and performance (nominal and operating)**

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11 Dissecting broader strategies into the industries of targets enable further insights. **Tables**
12 **XII, XIII** summarise the association of the shareholders' value effect in several groups of
13 focused and diversified mergers, with financial performance in the year of the merger
14 announcement (65% Completion) and the following year (98.9% completion). Table **XIV**
15 shows how mergers strategies influence operating performance, materialised in cost to income
16 ratio, cost of capital and net operating profit. Overall, the focused deals of bank-bank, real
17 estate-real estate and insurance-insurance exhibit higher significance of the association between
18 value creation and post-merger financial performance.
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25 **====Table XII=====**

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29 In the announcement year, local bank to bank mergers create shareholders value and
30 increases their liquidity and economic value in the short run. Furthermore, these deals enable
31 bidding banks to increase returns (ROE) from lending (Loans to Deposits) and decrease credit
32 risk along with the long-run share value increase. However, this is at the cost of deteriorating
33 return on invested capital, liquidity and economic value. Symmetrical performance association
34 is witnessed in the year following the merger announcement year (Table XIII). When banks
35 merge or acquire another bank in a different jurisdiction (Country or state), shareholder value
36 creation is more drifted towards the announcement year-end (+230 days).
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43 Furthermore, value creation in the long horizon appears to be involving high costs (cost
44 to income) and higher risks (Loans to deposits and credit risk). Results in the year following
45 the merger deal are also similar. It is most probably due to costs of cultural (Language, brand,
46 legal) and procedural (regulations and regulators, organisational culture) differences leading to
47 diminishing value; faster than local deals and incurring more costs to adapt and implement
48 consolidations following the merger.
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53 **====Table XIII=====**

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56 Real estate bidders that merge with another real estate firm across the border (or state)
57 create shareholders value and gain return on equity and economic value, although at the cost of
58 higher expenses in the long run. However, focused real estate mergers appear to be more
59 successful. They create shareholders value in the short horizon, and this value is accompanied
60

by enhanced liquidity, decreased expenses and economic value addition. However, costs to income and credit risk appear to become higher. As real estate firms are not lending firms, the increase in credit risk reflects the debts through loans that real estate companies often operate with to finance operations (land acquisitions and developments). Insurance companies focused mergers can create value in the short horizon post-merger, only at the expense of lower liquidity and higher expenses.

Table XIV shows that all mergers that create shareholder value (short & long) are able to enhance their operational performance. Particularly, operating costs and capital costs. This is emphasised through the negative cost to income ratio. However, this cost saving does not appear to be sustainable, as it comes at the expense of deteriorating net operating profit after tax and economic gain (EVA). Panel B of same table proves variations exist pertaining to different strategies of mergers. Market penetration and diversification strategies support FIs cost to income reduction while product and market development do not. Essentially reflecting diversification of income sources benefits. Nevertheless, these benefits are short-run because opposite associations prevail when examining economic value (and its NOPAT) and cost of capital.

=====**Table XIV**=====

4.1.2 Shareholders value and economic value

Economic value addition captures the true actual economic profit of a firm. Furthermore, due to EVA's methodological importance in providing the net effect of business profits, we examine EVA in the post-merger year along with merger year abnormal returns and other financial variables. This tactic enables us to test for "shareholders value efficiency" following Fiordelisi (2007) by examining EVA change from year0 (merger) to year1 (post-merger) relative to return on invested capital.

Table XIV (Panel A) shows that in banks-banks mergers economic value post-merger is driven largely by an expansion in loans (Loans to T. Assets ratio) in North American and Australasian bidding banks. Shareholders value also drives long-run economic value for North American bank bidders. EVA is also negatively influenced by the large base of loans compared to deposits, hence credit risk, and low net loans to assets in Australasian bank focused mergers.

=====**Table XIV**=====

Long run shareholders value, along with liquidity lower costs higher capital ratio and lower risks in the merger year, helps Latin American bank bidders gain economic value post-merger. For European bank mergers, the evidence is relatively mixed. Long-horizon

1
2 shareholders value contributes to generating economic value for cross border bank mergers
3 despite high capital to assets ratio and low return on equity. Cross border bank mergers in
4 Europe allow banks to decrease credit risk significantly and increase return on invested capital
5 along with improving economic value. Particularly because diversity in bank loans enables
6 betterment in credit risk strategy (Altunbas and Ibanez, 2008; Hagendorff *et al.*, 2012).
7 However, examining the “shareholder value efficiency” theory shows that European bank-bank
8 M&As decrease bidders shareholder value efficiency through negative returns on invested
9 capital (**Table XIV** (Panel B)).
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5. Conclusion

The financial sector has continuously experienced restructuring and reformation; either through re-regulation following crisis or deregulation following innovation. This synthetic cycle (Kane, 1981, 1977) can be alleviated when economic and political powers find the optimal financial institution structure that can sustain a permanent and idiosyncratic risk-return enhanced status. One way of arriving at such status is through consolidations. This study contributes to the renewed policy debate, especially following the 2007-2011 crisis, by examining the value creation effect of financial institutions mergers and their determinants.

Results encourage FIs to achieve growth through Market and Product Development strategies because they enable value creation for shareholders both in the short and the long run. Local similar FIs mergers destroy value for the bidding firms pursuing, and Diversification strategies do not appear to have a significant influence on acquiring FIs shareholders value both in the short and in the long run.

Policymakers and regulators are advised to consider and permit, the regional and jurisdictional adaptations of regulations and the adoption of local assessment techniques. This conduct helps tackle regulatory arbitrage and promotes elasticity for growth and economic value creation strategies.

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Table I Descriptive Statistics of the values distribution of Financial Institutions' mergers.

YEAR	VALUE IN \$US MIL.	NUMBER OF DEALS	REGION	VALUE IN \$US MIL.	NUMBER OF DEALS
1995	2008.35	1	North America	814763.23	553
1996	5218.69	4	Australasia	389439.44	333
1997	9754.37	2	Africa	8104.87	22
1998	208155.3	43	Europe	816281.88	517
1999	122661.52	61	Latin America	56171.65	60
2000	98842.01	61	Total	2084761.07	1485
2001	115484.31	81			
2002	49501.55	55			
2003	129959.35	88			
2004	129990.48	90			
2005	132377.57	90	Geographic Orientation	Value in \$US Mil.	Number of Deals
2006	223071.92	141	Intrastate US	206053.1	162
2007	172871.08	113	Cross-border	792906.83	741
2008	105032.38	64	Local	630031.17	351
2009	46797.24	49	Cross-State US	455769.97	231
2010	94645.46	64	Total	2084761.07	1485
2011	39764.96	37			
2012	38010.28	46			
2013	44341.08	65			
2014	72453.88	88	Strategic Orientation	Value in \$US Mil.	Number of Deals
2015	107213.03	77	Market Penetration	1228786.97	697
2016	82627	82	Product Development	63067.27	47
2017	44963.22	74	Market Development	703280.43	601
2018	9016.04	9	Diversification	89626.4	140
TOTAL	2084761.07	1485	Total	2084761.07	1485

This table shows descriptive statistics of the data set sample. It shows distribution of number and monetary value of deals over years from 1995 to 2018 (no deals met the threshold of \$usmil.100 between 1992 and 1994). It also shows the distribution over the main regions of North America, Australia, Latin America, Europe and Africa. The geographic orientation panel differentiates between the US mergers and rest of the world mergers, and between intrastate and cross-state mergers in the us. Strategic orientation panel shows high popularity of market penetration and market development strategies of FIs mergers, over diversification.

Table II Descriptive Statistics of the number of deals distribution of Financial Institutions' mergers.

