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## Why do acquirers prefer M&A? Evidence from Banks in India

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**Keywords:** Banking, Mergers & Acquisitions, Markets for Corporate Control, Horizontal mergers, Acquirer returns, India

JEL Codes: G34, G21, G3, G2, G14

**Abstract:**

This study provides deeper insight into the linkages between Bank M&A and M&A literature and test the hypotheses that Acquirers gain significantly from a M&A strategy. Analyzing the Banking industry as an example of Horizontal mergers, the study aims to validate that M&A is a value creating strategy. A market model based event study provides robust results. We include private and public targets in the period 2006-2015.

In a study of 24 M&A transactions in Indian Banks during the period 2006 -2015, we find convincing evidence for both acquirer and target gains. The *t-statistic* for Abnormal Returns is significant and Positive Abnormal Returns are shown.

Size and profitability measures are not significant in this sample. Acquirers earning positive returns engage in multiple acquisitions and contribute significantly to positive abnormal returns in the sample. Acquirer returns depend on both Target and Acquirer Financial characteristics including Target Loan Loss provisions, Acquirer Tier I Capital, Acquirer proportion of Fee and Interest Income. The key limitation of the study is the unavailability of a larger sample of data.

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## 1. Why do acquirers prefer M&A?

Mergers & Acquisitions are a universally employed inorganic strategy for banks to scale up in product markets and support the economy from within an efficient and well-regulated banking system.

Banking M&A are often shown to be counter-productive in the literature with contradictory results in the US and the UK. All M&A are critically analyzed because they have a large footprint contrasted with other PPE investments and/or investments in brand and intangibles. The study proposes to reestablish the merits of the M&A strategy with positive abnormal returns for Acquirers. Our literature review establishes that since the integration of Universal Banking memes in 1999 allowing investment banks and commercial banks to work under a single roof, global merger and acquisitions accounted for a significant part of bank expansions into new markets and products. (Becher, 2009)

Banking markets are horizontal, especially so in India and the phenomena of horizontal mergers presents an ease of financing meme that becomes a critical theme of our analysis. Insider knowledge of your own industry and the resulting expertise makes it imperative for a skilled management to execute profitable and successful M&A. Our study shows that serial acquirers gain significantly from their experience and succeed in generating positive returns from the M&A strategy. M&A based transactions are successful in the Indian economic environment with significant positive abnormal returns to acquirers unlike in Bank M&A regimes reflected in the Event study literature.

A recent study by Tom Piskula (2011) recognizes the availability of new rich data from since the 2000s utilizing a Corporate Governance Index from ISS (MSCI Barra) to establish a new convolution in Merger analyses using event based studies. Piskula's work for example shows that weak governance could be the reason many acquirers face an adverse reaction to merger announcement. Cornett et al (2003) use diversifying mergers within the banking industry to establish the importance of corporate governance and agency considerations. We further argue against the easy availability of excuses in a misuse of agency theory and some foul play by selfish CEOs and/or maturing industry structures that obviate market returns.

This research proposes to investigate Indian Banking M&A in the available transactions and assume results consistent with Corporate Finance Theory are possible. The study is the first of its kind comprehensively covering all major Banking M&A from India instead of comparing a few select transactions.

The analysis confirms the superiority of private information as acquirers pick up private targets making the expected significant gains in the transaction valuation. Overvaluations remains a key concern in M&A and acquirers are rewarded for being able to pick up well priced assets and thus the flurry of deals during the crises periods to the disadvantage of exiting foreign players. These gains reflect on the continuing advantage of M&A as an impact strategy, foreign bank exits from India and global policy imperatives advantaging the banking superstructure. Our study shows foreign portfolio exits are significant opportunity losses for Global players and may not be justified by myopic short-term responses to a new policy superstructure, while advantaging Indian Acquirers in value opportunities.

Banking M&A remains specialized from other M&A because of industry specific features of banks including their valuation, their means to profit and their treatment of capital, using deposits and funds as raw material for profit generating products. This study shows that Banking sector M&A is economical and needs a low barrier of Opportunity costs to execute and overcomes specific deal level outcomes that guarantee M&A success.

Financial performance of mergers has already been studied in detail in the literature. Basu and Chevrieu (2011) review the adverse impact of distance and information asymmetry on acquirer returns and operating performance. Lei and Li (2016) show how the use of stock as a method of payment improves Acquirer returns especially positive returns when bidders use stock to acquire private targets from improved investor base and reduction in shadow costs. Harris et al(2016) examine the impact of agency conflict in takeover negotiations and better monitoring by specific blockholders means higher acquirer returns. Bruner (2005) attempts to remove the expectation of losses in M&A with an analysis of specific cause of failure. This study affirms our hypotheses that acquirers get a lot of benefits from and are rewarded with significant positive abnormal returns in M&A transactions. There is evidence from our sample that acquirers engaging in more than two acquisitions, labeled as Serial acquirers create positive returns for the transaction.

Despite mixed evidence from event studies, event studies remain an effective analysis tool to value mergers. The gains from M&A are shared between bidders and targets. The M&A strategy becomes key for growth in Emerging Markets and Asia. Our references to economic gains and strategy are implied in the Corporate Finance literature spawned in the tradition of Jensen and Meckling (1976) Agency Theory, O'Hart and Moore (1990), Property rights and Ownership of the Firm and Williamson

(1988). The merger waves are described as proven by Rhodes-Kropf et al (2004) and the neo classical theory evidenced first in Maksimovic and Philips (2001).

Banking valuations and merger financing however separate the study of other M&A in Corporate Finance from Banking M&A. This is backed by event study data for India where merger gains are not seen to be obfuscated by near zero or negative returns to acquirers. M&A cannot rely on diversions such as the undervalued target or the smaller target company walking away with gains. The success of an M&A strategy gets tougher to recognize in some industries vis-a-vis others. As mentioned before, in Banking, challenges arise because of a perfect horizontal merger being in both market and tender transactions and valuations involving intangible assets and human capital (Damodaran, 2012).

The study reviews M&A studies in general before relating the specific advantages in Banking and then discuss the specific case of bank transactions in India. Section 2 presents the literature review. Section 3 presents the hypotheses for this study. Section 4 details the experiment design while Section 5 discusses the results from the analysis to bring out how empirical research supports the available theory and our hypotheses. Section 6 presents the possible implications.

## **2. Literature Review**

### *The established advantages of an M&A strategy in the Global literature*

Rhodes-Kropf and Vishwanathan (2004) discuss the presence of Merger waves and relate it to periods of overvaluation in stock markets in line with literature that describes industry specific waves that relate to long lulls in M&A Activity followed by waves of high activity.

In IPO firms, Hovaikimian and Hutton (2009) are primarily motivated by a rush for low hanging fruit and the reduction of frictions as financing becomes available to acquirers for bigger growth plans and stock is used as acquisition currency.

Merger motivations around Productivity shocks as explained by Maksimovic and Philips(2001) show the difference between market leader strategies and diversification strategies.

### *Financing the deal*

Cash and stock financing of the deal also clarifies the components of the Financing to be motivated by the power equation between the acquirer and the target as also the reliance on a shorter time to completion in more cash deals. Derivatives provide sweeteners to the target firm to sweeten the acquisition. Control issues also affect choice of mode of financing with owners favoring use of leverage instead of equity (Bouzgarro, 2014).

Andrade et al (2001) and Rappoport (1999) show the move from stock financed acquisitions to cash financed acquisitions in the '90s. Stock financed acquisitions raise issues of control. Use of stock also affects shareholder returns, eased using stock splits and divestments.

As per the Free Cash Flow hypothesis, the use of debt constrains managers misusing free cash flows (Where applicable only Free cash flows to Equity are intended for banks).

Effects of using Cash to sweeten the deal are likely become more adverse in such value deal making in bigger acquisitions especially in a recession as Cash is scrounged from Working Capital flows (Aktas et al, 2015) to reduce debt and interest costs.

### *Financial Independence*

Jindra and Moeller (2015) identify targets that have lesser dependence on external finance and find in favor of lesser deal completion and higher premiums. This goes to traditional event study literature ascribing lower returns to bidders in response to concerns on overpricing and hubris in the bid, overtaking explicit and implicit deal synergies. This also corresponds to lower valuations for private companies and the related Pre-merger IPO literature. From Hypothesis 2, banking mergers depend less on external finance and this improves chances of deal completion in banking mergers.

### *Deal Time to completion*

Luybaert and Maeseneire (2015) analyze gains from a deal. They find the deal time to completion is affected adversely by deal complexity and hostility as well as the size of the deal.

### *Industry wise impact of M&A*

Industry concentration drives M&A activity as evidenced in Geiger and Schiereck (2014) for gaining market share in a concentrated industry and increasing conglomerate presence in fragmented industry.

### *Deal making in a recession*

Chung (2015) expands on the literature stream that shows macroeconomic impacts on the acquisition decision as one affecting deals with target companies overladen with debt or whose growth options are no longer good during a recession.

Tse and Soufani (2001) show how macroeconomic conditions impact Bidder and target returns in merger activity terms and that targets are expected to respond to restructuring. VECM models directly measure key boosting impact of M&A activity on the Macroeconomic indicators as in Ali(2010)

### *Size effects*

Moeller et al (2004) find the size effect to be a determinant of differences between abnormal returns made by bidders. This indicates size of the bidder is a proxy for risk that varies with size and hence diversification of business and inability therefore to benefit from a horizontal merger in a specific industry target.

### *Efficient Contracting*

A key to success in M&A apart from financing and time to completion considerations, and key to the deal is Contracting mechanisms from Hart (1990) and Williamson (1988). Markets for Corporate control remain sensitive in market perceptions to real advantages accruing from control. A new flexible payout contract makes payments to target investors contingent on post- merger performance (Cain et al., 2011).

Barragato and Markelevich (2008) find that earnings quality improves after synergy motivated acquisitions compared to agency motivated acquisitions. Miletkov et al (2014) find in a sample of Non US acquirers that board independence accounts for higher acquirer returns.

### *Serial acquirers*

Aktas, de Bodt and Roll (2012) find evidence in favor of the same acquirers making consecutive deals in the markets for corporate control. However, the learning from deal making effectively brings down abnormal returns for acquirers even over the lifetime of the same CEO. Lower CARs are evidenced in the fourth or fifth acquisition by the same company from 1.5% CAR in the first deal to only 0.5% as more aggressive deals are priced correctly by the firm owing to its experience.



## *Economies of Scale and Scope*

Bastie (2013) looks at a new comparison of startup modes of strategy in gaining a new market vs takeover. The analysis can be used as a starting point when the analysis of true Economies of Scope is undertaken at a future prognosis demanded by my research.

Contrary to SCP hypothesis, bank consolidation can actually increase the incidence of relationship lending as well, and investments in franchise technology lead to greater access to credit, however there is evidence that this credit is thus now biased towards larger borrowers, who can produce evidence testable by the hands off underwriting process as well as invest in key relationships at the bank, in both cases reducing the role of the credit officer, found to be critical in measuring the stability of a lending client traditionally. Post Consolidation, the bigger entities are however likely to offer the same prices across most of their markets.

Critical to establishment of Economies of scale are studies of Net Interest Margin and Profitability of banks. Important and lesser easily available are instances of vertical mergers like the case study of Axis Bank and Enam Securities, where the bank added Investment Banking business and thus avenues for more advisory and fee based income from the acquisition. Economies of scale have been found to be ambivalent in domestic markets despite creation of concentrated markets seen by increase in the Lerner index/HHI.

Beccalli(2007) use data from Europe during 1990-2005 to disprove the ambivalent evidence from earlier studies using a translog function to better measure Profitability gains with Cost and Profit Cross efficiencies in a merger of two banks as per intuitive decisions made in the boardrooms. Also post crises data shows that specific deal based factors may influence both expected abnormal returns because of a merger. Here (ibid.) the authors use the Healy method in the general literature to separate the industry adjusted performance into both  $\alpha$  and  $\beta$  components and improve the specificity of  $\alpha$  across deal specific, bank specific and institutional variables used to control the measurement of performance.