PRODUCT ORIENTATION	VALUE IN \$US MIL.	NUMBER OF DEALS
Banks-banks	1187129.79	657
Banks-insurance	27334.31	30
Banks-real estate	30957.28	54
Banks-investment company	2547.23	9
Insurance-banks	31675.68	12
Insurance-insurance	489376.11	293
Insurance-real estate	10002.22	38
Insurance-investment company	10938.51	4
Investment company-banks	2660.87	3
Investment company-insurance	14009.31	5
Investment company-real estate	5234.86	8
Investment company-investment company	5641.76	10
Real estate-bank	0	0
Real estate-insurance	0	0
Real estate-real estate	249919.74	338
Real estate-investment company	17333.4	24
Total	2084761.07	1485

This table shows descriptive statistics showing the distribution of deal numbers and values of FIs mergers examined over the product/activity orientation of the acquirers and targets. Deals where a bank is the bidder totals 750 deals with 50% of the value of all deals. Adding deals where banks were another party of the deal would make total number of mergers with a bank in the deal above 51% and more than 61% value.

Table III Data and accounting Matrics; source platforms and ID codes.

Variables	Labels	ID-Codes	Sources
ROE	Return on Equity - Total (%)	WC08301	DataStream - Thomson Reuters Profitability Ratio, Annual & Interim Item
Liquidity	Liquid (Current) Assets / Total Deposits	WC02201 / WC03019	DataStream - Thomson Reuter. Liquidity Ratio
Cost to Income Ratio	Cost (Operating Expenses) / Revenue (Sales)	WC01051 / WC01001	DataStream - Thomson Reuter - Efficiency Ratio
Capital to Total Assets Ratio	Total Capital / Total Assets	WC03998 / WC02999	DataStream - Thomson Reuter - Capital Ratio
Net Loans to Total Assets	Net Loans / Total Assets	WC02276 / WC02999	DataStream - Thomson Reuter - Assets (Banks) – Liabilities (Other FIs) to total Assets
Credit Risk	Loan loss provision/Net interest revenues	WC01271 / WC01076	DataStream - Thomson Reuter - Credit Exposure
Loans to Deposits Ratio	Customer Loans / Customer Deposits	WC02266 / WC03019	DataStream - Thomson Reuter - Assets to Liabilities, Income efficiency
Other Expenses to Total Assets	Other Expenses / Total Assets	WC03069 / WC02999	DataStream - Thomson Reuter - Non-operating expenses to total Assets
EVA	Economic Value Addition	Calculate Net Operating Profit After Tax (NOPAT), Calculate Total Invested Capital (TC), Determine a Cost of Capital (WACC), Calculate EVA = NOPAT – WACC% * (TC)	Bloomberg - WACC_ECON_VALUE_ADD ED
WACC	Weighted Average Cost of Capital	Multiply the cost of each capital component by its proportional weight, take the sum of the results, Multiple by 1 - Corporate tax rate.	Bloomberg -WACC
ROIC	Return on Invested Capital	Net Operating Profit After Tax (NOPAT) divided by Invested Capital which is calculated by subtracting cash and non-interest bearing current liabilities (NIBCL) – including tax liabilities and accounts payable, as long as these are not subject to interest or fees – from total assets.	Bloomberg - RETURN_ON_INV_CAPITAL

Shows accounting / financial and efficiency and capital performance variables; and their sources, codes, formulae of calculation. Below are further notes on the data availability and what some data mean to different types of financial institutions: Banks, Insurance companies, Investment companies and real estate firms. There also considerations of the variations of reporting standards in different jurisdictions and this has been adjusted for.

Notes:

CURRENT ASSETS - represents cash and other assets that are reasonably expected to be realized in cash, sold or consumed within one year or one operating cycle. Generally, it is the sum of cash and equivalents, receivables, inventories, prepaid expenses and other current assets. **DEPOSITS** - represent the value of money held by the bank or financial company on behalf of its customers. The item includes demand, savings, money market and certificates of deposit along with foreign office and deposit accounts. Excluded are securities sold under repurchase agreement. **COST OF GOODS SOLD** - If a breakdown of total operating cost of non-manufacturing companies is not available then it is treated as cost of goods sold. For Utilities and Service (Financials) Organizations, if there is no clear breakdown between cost of goods sold and Selling, General and Administrative Expenses, the total amount is updated to Cost of Goods Sold and noted that Selling General and Administrative Expenses are included. Service Organizations may refer to this as Cost of Services. **REVENUES** represent the total operating revenue of the company. **TOTAL CAPITAL** represents the total investment in the company. It is the sum of common equity, preferred stock, minority interest, long-term debt, non-equity reserves and deferred tax liability in untaxed reserves. For insurance companies' policyholders' equity is also included. **TOTAL ASSETS** represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets. **LOANS** -represent the total amount of money loaned to customers after deducting reserves for loan losses. For Banks: It includes but is not restricted to: Lease Financing Total non-performing assets (field 02287) For Other Financial Companies: It includes but is not restricted to: Lease Financing Finance Receivables. Provision for Loan Losses Expense: represents losses that the bank or the company expects to take as a result of uncollectable or troubled loans. NET INTEREST INCOME represents the difference between the total interest income and total interest expense of the bank. **CONSUMER & INSTALLMENT LOANS** represent loans made to consumers. It includes but is not restricted to: Auto loans Home improvement loans Credit cards Home equity loans. **OTHER EXPENSES (ACCRUED)** represent those accrued expenses not included in accrued payroll, interest payable, dividends payable or income taxes payable.

Table IV Summary statistics of financial performance of acquiring financial institutions in the years surrounding merger announcement.

Variable	Panel A				Panel B			Panel C		
	Obs	Mean	S.D.	Median	Mean	S.D.	Median	Mean	S.D.	Median
Overall - Announcement Year					Year-1 to Year0			Year-1 to year+1		
<i>ROE</i>	1485	16.05	87.28	11.99	4.84	126.61	-0.09	0.52	136.8	-0.97
<i>Liquidity</i>	710	7.33	105.1	0.0000	2.46	71.91	0.0000	1.64	56.5	0.0000
<i>Cost Income Ratio</i>	1417	4.88	73.81	0.0000	-0.42	18.51	0.0000	-1.75	48.37	0.0000
<i>Capital Assets Ratio</i>	1341	0.3000	0.2700	0.1800	0.01	0.09	0.0000	0.01	0.14	0.0100
<i>Net Loans T. Assets</i>	1399	2.46	24.18	0.4600	-3.96	146.81	0.0000	-3.96	139.97	0.0000
<i>Credit Risk</i>	709	0.1600	0.5000	0.1000	0.01	0.34	0.0000	-0.05	0.58	0.0000
<i>Loan to Deposits</i>	723	0.1700	0.5000	0.0900	0.02	0.45	0.0000	0.04	0.76	0.0000
<i>Other Expenses to T. Assets</i>	1374	34.68	462.74	0.0000	3.32	153.28	0.0000	-5.98	192.68	0.0000
<i>T. Assets</i>	1485	2.30E+09	1.60E+10	4.30E+07	2.00E+08	8.30E+09	4.10E+06	6.90E+08	5.80E+09	8.20E+06
<i>EVA</i>	1114	-8023.88	330000	-168.74	5582.36	500000	-18.53	-6834.71	370000	-49.43
<i>WACC</i>	1114	6.71	2.61	6.36	0.05	1.56	0.06	4.32	136.7	-0.14
<i>ROIC</i>	994	8.43	13.24	5.53	0.09	10.75	-0.21	-0.02	15.25	-0.31
	Panel D				Panel E					
	Year0 to Year+1				Year0 to Year+2					
<i>ROE</i>	1485	16.05	87.28	11.99	-9.09	77.69	-1.35			
<i>Liquidity</i>	710	7.33	105.1	0.0000	1.15	30.06	0.0000			
<i>Cost Income Ratio</i>	1417	4.88	73.81	0.0000	-2.07	44.81	0.0000			
<i>Capital Assets Ratio</i>	1341	0.3000	0.2700	0.1800	0.01	0.09	0.0100			
<i>Net Loans T. Assets</i>	1399	2.46	24.18	0.4600	-0.4	6.81	0.0000			
<i>Credit Risk</i>	709	0.1600	0.5000	0.1000	-0.03	0.66	0.0000			
<i>Loan to Deposits</i>	723	0.1700	0.5000	0.0900	0.01	0.13	0.0000			
<i>Other Expenses to T. Assets</i>	1374	34.68	462.74	0.0000	-10.4	178.76	0.0000			
<i>T. Assets</i>	1485	2.30E+09	1.60E+10	4.30E+07	6.30E+08	5.00E+09	5.00E+06			
<i>EVA</i>	1114	-8023.88	330000	-168.74	-18000	390000	-36.46			
<i>WACC</i>	1114	6.71	2.61	6.36	6.01	187.36	-0.05			
<i>ROIC</i>	994	8.43	13.24	5.53	-1.9	11.48	-0.25			

This table shows summary statistics of financial and accounting performance independent variable of acquiring financial institutions. Panel A summarises the variable for the overall sample for number of observations, mean, standard deviation and median. Panel B shows the change of these variables the year before the merger to the year of the merger. Panel C shows how these variables adjusted between one year before merger announcement and one year following merger announcement. Panel D shows these variables adjustments between the year of the announcement (Completion) and the following year.