Beccalli and Frantz (ibid.) use the Thomson ONE M&A database and include Cross efficiencies as the measurement of managerial best practices. They also note the persistence of inefficiencies across the first 5 -6 years post deal and lay the ground for measuring short term effects independently of the long term expectation.

Schneider(2010) follows a stream of literature that observes and verifies stunted access to SMEs after consolidation as the leap in technology creates more process dependent relationships.

### *Market Power and Concentration/fragility*

While many banking studies affirm the existence of monopolistic competition, competition authorities like the CCI or the EBA arm of the European Commission are faced with problems of verification in each merger or consolidation deal independent of the Central Bank. Regulators should be alert on issues of subverting competition, the US market however unique in laying down target ratios in each market, that typify the allowed market share boundaries in a consolidation.

There are contradicting views till date of both Concentration-stability and Concentration fragility, in that existence of a few large banks after consolidation leads to better profits and more diversified banks vs the view that increased concentration leads to use of TBTF policies taking higher risks and endangering the taxpayer's money with a bailout from governments. However, most studies affirm that markets remain truly monopolistic in competition in the SCP paradigm even with the consolidation of banking markets into a few large players. Also, studies agree to the fact that the cost of managing crises is manageable where monopolies exist and such costs are higher under competition (Berger, 2009a).

Weiss (2014) analyses the tail risk effects to measure the increase in systemic risk for the acquirer as recommended by Acharya (2010) and finds increasing systemic risk, after allowing for Countercyclical Capital treatment.

### *Deal process*

Gomes et al (2013) discuss the requirement of perfect information across the laborious M&A process. A lack of post-closing integration and miscommunication of deal objectives is frequently cited as a key reason for failure of a merger to prove the expected gains. Zhu et al (2014) find that idiosyncratic volatility (translated as higher likelihood of deal specific features, negotiations, and processes or information) is positively related to acquisition completion and the likelihood of the bidder acquiring control and accounts for higher premium.

### *Synergy Forecasts*

Certain jurisdictions require bidders to share expected synergies every time they bid in the defined calendar enforced by the regulator where multiple bidders are involved ( e.g. UK)

Dutordoir et al (2014) show synergy disclosures in 345 deals in a sample of 2000 deals. Synergy disclosures improve the market reception of the deal and frequently include operational cost benefits from post-closing integration that may not account for cultural and institutional differences

*Ibid.* show synergy gains to be 5% higher after synergy disclosures.

### *Event Studies*

While Event Based studies are a common device for studying Bank mergers, they use equity prices in a defined window before and after the merger and settle for evidence of abnormal returns. Earlier studies evidenced in the literature (DeYoung, 2009) have shown that such abnormal returns are rare and it is seen that the acquirers (larger) earn negative returns after a merger while the targets usually show abnormal equity returns after the merger announcement. The research specifically includes a defined window in our market model based event study to account for information leakage before the announcement date for the deal. It is important to note that inelasticity in deposit rates that are yet to be liberalized in India, mean the changes to borrowers are likely more inelastic on the relationship banking side when separating effects from the bank merger on borrowers. Valuing gains offers a consistent proposition.

Aktas, Bodt and Cousin (2007) discuss event contamination in detail though their correction for event contamination is not required.

Fraser and Kolari(2011) reference their own widely accepted methodology for event studies. Here they measure welfare of customers consequent to bank mergers.

### *Event Studies to measure Post merger performance*

Goddard (2012) extend the DeYoung (2009) study with an event study of the impact of bank M&As on shareholder value in emerging markets, and a multivariate analysis of the determinants of changes in acquirers' shareholder value.

Anand and Singh (2008) conducts an event study on Indian Bank data to provide evidence in the Indian market while Jaydev (2007) satisfices with case study analysis of specific deal based determinants of Indian mergers up to the period of the study.

A factorization of post-merger performance can also be based directly on regressions to changes in Financial ratios to provide critical static analysis. Wu (2011) separate the Harmony effects, Merger

efficiency measures and Scale effects. These studies require panel data from financial and market data for the banks.

Though later literature is silent on the same as the relevance of such studies vanished, it is a sine qua non that merger led structural changes lead to more services for depositors leading to increased consumer welfare for depositors (Berger, 2004).

More related to earnings management by firms, larger firms typically incorporate their estimates of merger costs and synergies in analyst conferences before and during a merger to advantage themselves from the smoothing of market sentiment by such announcements. These analyses prove the accuracy of such estimates of synergy. Dutordoir (2013) looks at such announcements of synergy impacting bidder returns.

Traditional event based studies of bank mergers studying Cumulative Abnormal Returns including Anand and Singh (2008) find direct linkages between a destruction of value for the bidder and a gain in value for targets in banking M&A. Our work prefers an extensive study of all M&A transactions in the Banking sector to realign the theory with empirical findings and look to affirm our hypotheses.

### **3. Hypotheses**

#### **3.1 Impact transactions**

The visibility of the transaction and the complexity introduced in organizational terms in the M&A transaction implies an experiential learning for acquirers, making it easy to isolate winners and predict the probability of success of the deal. If the same is indeed true, results will also be borne out in event studies in bidder gains.

***Hypothesis 1: Indian Banking M&A is a viable impact strategy and significant gains accrue to bidders in a M&A transaction.***

The Indian economic environment demands higher growth and rewards performers proportionately as significant gains accrue in acquired product markets and the same are anticipated by markets. Banks create opportunities for growth and while M&A reflects directly on the Economic growth of a nation/sector, Banking M&A more pertinently favors economic growth and these gains add to the value

of the combined company shared between the acquirer and the target. The expected gains for the acquirer are unlikely to be masked by other challenges in a high growth environment as traded values factor in longer term synergies from the deal. While size has a negative coefficient in most models we could deploy, attendant factors like Multiple acquisitions ( $>2$ ) are highly indicative of the overall positive effect of size on Abnormal returns.