Table V Financial institutions' performance and performance change following different types of mergers.

	Obs	ROE		ROE Change		Liquidity		Liquidity Change		Cost to Income		Cost to Income Change	
		Year-1 to Year0	Year0 to Year+1	Year-1 to Year0	Year0 to Year+1	Year-1 to Year0	Year0 to Year+1	Year-1 to Year0	Year0 to Year+1	Year-1 to Year0	Year0 to Year+1		
<i>Diversification</i>	140	12.99348	15.9313	1.823478	12.40909	-2.476257	-3.26129	5.980813	-0.5295595	-0.7697513			
<i>Market Development</i>	601	12.94015	31.58397	-1.235294	2.933178	-1.181174	0.4473392	5.891161	-0.1574723	-0.5493128			
<i>Market Penetration</i>	697	12.38531	-0.7980447	-0.7549162	23.94188	10.93816	-3.123584	22.41624	-3.926921	-7.071453			
<i>Product Development</i>	47	0.7845452	-10.38818	8.251819	0	0	0	0.0307117	0.0009068	-0.0112243			
		Capital to T. Assets	Capital to T. Assets Change		Net Loans to T. Assets	Net Loans to T. Assets Change		Credit Risk	Credit Risk Change				
			Year-1 to Year0	Year0 to Year+1		Year-1 to Year0	Year0 to Year+1		Year-1 to Year0	Year0 to Year+1			
<i>Diversification</i>	140	0.1944692	0.0135278	-0.0063857	0.6437709	0.0004525	-0.0012213	0.1631746	0.032157	0.0063976			
<i>Market Development</i>	601	0.167199	0.0010722	0.0029344	0.6190049	-0.003193	0.003489	0.1805913	-0.0096945	-0.0589171			
<i>Market Penetration</i>	697	0.1656038	0.001973	0.0043871	0.6238279	-0.0030908	-0.0001197	0.1458591	-0.0143707	-0.0047038			
<i>Product Development</i>	47	0.1861649	0.0011631	-0.0089763	0.6537592	0.0130678	0.0028392	0.2085839	-0.0060349	-0.0082386			
		Loans to Deposits	Loans to Deposits Change		Other Expenses to T. Assets	Other Expenses to T. Assets Change		T. Assets	T. Assets Change				
			Year-1 to Year0	Year0 to Year+1		Year-1 to Year0	Year0 to Year+1		TAssetsChng_1_0	TACHng0_1			
<i>Diversification</i>	140	0.1295917	-0.0056473	-0.0227621	24.01444	-7.247932	0.2334675	5.24E+09	1.29E+09	7.58E+08			
<i>Market Development</i>	601	0.1902568	-0.0145497	-0.0012566	26.52525	-18.16074	-6.218525	5.72E+09	8.90E+08	4.27E+08			
<i>Market Penetration</i>	697	0.1182201	-0.0004184	-0.0039087	28.6438	-3.373951	13.09076	4.67E+09	4.88E+08	4.82E+08			
<i>Product Development</i>	47	0.1722986	-0.0038372	-0.0414931	0.0285203	-0.0081884	0.0212141	2.20E+08	1.64E+07	2.28E+07			
		EVA	EVA Change		WACC	WACC Change		ROIC	ROIC Change				
			Year-1 to Year0	Year0 to Year+1		Year-1 to Year0	Year0 to Year+1		Year-1 to Year0	Year0 to Year+1			
<i>Diversification</i>	140	7307.259	-27944.33	28226.97	5.951683	0.2134348	0.0434652	4.591244	-0.9431956	0.1658174			
<i>Market Development</i>	601	-9175.638	-12968.55	-7186.142	6.436445	0.2948912	0.0246199	5.465717	-0.4488228	-0.0781875			
<i>Market Penetration</i>	697	-4143.285	1448.484	6987.057	6.485306	0.0327341	-0.0444676	5.449878	-0.3767324	-0.0167318			
<i>Product Development</i>	47	-458.4131	1666.657	-1701.174	6.000182	-0.0175091	-0.3904546	1.242955	-4.386773	3.315464			

This table Shows financial institutions' performance and performance change following different types of mergers. These types of mergers are categorised of the strategic orientation of based on Ansoff's (1980) Matrix of Market – Product development. This means that FIs mergers will be diversification if the acquirer and target are structurally different and are in different jurisdictions. The same analogy follows for the rest of deals (see footnote on same page).

Table VI Short horizon cumulative abnormal returns along with parametric and non-parametric significance tests.

	WINDOW (DAYS)	CAAR	T-TEST TIME SERIES	PROB.	T-TEST CROSS SECTIONAL	PROB	PATELL Z	PROB.	BOEHMER ET AL.	PROB.	CORRADO RANK	PROB.	SIGN TEST	PROB.
Overall	(0, 0)	-0.0029	-	0.0000	-3.2264	0.0013	-9.7470	0.0000	-4.6867	0.0000	-4.4647	0.0000	-2.8730	0.0041
			5.7172											
	(-1, +3)	-0.0047	-	0.0000	-3.1035	0.0019	-5.6615	0.0000	-3.8177	0.0001	-3.7174	0.0002	-2.2396	0.0251
Diversification	(-1, +5)	-0.0055	-	0.0001	-3.3082	0.0009	-5.0859	0.0000	-3.6747	0.0002	-3.1432	0.0017	-2.3980	0.0165
			4.0331											
	(0, 0)	0.0018	1.1240	0.2610	1.0449	0.2961	1.8960	0.0580	1.4709	0.1413	0.9197	0.3577	0.5220	0.6017
Product development	(-1, +3)	-0.0002	-	0.9524	-0.0720	0.9426	1.0826	0.2790	1.1056	0.2689	0.5915	0.5542	1.3863	0.1657
			0.0597											
	(-1, +5)	0.0016	0.3731	0.7091	0.5754	0.5650	0.9224	0.3563	1.1307	0.2582	0.5765	0.5642	1.2134	0.2250
Market development	(0, 0)	0.0012	0.2946	0.7683	0.2879	0.7734	0.8627	0.3883	0.6072	0.5437	0.3783	0.7052	-0.0280	0.9777
	(-1, +3)	0.0126	1.3545	0.1756	0.9476	0.3434	1.9788	0.0478	1.0647	0.2870	0.1971	0.8438	0.2679	0.7888
	(-1, +5)	0.0073	0.6658	0.5055	0.5886	0.5561	1.8423	0.0654	0.9404	0.3470	0.1142	0.9090	0.2679	0.7888
Market Penetration	(0, 0)	-0.0003	-	0.7342	-0.2515	0.8014	-2.5198	0.0117	-1.4391	0.1501	-0.2951	0.7679	-0.2477	0.8044
			0.3396											
	(-1, +3)	0.0000	0.0022	0.9982	0.0020	0.9984	-0.9780	0.3281	-0.7694	0.4416	-0.6249	0.5320	0.8310	0.4060
Market Penetration	(-1, +5)	0.0004	0.2054	0.8373	0.1899	0.8493	-0.3650	0.7151	-0.3003	0.7640	-0.0205	0.9836	0.3331	0.7390
	(0, 0)	-0.0065	-	0.0000	-3.9622	0.0001	-12.9581	0.0000	-5.2941	0.0000	-6.0652	0.0000	-4.1856	0.0000
			8.7858											
Market Penetration	(-1, +3)	-0.0108	-	0.0000	-4.3300	0.0000	-8.3569	0.0000	-4.9846	0.0000	-4.6500	0.0000	-4.7245	0.0000
			6.5484											
	(-1, +5)	-0.0128	-	0.0000	-4.7118	0.0000	-7.9793	0.0000	-5.1932	0.0000	-4.3591	0.0000	-4.4165	0.0000
		6.6029												

This Table shows the short horizon event study results; cumulative abnormal returns along with parametric and non-parametric significance tests. Overall, FIs mergers destroys value for the bidding firms. CARs are all significant when tested over parametric and non-parametric significance tests, including the ones adjusting for normality of distribution. Numbers in red mark the significance level of t-tests to their left at 95% confidence level. Decreasing the confidence level to 90% (prob in green) strengthen the position of positive cars in diversification and product developments deals for cars (0, 0) and (-1, +5).

Table VII Long horizon cumulative abnormal returns along with parametric and non-parametric significance tests.

	Window (DAYS)	BHAR	Pos:Neg	Prob.	Skewness Adjusted	p- Value
Overall	CBHAR [-50, +50]	0.0135	704 : 734	0.0122	2.679	0.0074
	CBHAR [-50, +80]	0.0126	692 : 746	0.0388	2.172	0.0299
	CBHAR [-50, +110]	0.0112	692 : 746	0.0831	1.7885	0.0737
	CBHAR [-50, +140]	0.0078	681 : 757	0.2548	1.1652	0.2439
	CBHAR [-50, +200]	0.0104	684 : 754	0.2126	1.2858	0.1985
	CBHAR [-50, +230]	0.0115	687 : 751	0.2052	1.3282	0.1841
Market Penetration	CBHAR [-50, +50]	0.0093	310 : 366	0.2415	1.2032	0.2289
	CBHAR [-50, +80]	0.0121	308 : 368	0.2019	1.3325	0.1827
	CBHAR [-50, +110]	0.0108	306 : 370	0.3021	1.0727	0.2834
	CBHAR [-50, +140]	0.012	315 : 361	0.2881	1.1033	0.2699
	CBHAR [-50, +200]	0.0163	316 : 360	0.2415	1.231	0.2183
	CBHAR [-50, +230]	0.0217	329 : 347	0.1668	1.5008	0.1334
Market Development	CBHAR [-50, +50]	0.0172	300 : 282	0.0473	2.2812	0.0225
	CBHAR [-50, +80]	0.0137	287 : 295	0.1436	1.5858	0.1128
	CBHAR [-50, +110]	0.0094	283 : 299	0.3085	1.048	0.2946
	CBHAR [-50, +140]	0.0017	281 : 301	0.8604	0.1834	0.8545
	CBHAR [-50, +200]	0.0065	290 : 292	0.5695	0.5839	0.5593
	CBHAR [-50, +230]	0.0032	281 : 301	0.7829	0.2842	0.7762
Product Development	CBHAR [-50, +50]	0.0777	27:19	0.0279	2.6687	0.0076
	CBHAR [-50, +80]	0.0486	29:17	0.1232	1.6436	0.1003
	CBHAR [-50, +110]	0.0639	31:15	0.0424	2.2277	0.0259
	CBHAR [-50, +140]	0.0651	25:21	0.0458	2.2504	0.0244
	CBHAR [-50, +200]	0.0374	22:24	0.2971	1.1087	0.2675
	CBHAR [-50, +230]	0.0608	23:23	0.1064	1.7379	0.0822
Diversification	CBHAR [-50, +50]	-0.0037	67 : 67	0.7681	-0.2843	0.7762
	CBHAR [-50, +80]	-0.0019	68 : 66	0.8991	-0.1129	0.9101
	CBHAR [-50, +110]	0.0028	72 : 62	0.8692	0.1761	0.8602
	CBHAR [-50, +140]	-0.0065	60 : 74	0.7092	-0.3664	0.7141
	CBHAR [-50, +200]	-0.0118	56 : 78	0.5813	-0.5268	0.5983
	CBHAR [-50, +230]	-0.0209	54 : 80	0.3409	-0.9241	0.3555

This table shows the Shows the long horizon event study results and the buy and hold abnormal returns CBHARs segregated over the various strategies that describe the FIs mergers. Overall positive and significant value creation in 50, 80 and 110 trading days following the merger announcement. Market development mergers exhibit positive and significant BHARs 50 days on merger announcement. Red and green highlighted figures are t-tests probability at confidence levels of 95% and 90% respectively.

Table VIII Short and Long Horizon Abnormal returns and the effect of Mega mergers.

<i>Window</i>	Mega Deals			Non-Mega Deals		
	<i>CAAR</i>	<i>t-Test Time Series</i>	<i>Prob.</i>	<i>CAAR</i>	<i>t-Test Time Series</i>	<i>Prob.</i>
(-40, +40)	-0.011	-0.4651	0.6418	2.1181	450.0592	0.0000
(0, 0)	-0.0207	-7.8637	0.0000	-	-4.6161	0.0000
(-1, +1)	-0.0202	-4.4185	0.0000	0.0024	-	0.0008
(-1, +3)	-0.0223	-3.7801	0.0002	0.0031	-	0.0004
(-1, +5)	-0.0229	-3.281	0.0010	0.0042	-	0.0003
	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>
(-50, +230)	0.0058	0.1636	0.8701	0.0117	1.3175	0.1877
(-50, +200)	0.0004	0.0125	0.9900	0.0107	1.2943	0.1956
(-50, +170)	0.0081	0.2407	0.8098	0.0097	1.282	0.1998
(-50, +140)	0.002	0.0591	0.9529	0.008	1.1648	0.2441
(-50, +110)	-0.0024	-0.1036	0.9175	0.0116	1.8123	0.0699
	41 deals; \$US 800,103.55 Average Value per deal \$US19,514.72 million			1445 deals; \$USD 1,284,657.52 Million		

This table shows the Short and Long Horizon event studies results showing CARs and BHARs and their relevant t-statistics, segregating Mega mergers deals (combined total assets value is greater than or equal \$US 10 Billion) and non- Mega deals. Red shadowed probabilities refer to the significance of abnormal returns at 95% confidence, and green ones are at 90% confidence. Number and value of deals under each category are appended at the end of the relevant column. **Frequency and Sampling Weights are set to be Countries** (CountryNum).

Table IX Short and Long Horizon Abnormal returns and the effect of the deal's currency.

Window	USD			Other Currencies (Local)			Euro			GBP		
	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.
(-40, +40)	4.6107	751.1014	0.0000	-0.003	-0.3115	0.7554	-0.005	-0.4455	0.6560	-0.031	-1.9555	0.0505
(0, 0)	-0.0084	-12.2967	0.0000	0.0037	3.4231	0.0006	-	-0.9785	0.3278	-0.0008	-0.4379	0.6615
(-1, +1)	-0.0108	-9.1004	0.0000	0.0048	2.5357	0.0112	-	-0.2987	0.7652	-0.0002	-0.0776	0.9381
(-1, +3)	-0.0111	-7.2482	0.0000	0.0027	1.0991	0.2717	-	-1.2109	0.2260	0.0011	0.2704	0.7869
(-1, +5)	-0.011	-6.1117	0.0000	0.0015	0.5213	0.6022	-	-1.9543	0.0507	0.0021	0.4485	0.6538
	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>	<i>BHAR</i>	<i>Skewness Adjusted</i>	<i>p- Value</i>
(-50, +230)	-0.0086	-0.7088	0.4784	0.0532	3.0401	0.0024	-0.007	-0.3414	0.7328	0.0116	0.4881	0.6255
(-50, +200)	-0.0117	-1.0265	0.3046	0.049	3.0047	0.0027	-	-0.1113	0.9114	0.0208	0.846	0.3975
(-50, +170)	-0.0115	-1.0939	0.2740	0.0458	3.0305	0.0024	0.0042	0.2615	0.7937	0.0069	0.321	0.7482
(-50, +140)	-0.017	-1.9165	0.0553	0.0446	3.2668	0.0011	0.0087	0.5393	0.5897	0.0088	0.4288	0.6681
(-50, +110)	-0.0151	-1.7752	0.0759	0.0477	3.757	0.0002	0.015	1.0036	0.3156	0.0155	0.8066	0.4199
	651 deals; \$US 995,498.22 Million			453 deals; \$US 498,484.17 Million			264 deals; \$US 403,953.93 Million			117 deals; \$US 186,823.75 Million		

This table shows the Short and Long Horizon event studies results showing CARs and BHARs and their relevant t-statistics, segregating deals where payments were made in US dollars, Euro, British Pound (GBP) and other currencies that are bidders' local currencies other than \$US, Euro, and GBP. Red shadowed probabilities refer to the significance of abnormal returns at 95% confidence, and green ones are at 90% confidence. Number and value of deals under each category are appended at the end of the relevant column. **Frequency and Sampling Weights are set to be Countries** (CountryNum).