### **3.2 Bank mergers present a financing ease**

The second primary theme of this study proposes to identify the characteristics of the Banking M&A transaction that prioritize the strategy for CXOs and Boards to decide in favor of the strategy to achieve growth. The primary nature of merger in the industry is a horizontal merger.

As a merger between equals that assimilates two different organizations in the same product markets, diversification gains are ruled out in a banking merger. Regulators also frown upon diversification deals specifically. In that banking mergers are horizontal mergers, it also clarifies that certain other success adducing characteristics of the deal are facilitated in a banking merger transaction, adding to the attractiveness of the deal. Cost of funds are critical to the banking business valuations and imply an economy of scale dimension. Financing the deal is a critical M&A dimension supporting a successful merger and weaning out the failed ones. Cash as a source of financing defines both commitment to the deal and as a scarce commodity.

Consider  $A_B$  and  $B_B$  are two banks considering a merger transaction. Leverage constraints specified by the regulator are 1:5 for NBFCs and 1:10 for Banks for each dollar of equity. Even if  $A_B$  and  $B_B$  are leveraged 1:6 each they require the leverage for their cost of funds strategy as they maintain a loan book and take deposits to reduce the cost of funds. The banks also increase their value from fee based income and trading in Fixed Income and Equity within prescribed limits. They regularly use Derivatives for Off Balance sheet management of their exposure and leverage is within norms with a controlled NPA exposure with Gross NPA under 1%. These conditions ensure that this is not a Tender offer mediated by the Central Bank(regulator). Out theory postulates that in such a bank merger,  $A_B$  and  $B_B$  shareholders will not question the stock swap and merger valuation will not be contingent on use of cash to show commitment or use reasonable debt strategies (including LBO) for financing the deal. A stock swap for such a deal can be arrived at using market valuations and other asset based valuations. Promoters of the Target  $B_B$  may stay on as shareholders and exit later much after the merger has been

completed at then market valuations of the combined bank. It is known that overbidding concerns will mar the transaction's prospects or increase optimism for the deal. It is also assumed that  $A_B$  will finance the deal with new debt or equity. The use of a stock swap is painless for the acquirer, and  $A_B$  prefers to overpay if equity is well priced in the markets to ease the completion of the deal as capital is preserved in the Banking company. The other determinants of deal complexity being primarily the size of  $A_B$  and  $B_B$ , and organizational cultures and the technology of the industry are equally applicable for both  $A_B$  and  $B_B$ . The induced leverage in  $A_B$  may be evaluated by concerned shareholders' while evaluating the suitability of the transaction and the value accretion to  $A_B$  from the deal.

***Hypothesis 2: Horizontal mergers, especially Banking M&A are economical and present low Opportunity cost barriers for an impact strategy making it extremely attractive to managers, owner-promoters and shareholders.***

In a mandated merger under a tender offer, where independent valuation of both banks is established by an approved valuation method to determine the swap ratio, any semblance of negotiation that adversely affect the timelines of the deal is not within parties but with the regulator alone.

These two primary themes drive the research. The third theme of the study is to prove the advantages accruing to Banking from being a regulated industry and the discipline of the M&A transaction within the same Corporate Governance framework defined by the banking regulator. The section below examines the determinants of the deal pertaining to the regulatory superstructure and if banking M&A satisfy policy perspectives for a regulatory commitment. Banking reforms are a moving target. As such the regulator is dealing with a banking sector that is 70% specified by public sector undertakings while the government is committed to reducing its stakes in these Public-Sector Banks and licenses have been made available on tap for NBFCs and Individual promoters.

Finally, the study overlays the current Global economic environment on the banking M&A transaction superset. The added opportunity for private sector players to gain from new opportunities presented by global players leaving the shores of profitable Asian domains in face of a crisis of capital shows up a critically significant learning for exiting Foreign banks. This research finds that well governed players

like ICICI Bank, Kotak and SBI proxied in our research as serial acquirers, have successfully achieved important merger gains.

### **3.3 Run in with regulators**

Many reasons have been ascribed to the banking crises of 2008 that engulfed the entire global economy for a period of 8 years and counting. One of the first fallouts for the banks apart from federal Government acquiring non-controlling stakes in banks like Citi and Bank of America that impacted their payout plans for a few years was JP Morgan's purchase of WaMu and Bear Stearns' in March 2007 and Wells Fargo's purchase of Wachovia in the Eastern seaboard. While the first few discussed cases are ongoing, JP Morgan is for all purposes paying dearly for the purchase, not generating any regulatory arbitrage and paying fines on the acquired mortgage and securities portfolios, Wells Fargo has prima facie shown that mega mergers can be fruitful for the bank and for the general economy. Our review shows that many have questioned the veracity of market power ambitions and effects of increased market concentrations that may intercede in most jurisdictions and in the Indian case most such acquisitions done by Private Banks like ICICI Bank and Bank of Rajasthan have indeed boosted productivity of the acquirer.

In the specific Indian scenario, there is the added restrictions of new Private Banks licensed in the 1994 edition and later in 2000 having been recently requested by the Central Bank to preen promoter holdings to stable 15% from 40% allowed during incorporation and initial listing on the exchanges. This will also impact any study of change of control in our case as new banks circa 2015 will again start under a new FOHC structure and with higher promoter stakes of 40%. Both present us with an opportunity to study market transactions of banks and to – be banks, which prima facie are value destroying only because of the regulatory uncertainty perceived in public markets.

Expectations of transparency by the regulator also makes more data available in the public domain.

Cebenoyan (2008) use the 1994 and 1999 changes in US Bank regulation to analyze a unified industry model post deregulation, as profit motives are replaced by scaling up strategies, necessitating changes in industry structure.

Brune (2015) relating positive post-merger performance to the paucity of capital for the acquirer to the banking industry. This reiterates the view that when there is a shortage of capital better decisions are made because of the twin effects of better target selection and lower acquisition premium.

## 4. Experiment Design

### 4.1 Event Studies

Event studies are a simple and yet robust statistical construct that allow us to measure the impact of any events including earnings announcements, mergers or other corporate announcements

Kolari and Fraser(2012) and Kolari and Pynnonen (2010) provide the base for use of event studies for the study of Banking M&A. Event studies also provides data for Non-Parametric tests in event studies that can be optionally employed to improve the results. The study primarily chooses a market model based event study to execute the empirical analysis.