Table X Short and Long Horizon Abnormal returns and the effect of the deal's currency.

Stock		Cash			Cash or Stock			Undisclosed				
Window	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.
(-40, +40)	-0.027	-2.6113	0.0090	3.9479	620.1382	0.0000	-0.0256	-1.7462	0.0808	-0.0239	-1.5349	0.1248
(0, 0)	-0.0102	-8.8729	0.0000	0.002	2.7759	0.0055	-0.0177	-10.864	0.0000	0.002	1.1387	0.2548
(-1, +1)	-0.0112	-5.6065	0.0000	0.002	1.6671	0.0955	-0.024	-8.5141	0.0000	0.0032	1.0627	0.2879
(-1, +3)	-0.0146	-5.6767	0.0000	0.0016	1.0403	0.2982	-0.0232	-6.3752	0.0000	0.0021	0.5467	0.5846
(-1, +5)	-0.0176	-5.8016	0.0000	0.0019	1.0169	0.3092	-0.0229	-5.3286	0.0000	0.0021	0.4635	0.6430
	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value
(-50, +230)	-0.0016	-0.0749	0.9403	0.0295	2.5453	0.0109	-0.0009	-0.0181	0.9856	0.0026	0.1012	0.9194
(-50, +200)	-0.0032	-0.1623	0.8711	0.0297	2.7903	0.0053	-0.0098	-0.3072	0.7587	-0.0076	-0.3398	0.7340
(-50, +170)	-0.0066	-0.368	0.7129	0.0313	3.2469	0.0012	-0.0019	-0.0498	0.9603	-0.0214	-0.9827	0.3258
(-50, +140)	-0.0058	-0.3598	0.7190	0.028	3.2792	0.0010	-0.0167	-0.6517	0.5146	-0.0147	-0.7003	0.4837
(-50, +110)	-0.0088	-0.6091	0.5425	0.034	4.2436	0.0000	-0.004	-0.1491	0.8815	-0.015	-0.7439	0.4570
367 deals; \$US 953,552.4 Million				780 deals; \$US 686,141.7			91 deals; \$US 80,434.94 Million			103 deals; \$US 55,704.54		
Cash and Debt				Stock and Debt			Cash, Stock and Debt			Cash and Stock		
Window	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.
(-40, +40)	-0.0051	-0.0933	0.9256	0.0614	0.7317	0.4644	-0.1125	-1.6008	0.1094	-0.0285	-2.0938	0.0363
(0, 0)	0.0148	2.4105	0.0159	-0.0128	-1.3685	0.1712	-0.0006	-0.0721	0.9425	-0.0075	-4.99	0.0000
(-1, +1)	0.028	2.6379	0.0083	-0.0077	-0.4758	0.6343	-0.0112	-0.83	0.4065	-0.0101	-3.8783	0.0001
(-1, +3)	0.0285	2.0839	0.0372	0.0211	1.0102	0.3124	-0.0075	-0.4319	0.6658	-0.0118	-3.5038	0.0005
(-1, +5)	0.0129	0.7985	0.4246	0.0206	0.8335	0.4045	-0.0193	-0.9348	0.3499	-0.0115	-2.8676	0.0041
	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value
(-50, +230)	0.0281	0.3056	0.7599	-0.2671	-1.4291	0.1530	-0.1835	-1.0033	0.3157	-0.0329	-1.3183	0.1874
(-50, +200)	0.0513	0.4947	0.6208	-0.1797	-0.8887	0.3741	-0.1869	-1.3373	0.1811	-0.0329	-1.387	0.1654
(-50, +170)	0.0432	0.526	0.5989	-0.1757	-0.8587	0.3905	-0.1242	-0.9458	0.3443	-0.0389	-1.8643	0.0623
(-50, +140)	-0.0019	0.0472	0.9624	-0.1844	-1.0757	0.2821	-0.1719	-1.351	0.1767	-0.0285	-1.363	0.1729
(-50, +110)	-0.0195	-0.1529	0.8785	-0.1263	-1.2685	0.2046	-0.1551	-1.2592	0.2079	-0.0257	-1.2436	0.2137
16 deals; \$US 17,991.21 Million				3 deals; \$US 1,814.94 Million			7 deals; \$US 11,712.4 Million			118 deals; \$US 277,408.94 Million		

This table shows the Short and Long Horizon event studies results showing CARs and BHARs and their relevant t-statistics, segregating deals where payments was made using “Stock”, “Cash”, “Cash or Stock”, “Cash and Debt”, “Stock and Debt”, “Cash, Stock and Debt”, “Cash and Stock”, or “Undisclosed”. Red shadowed probabilities refer to the significance of abnormal returns at 95% confidence, and green ones are at 90% confidence. Number and value of deals under each category are appended at the end of the relevant column. **Frequency and Sampling Weights are set to be Countries (CountryNum).**

Table XI Short and Long Horizon Abnormal returns and the effect of the 2007-2011 crisis.

Window	Before Crisis			During Crisis			After Crisis		
	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.	CAAR	t-Test Time Series	Prob.
(-40, +40)	-0.0206	-3.5397	0.0004	-0.0213	-1.5542	0.1201	6.8809	817.1345	0.0000
(0, 0)	-0.0046	-7.1463	0.0000	-0.0004	-0.2552	0.7985	-0.0015	-1.5763	0.1150
(-1, +1)	-0.0067	-5.996	0.0000	-0.0006	-0.2164	0.8287	0.0003	0.1711	0.8642
(-1, +3)	-0.0082	-5.6931	0.0000	-0.0023	-0.6671	0.5047	0.0001	0.0532	0.9576
(-1, +5)	-0.0084	-4.9346	0.0000	-0.0043	-1.0635	0.2875	-0.001	-0.4153	0.6779
	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value	BHAR	Skewness Adjusted	p- Value
(-50, +230)	0.0168	1.4138	0.1574	-0.0617	-2.8511	0.0044	0.0445	3.1158	0.0018
(-50, +200)	0.0205	1.8158	0.0694	-0.0721	-3.3432	0.0008	0.0403	3.103	0.0019
(-50, +170)	0.0183	1.7727	0.0763	-0.0643	-2.8911	0.0038	0.037	3.1206	0.0018
(-50, +140)	0.0159	1.7171	0.0860	-0.0613	-3.1782	0.0015	0.0334	3.0807	0.0021
(-50, +110)	0.0174	2.0816	0.0374	-0.0557	-3.1525	0.0016	0.0388	3.7505	0.0002
	786 deals; \$US 1,345,549.04 Million			258 deals; \$US 340,587.5 Million			441 deals; \$ USD 398624.53 Million		

This table shows the short and Long Horizon event studies results showing CARs and BHARs and their relevant t-statistics, segregating FIs merger deals announcement (and completion) years over the three periods of Before, During and After the 2007-2011 financial crisis. Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively. Number and value of deals under each category are appended at the end of the relevant column. **Frequency and Sampling Weights are set to be Countries** (CountryNum).

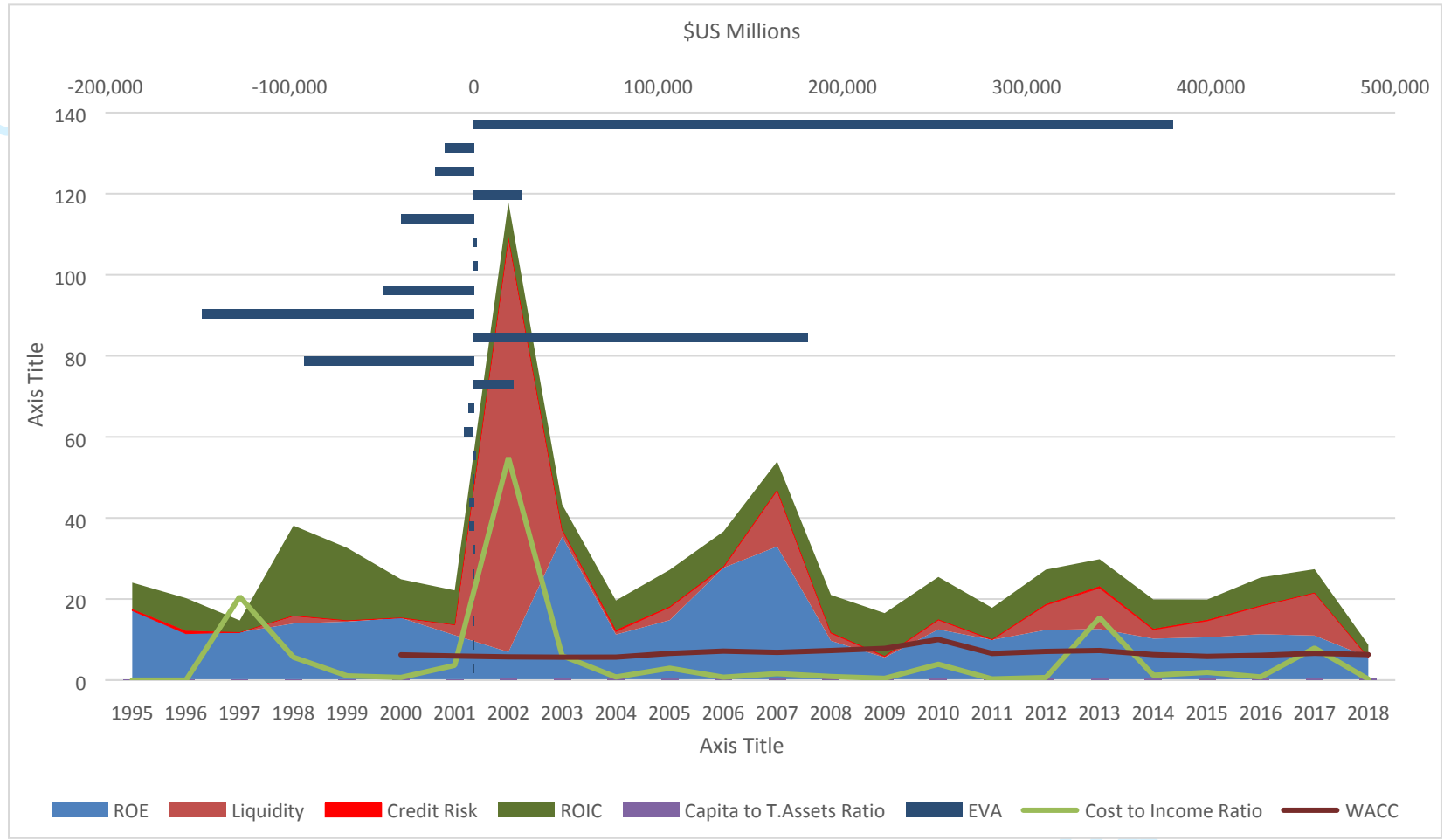


Figure 1 Financial Performance Time Line of FIs involved in a merger between 1995 and 2018.

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Table XII Robust Regression analysis; Abnormal Returns, financial performance in the year of the merger announcement and Strategic Orientation.

Robust Regression	Market Development; Banks-Banks		Market Penetration; Banks-Banks		Market Development; Real Estate-Real Estate		Market Penetration; Insurance-Insurance		Market Penetration; Real Estate-Real Estate			
	Obs	65	Obs	160	Obs	61	Obs	39				
Same Year Performance												
	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)		
ROE	-0.0014707*	-0.3468653	0.0007821	2.045192**	0.0021258***	2.09563**	-0.0008509	-0.0002373				
Liquidity	-0.0031857	-14.40768*	0.0000949**	-0.2965107**	-0.000794	-1.275178*	-0.0004301**	0.0061209***				
Cost to Income	0.0025971	14.00848*	0.00006***	0.087789	-0.0000637	-1.307759***	0.0019636	0.0007373**				
Net Loans to Assets	-0.0565483	-26.7175	0.0247	54.37839*	-0.0894411	53.91683	0.0337452	0.0246423				
Credit Risk	0.0453678	43.58829	0.0209865	-30.88594***	0.0700079**	-40.27153*	-0.0113013***	0.1565389***				
Loan to Deposits	0.0046081	6.434276*	0.0205675	-40.90026	0.0423713	-38.30496	-0.012658	-0.0907587				
Other Expenses to Assets	0.0000233*	0.0317352***	0.0001118	0.1732917	0.000572	1.730377***	0.0003024**	-0.0057915***				
EVA	0.00000002	0.0000325	0.0000000307***	-0.0000545**	0.000000162***	-0.0001307*	-0.000000173	0.0000000984*				
WACC	0.0004873	3.884624	0.0016283	0.1354035	0.0021992	2.67792	-0.0041507	-0.008357*				
ROIC	0.0019326	-2.11534	0.0011187	-2.519439***	-0.0029405	-9.393116**	0.0024671	0.0069195				
_cons	0.0197869	19.41976	0.0222851	-27.63296	-0.0119943	-13.73741	-0.0073303	-0.0153292				
	F(10,	14.29	4.91	F(10, 149)	23.2	10.12	F(10, 50)	37.55	43.62	F(10, 28)	33.01	31.67
	Prob	0.000	0.000	Prob>F	0.000	0.000	Prob>F	0.000	0.000	Prob>F	0.000	0.000
	R-	0.1927	0.0593	R-squared	0.0529	0.0895	R-squared	0.1945	0.28	R-squared	0.3159	0.3168
	Root	0.04444	84.806	Root MSE	0.04736	56.492	Root MSE	0.05693	50.306	Root MSE	0.04507	0.05591

Shows robust regression analysis results of CARs and BHARs over the financial performance variables of the year of the merger announcement, segregating FIs merger by deal types of Strategic Orientation (Diversification, Market or product development, and Market Penetration) and Product Orientation depending on Acquirers and Targets Industries. Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively. See Table XVII in appendix. **Frequency and Sampling Weights are set to be Countries (CountryNum).**

Table XIII Robust Regression analysis; Abnormal Returns, financial performance in the year After the merger announcement and Strategic Orientation.

Robust Regression	Market Development; Banks-Banks		Market Development; Insurance-Insurance		Market Penetration; Banks-Banks		Market Penetration; Insurance-Insurance					
	Obs	71	Obs	43	Obs	161	Obs	39				
A Year Post-Merger Performance	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)				
ROE	0.0028982***	0.781982	0.0006869	0.1719623	-0.0001427	2.486423***	-0.0008073	-1.315937				
Liquidity	0.0063084	15.32467	0.0347672***	-13.82004*	-0.0004219***	-0.1830079	-0.000541	0.3954575				
Cost to Income	-0.0062645	-14.23463	0.0056897*	-2.701778	0.0003211**	0.3667799***	0.0021624	-2.352534				
Capital to Assets	0.1433464**	-8.84073	-0.1933884	-142.9384	0.0738723	52.86665	0.0342149	57.43691				
Net Loans to Assets	-0.0582309	-3.20035	-0.049972	-58.6119*	0.0173525	20.95892	-0.1606381	-40.48694				
Credit Risk	0.0296996	75.30856	-0.0043892	-10.41328**	0.038759	-49.27295	0.124828**	37.15029				
Loan to Deposits	-0.0078122	-17.48053	-0.024253	16.72362	0.0002321	-33.82771***	-0.0996576	-66.99629				
Other Expenses to	-0.0000195***	-0.0358986***	-0.0345183***	12.33046	0.0000765***	-0.0307389	0.0003446*	-0.0132524				
EVA	-1.44E-08	0.0000322	0.000000375	-0.0005632**	0.00000264**	-0.0002066	-0.000000336	0.0002313				
WACC	-0.003218	3.146886	0.0020048	0.4098839	0.0004137	-3.105825	-0.0005012	-3.256336				
ROIC	0.0006336	-3.700579	-0.0035206	-3.819592	0.0001666	-1.608725	0.0055353	10.39938*				
_cons	-0.0189218	-1.460644	0.0458827	77.07224*	-0.0363499	-2.294048	0.0515072	-2.597803				
	F(10, 59)	9.5	3.59	F(11, 32)	106.85	26.19	F(11, 149)	9.49	40.78	F(11, 28)	3.27	4.42
	Prob>F	0.000	0.0007	Prob>F	0.000	0.000	Prob>F	0.000	0.000	Prob>F	0.0056	0.0007
	R-squared	0.3921	0.0754	R-squared	0.232	0.1725	R-squared	0.0582	0.1312	R-squared	0.2936	0.2327
	Root MSE	0.0559	80.957	Root MSE	0.04981	51.144	Root MSE	0.04461	58.449	Root MSE	0.05368	40.927