Event studies have traditionally favored the analysis of merger and acquisition values to investors in both short horizon and long horizon event studies. Dynamic panel regressions are otherwise employed in Corporate Finance Literature to study trends delineated in time series and cross-sectional models and often used in determining fixed effects.

Kolari and Pynnonen(2010) presents an *adjusted t – statistic* to account for event clustering that can be used in our Event study analysis incorporating the Boehmer, Musumeci and Poulsen statistic used in Global M&A event studies. This adjusted statistic specifies corrections for event induced variance and event clustering. Non-parametric analysis can also be considered in event studies as per Kolari and Pynnonen(2007) where results are likely to be affected. Our sample is easily decoded for event induced variance and clustering.

As an alternate, the study employs robust regression in Stata with the OLS based market model as these improvements do not meaningfully change the results of the study. This is also supported by the larger Positive Abnormal Return statistics available in the sample compared with standard errors in the sample. However, it is imperative that accurate valuation be available to make comparisons and thence only public companies' transactions can be considered in any eventual study confirming the primary hypothesis that Indian Banking M&A is a viable impact strategy and large gains accrue to Bidders in the transaction. Event contamination is reduced thru selection of non-overlapping dates of events in the six-month period after announcement. Other Corporate Actions are ignored and only M&A events are considered.



To analyze the market impact of announcements, one needs to determine a coherent estimation period often from -200 to -30 days and a pre-announcement period may be valid for announcements where market rumors are expected to make an impact between -10 to -1 days. The Announcement day return is computed either in a short 0, +1 windows or from -2 to +2 when a staggered impact is expected in the market. Event contamination is a key consideration as event clustering frequently confounds multiple impacts and due considerations may be made in selection of the data without such contamination by excluding data from firm with other key announcements in the period. A common method for standardizing daily returns is using the Patell (1976) model or other well explained models as discussed in Campbell, Lo and Mackinlay(1997) and pertaining to Boehmer(1991) and others.

These achieve robustness required across cross sectional variation and improve the effective power of the test. Availability of a well sized sample and a definite level of returns also improves the power of the test and makes the determined results valid for prediction models. The study stays with a robust SD computed in stata to analyze the market model and the pursuant sophisticated market model using the Cross Section of Returns in Fama(1992). Binary and Multinomial logit models may be employed in follow on research to discover the causation and size of the effects in pooled and cross-sectional regression.

## **4.2 Data**

24 mergers and acquisitions are chosen from the SDC Platinum database reported for Indian Banks and eligible Financial Companies (such as Holding Investment companies) where the Deal Value is available in the database denoting the purchase price paid by a public acquirer, and at least the Public Acquirer is a listed entity, traded on one of the Indian stock exchanges BSE or NSE. The Date of Announcements inked on these merger bids lie between January 2006 to December 2015. Deals occurring later may not be selected without a complete analysis of the post-merger announcement period. The sample thus begins with the United Western Bank acquisition by the publicly listed IDBI Limited and continue till the acquisition of the Diamond Jewelry business of ING Vysya Bank. Business unit and Loan portfolio sales are included as Targets if Deal Value data is available from the SDC Platinum database and/or the Acquirer/ Bidder is a listed Bank / Bank Holding Company. Simultaneous / joint bids for the same target is included in one case (IFCI is the Target). The sample includes bids for part stakes made by Bank Acquirers in case of a listed acquirer (ING Vysya bid to acquire stakes in

Kotak and Centurion Bank of Punjab) The two global businesses included without Deal Value particulars enhance the reliability of results obtained from the OLS analysis of the Abnormal returns statistics presented in the results.

The increased heterogeneity of the sample makes it imperative to separate the characteristics of PSU and Private Bidders/Acquirers across salient characteristics. The data is structured in Table 2. The reverse chronological deal data with dates of announcement, effective merger and Deal Value are included in Table 1 to make a coherent analysis in line with industry and country based environmental factors.

The major mergers include CBOP acquisition by HDFC Bank Ltd, Bank of Rajasthan acquisition by ICICI Bank Ltd, and the Kotak Mahindra and ING Vysya Bank Ltd merger. Kotak and ICICI have become serial acquirers with 3 M&A Deals in the sample. SBI is also considered a serial acquirer because of the proposed merger of Four remaining associate banks with SBI.

### **4.3 Market Model**

A Market model based event study is chosen for the analysis. Market models are computed from the OLS regressions on computed returns  $R_i$  and  $R_m$  as under:

$$R_i = \alpha_i + \beta_i R_m$$

Abnormal Returns are computed based on the model as

$$AR_i = R_i - \alpha_i - \beta_i R_m$$

In this methodology, large negative  $\beta$  coefficient for Kotak in one of the largest deals in the sample, that of the Kotak ING merger. The Betas are dynamic and we are assured that the market model while being sensitive is accurate for the event windows under consideration.

Enhancements are possible considering an alternate model in due course to retrieve specific deal information in this case from Kolari and Pynnonen (2010).

Abnormal returns are chosen according to the following schema, including longer range Cumulative Abnormal Returns measures.

Target Cumulative Abnormal Returns are computed from -20 to +75 closing with acquisition being completed (The timelines are measured in trading days)

Bidder/Acquirer Cumulative Abnormal Returns are computed across pre-announcement, announcement and post announcement to the completion of the acquisition (Date of Effective Merger)

More than one Announcement window is chosen to compare results.

Pre-Announcement: Information Leakage period from -15 to +0

Announcement period: -2 to +2 and -1 to +1

Post Announcement Period: 0 to +15 and +15 to +75

Standard errors are adjusted using the Robust Standard error as per the requirement.

## **5. Results and Discussion**

Table 3 specifies the Cumulative Abnormal returns, read in from market models constructed for 20 transactions. Target returns were enumerated in the 7 valid cases over the two chosen windows. The longer-range window stops at the occasion of trading being suspended in the target on the recognized stock exchange. Acquirer/Bidder returns were obtained in all cases. The Deal value can be used in addition to classify transactions as per the requirements of the analysis.

The couple of transactions that are not presented in Table 3 were not considered material after evaluating the other cases. The Transactions have not been pooled and thence the CARs were not additionally verified with overall SARs/SCARs as specified in the literature.

An alternative methodology was considered using pooled SARs and separate PSU and Private Sector Bank transactions and was discarded for lack of additional value. This methodology would have entailed the use of an OLS regression on the computed SCAR statistic, using a Dummy variable.

The Kotak ING merger produced very large Positive Acquirer Returns in both the 0 to +15 days and the +15 to +75-day event windows. The CAR returns are 13.4755% in the Post Announcement 0 to +15 event window. It keeps most of its gains in the longer horizon estimation period, adding another 10.3292% in the +15 to +75 window.

The earlier stake purchase in 2007 by ING Vysya Bank in Kotak Bank Ltd, challenging the regulation limits produced a -10.9522% CAR in the acquirer, ING Vysya Bank and a large 34.87058% gain in Kotak Mahindra Bank as Target. Interestingly Kotak Mahindra Bank's coefficients in the market model, vary extremely. The  $\beta_i$  is -4.0294 in the 2007 transaction period and -0.4488 in the 2014 transaction period.

The pre-announcement gains are reflected in a CAR of 8.062% in the -15 to +0 window. The Announcement returns that are found generally positive in the bidder wealth M&A literature are 8.29%

in the -2 to +2 window and 10.16% in the -1 to +1 window. The 0 to +1 Window produces a CAR of 11.125%.

All the CAR are positive for the Kotak ING merger in the Bidder reflecting the significant synergy gains from the deal. As a horizontal merger where the ING promoters exited the bank only in End April 2016, the merger also benefitted from the easy construction of the deal financing.

Kotak Bank also benefitted immensely over its acquisition of foreign portfolio of Barclays Cards in February 2012. Other portfolio acquisitions are not considered as deal value was not provided. However, they are not considered for event contamination, not lying in the relevant period either. The  $\beta$  for this transaction period is 1.1161 showing Kotak was not leading the market anymore and gained from its large acquisitions that increased its physical distribution, reach and portfolio at the expense of exiting Foreign banks. This sale also pertains to the period of Global turmoil and explains our assertion that Foreign Banks are losing heavily by exiting profitable business opportunities in Emerging Markets in Asia and India.

The other large mergers included in the analysis are HDFC Bank – Centurion Bank of Punjab and ICICI Bank – Bank of Rajasthan. The Target returns are negative for Centurion Bank of Punjab reflecting specific opinions of decision makers, while the ICICI Bank – BOR merger and Kotak – ING are expectedly high at 24.56 and 25.23%. Announcement returns are negative around the BOR acquisition by ICICI Bank as it reflects poorly on a large Private sector bank acquiring an individual promoter controlled bank with Corporate Governance issues. The ICICI Bank executive statements also confirmed that the bank over bid for the branch network of Bank of Rajasthan. However, the transaction also goes on to show that the deal synergies were accrued over the purchase price, topping 11.4434% in the longer horizon CAR in the +15 to +75 window.

The three bank M&A in the chosen period show that Banking M&A is a viable impact strategy.

The four PSU / PSU transactions are however show market valuations reflecting significant Post Announcement gains in the 0 to +15 window for only the CanFin Homes acquisition while the State Bank of Indore assimilation into SBI is done at par. Two acquisitions show negative returns in the 0 to +15 window within -4.7% to -5.3%.

The ING Vysya stake purchase of stake in CBOP shows negative post announcement returns reflecting regulatory vacillation that may be ascribed to local public sentiment and can be analyzed with specific macroeconomic factors and / or the suitability of policy imperatives described for the period.

The incidence of negative Target returns in the IFCI acquisition by Kotak and IDFC is documented in the negative target returns to IFCI showing net losses in the deal i.e. a negative merger valuation for a defunct IFCI.

The earliest IDBI and Federal Bank acquisitions in the smaller bracket of deals show negative post announcement returns affirming challenges of creating synergies in smaller transactions. However, the latter transaction shows longer horizon post announcement returns reflect added synergies in the deal. The three different acquisitions by ICICI Bank in the period show significant post announcement returns for efficient management and M&A experience in the deal.

The study finds a significant positive relationship for serial acquirers and our explanation of the heterogeneity and specific deal statistics shows that positive abnormal returns are inbuilt into the M&A strategy especially in Horizontal mergers. Though the small sample yielded only 16 deals for the decomposition of Abnormal returns, a negative effect on Acquirer size can be separated from the significant positive effects of serial acquirers probably because the serial acquirer dummy proxies for reputation effects resulting from a good governance track record, and is used on three banks Kotak, ICICI Bank and State Bank of India frequently seen on top of Best Bank lists and all with significant assets.

## **5.1 Decomposing Abnormal Returns**

Altogether, 16 deals of which only 5 have listed Targets can be further processed in different OLS specifications modelling the returns to separate significant characteristics. As availability of sample points is limited, we stay with an OLS specification with univariate tests and 2-3 independent variables in significant complete models generated using stata.

The long term Abnormal returns including the Information leakage period and the Long term 75-day Abnormal return are found to be significantly positive. This AR91 return is proxy for Deal Value and available Target Returns are added to the AR91DV statistic. The AR91DV statistic is positive in the sample with a mean of 3.74% and a t-statistic of 1.97. The Information leakage period Abnormal Returns for the -15 to -1 days and the 75-day return including announcement from 0 to +75 days have a positive mean as well. Table 4 presents the Abnormal Return Statistics for the study. The Announcement Return (-2 to +2 days) and Short Term 0 to +15 day Returns are negative but not

significant, influenced untowardly by the last outlier purchase of loss making DB Credit Card portfolio by Indusind Bank

The Information Leakage Average Abnormal Return (INFO/LEAK) is also found to be positive but as loss making assets may have been added in one of the last deals (cannot be confirmed) the resulting bump in heterogeneity robs the sample of significance in the positive Abnormal return. The Announcement Returns (AnnRet) and the Short-term Acquisition Returns (STAR) are not found to be significant but are positive. In 7 of the 16 cases, Announcement Returns over the entire trading week (5-day window) as well as Information leakage period returns are significantly positive. The Post Announcement Short Term Acquisition Return (0 to +15 days) is positive in 5 of the 16 cases including all 3 cases with Kotak as acquirer and 2 of 3 cases where ICICI Bank is acquirer. As expected Announcement Returns and Short Term Acquisition Returns both correlate highly with the Long-Term Acquisition Return. The 75-day Acquirer Return also correlates highly with the Deal Value Abnormal Returns (AR91DV) including Target returns.