This table shows **Robust Regression** analysis results of CARs and BHARs over the financial performance variables of the year After the merger announcement, segregating FIs merger by deal types of Strategic Orientation (Diversification, Market or product development, and Market Penetration) and Product Orientation depending on Acquirers and Targets Industries. Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively. **Frequency and Sampling Weights are set to be Countries (CountryNum).**

Table XIV Operating performance (measured by EVA, cost of capital and operating cost) and its association with Financial Institutions mergers and their strategic orientation.

Table XIII – Panel A						
<i>Equation</i> CAR (-1, +3) CBHAR (-50,	<i>No. of Obs=41,332</i>	CAR (-1, +3)		CBHAR (-50, +230)		
		Coefficient	P> t	Coefficient	P> t	
		<i>Cost to Income Ratio</i>	-8.79E-06	0.001	-0.01644	0.000
		<i>EVA</i>	-7.84E-09	0.000	-3.99E-06	0.000
		<i>WACC</i>	0.000121	0.315	-0.55812	0.000
		<i>_cos</i>	-0.00704	0.000	5.543296	0.000
	Parms	RMSE	R-sq	F	P	
	4	0.057044	0.002	25.77397	0.000	
	4	51.88836	0.002	30.00813	0.000	

Table XIII – Panel B											
<i>Equation</i> CAR (-1, +3) CBHAR (-50,	Multivariate Regression; Strategic Orientation is Product Development					Multivariate Regression; Strategic Orientation is Diversification					
	<i>No. of Obs=1,406</i>	CAR (-1, +3)		CBHAR (-50, +230)		CAR (-1, +3)		CBHAR (-50,		<i>No. of</i>	
		Coefficient	P> t	Coefficient	P> t	Coefficient	P> t	Coefficient	P> t		
		<i>Cost to Income</i>	0.014115	0.000	-15.6127	0.000	-0.00015	0.000	-0.49359	0.000	
		<i>EVA</i>	4.12E-09	0.115	2.36E-05	0.000	3.77E-08	0.000	-1.2E-05	0.243	
		<i>WACC</i>	0.00318	0.000	11.46715	0.000	0.001118	0.007	3.972954	0.000	
	<i>_cos</i>	-0.02493	0.000	-72.2897	0.000	-0.01019	0.000	-22.5278	0.000		
	Parms	RMSE	R-sq	F	P	Parms	RMSE	R-sq	F	P	
	4	0.042804	0.0365	17.68376	0.000	4	0.04391	0.0096	12.2096	0.000	
	4	42.52219	0.2189	130.9617	0.000	4	53.4981	0.0403	52.6400	0.000	

<i>Equation</i> CAR (-1, +3) CBHAR (-50,	Multivariate Regression; Strategic Orientation is Market Penetration					Multivariate Regression; Strategic Orientation is Market Development					
	<i>No. of Obs=19,496</i>	CAR (-1, +3)		CBHAR (-50,		CAR (-1, +3)		CBHAR (-50,		<i>No. of</i>	
		Coefficient	P> t	Coefficient	P> t	Coefficient	P> t	Coefficient	P> t		
		<i>Cost to Income</i>	-1.6E-05	0.000	-0.01419	0.000	0.000154	0.000	-0.04353	0.003	
		<i>EVA</i>	-5.73E-09	0.008	-1.45E-06	0.382	-9.98E-09	0.000	-2.37E-06	0.058	
		<i>WACC</i>	-0.00072	0.000	-1.27297	0.000	0.000867	0.000	-1.04804	0.000	
	<i>_cos</i>	0.00294	0.037	9.488878	0.000	-0.01855	0.000	10.15877	0.000		
	Parms	RMSE	R-sq	F	P	Parms	RMSE	R-sq	F	P	
	4	0.063218	0.0024	15.5536	0.000	4	0.05200	0.0134	75.3407	0.000	
	4	48.8159	0.0053	34.60747	0.000	4	54.8563	0.0032	17.7675	0.000	

Multivariate Regression of operating performance components of economic value, cost of capital and operating cost. Panel A represents the overall significance of these variables' association with FIs' abnormal returns upon merger announcement. Panel B presents the variation of this association over the strategic orientation of FIs mergers. The coefficients are in first columns of every panel while p values are in the fourth ones. **Frequency and Sampling Weights are set to be Countries (CountryNum).**

Table XV Economic Value addition and performance around merger announcement.

	Panel A			
	Cross State US Banks-Banks	Bank-Bank merger Latin America	Australasia Banks-Banks	Europe Bank cross border
	Obs=54	Obs = 13	Obs=19	Obs 42
	EVA Post Merger			
CAR (-1, +3)	20237.11**	-468409.5	429415.7	1965.034
CBHAR (-50, +230)	2.423524	206.2443**	-185.1926	40.71887**
ROE	-175.7424**	2631.09*	-4283.366**	-328.1574***
Liquidity	24.11002**	2134293**	-17413.35	-11717.31**
Cost to Income	-21.0164*	-26000000**	-35565.96	-1882.315
Capital to T. Assets	-7293.322	327336.2**	-553307.5***	26835.31**
Net Loans to T.	8651.614**	250049.3***	-323583.5***	-10212.41
Credit Risk	-1630.95	-187556.2**	141990.6	-37299.16***
Loan to Deposits	-4795.465	-51466.13	208700.1**	-5853.8*
Other Expenses to	7.504181	3505731*	107852.5	8451.358*
ROIC	161.8176	5343.25*	4221.176	4162.659***
_cons	-2650.029	-262037**	292014.9***	-3266.464
	F(11, 42)	F(8, 1)	F(11, 7)	F(8, 1)
	1.41	0.00	36.48	4.86
	Prob>F	0.2052	0.00	0.0003
	R-squared	0.3559	0.9007	0.8199
	Root MSE	2693.5	3615.5	8081.2
	Cross state US Real Estate-Real Estate	Intrastate US Real Estate-Real estate	Panel B	
	Obs=36	Obs=26	Banks-Banks Europe	Banks-Banks Latin America
			Obs = 58	Obs = 13
	EVA Post Merger		EVA Change yr0 to yr1	
CAR (-1, +3)	-819.4283	-615.2755	1932.645	-277169
CBHAR (-50, +230)	-2.346906	4.173344	-9.923377***	99.03645**
ROE	-83.803***	12.35598	-34.08451	2037.822*
Liquidity	-1.844659	-17.87445*	-633.8743*	6576655***
Cost to Income	-3.094869**	2.650679	1686.825	69900000***
Capital to T. Assets	-2726.363	-8254.57**	-5135.221	184041.3**
Net Loans to T.	7.539856	-613.251	9504.617**	170526.9***
Credit Risk	316.4703	-283.3951	14383.16***	-113479.2**
Loan to Deposits	-2617.614*	-1371.432	2066.031	-47886.36
Other Expenses to	4.503511	6.616352	-1419.519	-34700000***
ROIC	-80.06304	-237.2255**	-907.7629***	1374.69
_cons	1639.581	3035.749***	-4131.989	-151410.3**
	F(11, 34)	F(11, 14)	F(11,46)	F(8,1)
	3.83	1.38	40.45	0.000
	Prob>F	0.0029	0.000	0.000
	R-squared	0.5796	0.8036	1.000
	Root MSE	558.47	4811.7	2165.6