Financial Characteristics for Targets and Acquirers are chosen from the latest standalone Balance sheet as of the Date of Announcement. These include the ratio of Fee to Interest income, Loan Deposit Ratio and Total Assets from the latest Balance sheet as well as the ratio of Tier I Capital to total assets. Profitability is tried in different Pre-tax measures over Assets (TROA; AROA) and Equity (TROE; AROE). Eps is also chosen. The DROE dummy is introduced when Target is lossmaking. None of the Acquirers are lossmaking. Log of Assets and Loans are chosen to represent size alternately while Deal value is used in Rupees Billions as well as percent of Target assets. Efficiency is measured as percent of Non-Interest expenses over the Net Income after Loan loss provisions and LLP are measured as percent of Loan assets. Growth is measured from the loan growth in the latest year balance sheet.

We use MULT as a dummy variable in the limited sample to identify serial acquirers ICICI Bank, Kotak Bank and State Bank of India which have more than 2 mergers in the sample. This variable also thus proxies for reputation and corporate governance as these banks frequently top Best Bank and Largest bank lists throughout the period covered by the sample and are significantly large players in India. Similarly, the dummy for Private targets PVT is equally proxied and already counted in the non-presence of Financial data on quality of earnings and size of target etc. We also attempt to use Regulatory stance as a dummy variable in the specification to account for regulator's intervention in facilitating the deal as evidenced in the first four deals as call for tender bids directly by the regulator and other secondary

information. Our sample will benefit from other research including some other bigger Bank mergers in India and of countries where growth memes and regulatory environments are comparable. The Deal Financing variable was added not as dummy as mixed financing of deals was possible. However, in the available information, there are five cases where the variable holds the value of 1 including the Kotak ING merger and the ICICI Bank- Sangli Bank merger with positive Abnormal returns in each chosen event window. The ICICI Bank – BOR merger and HDFC Bank CBOP merger are value destroying except in the overall deal value event window (AR91DV). In all other cases the Deal Financing variable was found to be 0 and this proxies with the use of 100% cash to complete the deal accelerated probably by selfish target motives including international players looking to rebuild core capital from Asian business sales. Target Characteristics show a significant regression with the 75-day Acquirer return (Deal size as percent of Target assets TVALPER and Loan Deposit Ratio) The Leakage window shows gains related to due diligence results and that is why it is likely positive in this period. It relates very significantly with Acquirer Identity (MULT) and negatively with Acquirer current ROA as investors reward the firm for a timely strategic decision improving its ROA.

As an additional verification, the LEAK and STAR returns are added to form the 31-day Abnormal Return, SHORT as well. Each model is distinct in the variables it explains. The accompanying table includes only some of the univariate relationships attempted. Some places show change in relationship signs in different returns such as AR91DV and LEAK for target returns but the model with significant F statistic is chosen. The relationship in LEAK variables is transferred on to Acquirer Identity only in the post announcement 15-day window as implementation concerns rely entirely on the proposed acquisition calendar and the key is acquirer identity. The STAR return becomes more correlated with Acquirers own LLP (AABSLLP) in Billions of Rupees. The relationship is not significant except with MULT.

Table 5 presents all patterns tested in the allowed OLS specifications. Table 5 additionally presents the same models with test values of Adjusted R2, F statistic for the model and the resulting p value with AIC and rank. We present here the OLS models found significant and complete for each of the Abnormal Return statistics laying caution to the reliance on a small sample.

$$AR91DV = 0.79361384 - 0.1480839*ALSIZE + 0.50804401*MULT + 1.0270271*TLLP$$

(2.72)	(-3.32)	(4.70)	(1.55)
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The 91-Day Deal Value Abnormal Return model is significant when including the Target's Loan loss provisions, with Acquirer Size significant at the 1% level and the MULT proxy for serial acquirers significant at the 0.1% level. This also reflects on the 91-day return being able to predict accurately on the long-term performance of the merger as the markets absorb all information related to due diligence and the plans shared by the acquisition team in place.

There is no significant model for Deal Financing in the Financials or business ratios of the Acquirer or Target as expected. The presented model for just the 75-day Acquirer Returns AR75 is not significant at 90% but has a positive F stat of 2.54 and Adjusted R2 of 17%

$$AR75 = 0.06591481 - 0.37435247*TLDRAT + 0.49216514*TVALPER$$

The AR75 is highly correlated to the Deal value and additionally provides a hint into the dependence of Positive Abnormal Returns on Target selection with Target Business parameter of Loan Deposit Ratio and Deal size as a percentage of Target Assets. This model shows that the Acquirer gains are biased in for completed mergers and is positively related to increasing Deal size, thus for a healthy target Deal premium is not a show stopper while Distressed loans may drive down the value of the Target but may ensure higher returns to the Acquirer, given the overall value in the deal.

The model on Announcement Returns shows the impact of Deal Financing (1=100% Stock). Again, the model is significant only at the 90% level

$$AnnRet = -0.03408931 + 0.08202507*MULT - 0.04602646*DFINAN$$

Also, announcement Returns are the least biased to Positive abnormal returns in consonance with the global event study literature.