Shows the **Robust Regression** of Economic Value addition post-merger over the short and long horizons abnormal returns and other financial accounting variables in the year of the merger. Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively. See table XVII in appendix for elaborative regression of operational performance through Cost to Income ratio, Operating Profit (NOPAT in EVA calculation) and Cost of capital (WAAC). **Frequency and Sampling Weights are set to be Countries (CountryNum).**

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Appendix A: The accounting adjustments made to move the book values closer to their economic values in the EVA calculation.

$$\begin{aligned}
 \text{EVA}_{t-1,t} &= \text{NOPAT}_{t-1,t} - (\text{CI}_{t-1} * K_{t-1,t}^e) \\
 &= \text{NOPAT}_{t-1,t} = \text{EBIT} (1 - \text{tax rate}) + \\
 &\quad + \text{R\&D Expenses} \\
 &\quad + \text{Training expenses} \\
 &\quad + \text{Operating Lease Expenses} \\
 &\quad + \text{Loan loss provisions} - \text{Net charge-off} \\
 &\quad + \text{Book tax provisions} - \text{Cash operating tax} \\
 &\quad + \text{General risk provisions} - \text{Net charge-off} \\
 &= \text{CI}_{t-1} = \text{Book value of equity} \\
 &\quad + \text{Capitalised R\&D expenses}^{(1)} \\
 &\quad + \text{Capitalised training expenses}^{(1)} \\
 &\quad - \text{Proxy for amortised R\&D expenses}^{(2)} \\
 &\quad - \text{Proxy for amortised training expenses}^{(2)} \\
 &\quad + \text{Proxy for the present value of expected lease commitments over time}^{(3)} \\
 &\quad - \text{Proxy for amortised operating lease commitments}^{(3)} \\
 &\quad + \text{Net Loan loss reserve} \\
 &\quad + \text{Deferred tax credits} \\
 &\quad - \text{Deferred tax debits} \\
 &\quad + \text{General Risk Reserve}
 \end{aligned}$$

Where NOPAT is the Net Operating Profits after Tax, CI is the capital invested, K_e is the estimated cost of capital invested, EBIT is the Earning before interest and taxes, R&D is "Research and Development"

(1) Capitalised R&D expenses and capitalised training expenses are obtained summing annual R&E expenses and training expenses, respectively, over a period of five years (e.g. Stewart, 1991 suggests that five years is the average useful life of R&D expenses).

(2) The proxies for amortised R&D expenses and amortised training expenses are obtained by dividing the capitalised amount of R&D expenses and the capitalised training expenses, respectively, over 5 years (assuming a straight-line amortisation process)

(3) Since data availability does not allow us to evaluate the present value of expected lease commitments over time, the present value of expected future lease commitments capitalised is assumed to be equal to the overall amount of operating leases expenses over for a five years period. The amount annually amortised is close to the amount of R&D expenses divided by 3 years (assuming a straight-line amortisation process).

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Table XVI Multivariate regression of CARs and BHARs over financial performance variables two years before the merger announcement.

Robust Regression	Diversification Obs=35		Market Development Obs=143		Market Penetration Obs=195		Product Development Obs=14					
	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)				
Two Years Pre-Merger Performance												
ROE	-0.00081	0.493893	0.0000333***	0.0122276**	0.000629	0.8304693*	-0.00413	4.243164				
Liquidity	-0.01235	-17.3819	0.000465	0.522244	-0.00054	0.433553	0.06619	-537.835				
Cost to Income	-0.00192	-3.1823	0.000133	0.521256	-2E-05	0.084807	0.028862	170.9193				
Capital to Assets	0.312825	196.7809	0.052442	43.53461	0.034268	-31.9674	-0.04836	80.88622				
Net Loans to Assets	0.06362	-50.0106	-0.04521	10.97076	0.000386	41.19885	-0.29034	-435.16				
Credit Risk	0.04249	-31.245	0.017143	23.42489	-0.02308	-5.07881	-0.17824	-242.576				
Loan to Deposits	-0.06048	-103.184	0.002186	0.573171	-0.02251	12.43426	0.169484	-358.238				
Other Expenses to Assets	0.004718	6.783879	-0.00014	-0.51602	0.000036	-0.03305	-0.05888	338.8598**				
EVA	-0.0000032*	-4.8E-05	2.22E-09	0.0000717**	-2.8E-08	0.000014	3.04E-07	4.43E-05				
WACC	-0.01009	2.988828	0.000597	0.790969	0.0027598*	0.768753	0.010925	24.67994				
ROIC	0.0100773*	0.16868	0.001529	-2.529476*	-0.00052	-0.854	0.0008335**	-0.6594336**				
_cons	-0.08153	-6.89873	-0.01519	1.074158	-0.02432	-31.3213	0.190577	156.5659				
	F(11, 23)	2.4	218.68	F(11, 131)	216.93	15.31	F(11, 183)	1.01	0.85	F(10, 2)	0.000	0.000
	Prob>F	0.0371	0.000	Prob>F	0.000	0.000	Prob>F	0.4357	0.588	Prob>F	0.000	0.000
	R-squared	0.3226	0.0965	R-squared	0.1136	0.0383	R-squared	0.0616	0.0439	R-squared	0.9291	0.9141
	Root MSE	0.04615	82.61	Root MSE	0.05287	67.306	Root MSE	0.04334	46.638	Root MSE	0.0302	33.139

Shows robust regression analysis results of CARs and BHARs over the financial performance variables of the Two years Before the merger announcement segregating FIs merger by deal types of Diversification, Market Development, Market Penetration and Product Development. Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively.

Table XVII Mixed Effect Maximum Likelihood regression analysis of CARs and BHARs.

<i>Mixed Effect Maximum Likelihood</i>	<i>Acquirer is a Bank</i>	<i>Banks-Banks</i>		<i>Banks-Insurance</i>	
<i>Same Year Performance</i>	Obs = 532	Obs = 268		Obs=14	
	CAR (-1, +3)	CAR (-1, +3)	CBHAR (-50, +230)	CAR (-1, +3)	CBHAR (-50, +230)
ROE	-0.000107	-0.0006445	0.2825468	0.0007199	1.190023
Liquidity	0.0000318***	- 0.0002066**	-0.1853883***	0.7017472***	-952.0654***
Cost to Income	-0.0000221***	0.0002251** *	0.1939322***	- 0.6231185***	839.3732***
Net Loans to Assets	-0.0251165***	-0.022541*	16.07988	- 0.1607536***	32.81271**
Credit Risk	-0.0054364	0.0127069	-2.928893	0.1312541***	-238.3513***
Loan to Deposits	0.0022413	0.0049707	-5.368608	0.0258868*	32.53
Other Expenses to Assets	-0.000013***	- 0.0000213**	-0.0218421***	- 0.4378624***	594.0668***
EVA	2.86E-09	1.42E-08	-0.00000161	- 0.000000771*	0.0005452***
WACC	0.00114	0.0018389	-0.1230434	0.0120207***	-4.895462
Wald chi(9)	73356.88	76740.62	64996.22	0	0
Log pseudolikelihood	829.2175	424.0296	-1491.71	33.82578	-64.4736
Prob>chi2	0	0	0	0	0

Country of Acquirer Clustered Robust, Mixed Effect Maximum Likelihood regression analysis results of CARs and BHARs over the financial performance variables of the year of the merger announcement, segregating FIs merger by deal types of Acquirer Industry and deal Orientation (Diversification, Market or product development, and Market Penetration). Coefficients marked with *, ** and *** refer to the significance of abnormal returns at 90%, 95% and 99% confidence levels respectively. N.B. GLM Gaussian distribution regression over same clusters resulted similarly.

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