The AR91DV return also performs in a complete model with Acquirer Efficiency Ratio and Target Distressed Assets (LLP)

$$\text{AR91DV} = -1.2868967 + 1.1932765 \cdot \text{TLLP} + 1.3388421 \cdot \text{AEFF} + 4.1145259 \cdot \text{ACQTIERI}$$

$$\begin{matrix} & (-4.17) & (1.70) & (3.31) & (3.82) \end{matrix}$$

The F Statistic for the model is 7.84, showing a p-value <0.01 and an Adjusted R2 of 59%

The MULT variable is significant in all Abnormal Return specifications when used with the LLP proactively totted up in Acquirer Balance sheets.

$$\text{STAR} = -0.0729 + 0.1518 \cdot \text{MULT} + 0.1802 \cdot \text{TLLP} - 0.0037 \cdot \text{AABSLLP}$$

$$\begin{matrix} & (4.38) & & (-2.94) \end{matrix}$$

$$\text{SHORT} = -0.09179 + 0.22216 \cdot \text{MULT} + 0.2048 \cdot \text{TLLP} - 0.00474 \cdot \text{AABSLLP}$$

$$\begin{matrix} & (3.27) & & (-1.90) \end{matrix}$$

$$\text{AR75} = -0.07062 + 0.21113 \cdot \text{MULT} + 0.2101 \cdot \text{TLLP} - 0.00714 \cdot \text{AABSLLP}$$

$$\begin{matrix} & (2.29) & & (-2.11) \end{matrix}$$

$$\text{AR91} = -0.12496 + 0.36851 \cdot \text{MULT} + 0.40957 \cdot \text{TLLP} - 0.00875 \cdot \text{AABSLLP}$$

$$\begin{matrix} & (3.57) & & (-2.31) \end{matrix}$$

AR91 is the same as AR91 DV including the leakage period INFO, the short-term Return STAR from 0 to +15 and the remaining period from +16 to +75 as well as any Target returns sharing the Deal returns

The impact of being a serial acquirer continues increasing over the longer event windows chosen in this short horizon event study analysis.

These positive abnormal returns for Serial acquirers confirms the positive role of good governance in ensuring Positive Acquirer Returns and bringing the Event study literature closer to Corporate Finance theory.

Mergers & Acquisitions remain a viable strategy for Acquirers with Positive Abnormal returns to acquirers with good governance giving confidence to them to manage the target especially if it is purchased at value. Our sample of Bank M&A from India thus proves our hypothesis and rejects overarching inferences made till now in the event study literature.

## **6. Possible Implications**

### *Bank M&A is a viable impact strategy*

The Larger banks especially the newer private sector banks benefit from Indian growth memes. They can capitalize on market opportunities as they prove superior executive management skills in a competitive market environment.

### *Ease of financing Bank mergers*

Bank mergers are easy to canvas and create more immediate value opportunities with CEO Managers not conflicted except for express agency concerns, while making decisions in the interests of the shareholders.

### *Institutional ownership*

Andrio et al(2014) study the impact of institutional investors in M&A deal making in the UK where institutional investors increases the chances of a target being relatively larger in size with a bid for full control. Relative size of the target remains an important determinant in the ability of Acquirer to convert the deal into viable long-term profit.

### *International M&A*

Research establishes India accounts for 4% of the acquirers in 2010 and roughly 2% each of the acquisitions in each of the four years of study.

Differences in PSU Bank mergers and Private mergers

PSU mergers show significant overvaluation of proposed consolidation deals. This again needs to be investigated from corporate governance standards built around the regulated and market linked corporate governance superstructure that needs to be created in an index.

### *Beneficial impact of government*

Chinese SOEs have been active in making cross border acquisitions. Indian SOEs have been limited to more resource Industry acquisitions from BHEL and ONGC etc. However, it may still be likely that government enterprises from India also undertake CBA s in specific industries and complete a sectoral story where it may not have leading Private sector players that have the capacity to go multinational. These SOEs or PSEs may see better CARs in case they have the right story to convince investors of the value of the international acquisition. Banking sector acquisitions outside India would however be contraindicated by the two transactions in consideration here.

### *Pricing the acquisition*

Emerging markets like India are less likely to see bidders overbidding when dealing with targets. The environment has been deal rich however in the chosen decade because of value exits of foreign bank businesses. Retail businesses of banks and otherwise well valued businesses reflect immediate synergy gains in well priced acquisitions. Private units that are difficult to value in relative valuation models (no reliable peers) or other cash flow based (FCFE) and asset based valuations.

### **Financing costs in Emerging Market M&A**

Indian MNCs and Emerging Market MNCs in general may be more active during global crises because of the value available in acquiring global players. E.g. Tata's Jaguar acquisition. Emerging market bidders may rely on such crises to ensure value for stakeholders as cash is not likely to be available for financing. It is unlikely that these bidders also advantage from higher stock market valuations for global deals for the same reasons and LBO financing plays are likely to be critical for the bigger acquisitions required to prove economy of scale and accrue value advantage from the strategic acquisition over the long term. As home currencies are weaker, cash should be preserved for local country businesses and independent leverage undertaken for financing the international deal likely in stronger currency like the Dollar, Euro or Pound Sterling. It is likely that IPO financing is used in private firm acquisitions with controlled valuations.

## *Government Policy and Us vs Them*

Economic nationalism (Erel, 2012b) is significant in jurisdictions like France which becomes a deal breaker in international M&A. This intervention by target governments may extend deal time to completion and impact deal terms unfavorably not allowing markets for Corporate control to work symmetrically. A large measure of success in merger deals reflected here already in timelines measured by regulations of time and price valuations governing such transactions. Such protection in making deals successful is unlikely in the international environment.

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## 8. APPENDIX

### 5.2 TABLE 1: Chronological list of Deals considered in the sample for the Event study

Table 1: Chronological deals as recovered from the SDC database  
in the selected period from 01 – January – 2006 to 31 – December – 2015.

Note that Acquirors are mentioned in the first column

	Acquiror Name	Target Name	Date Announced	Date Effective	Host Curr. Value of Deal (mil)
3	IDBI Ltd	United western Bank Ltd	01/12/06	10/03/06	836.856
4	Federal Bank Ltd	Ganesh Bank of Kurundwad Ltd	01/25/06		
5	Indian Overseas Bank	Bharat Overseas Bank	02/07/06		1,700.0
15	ICICI Bank Ltd	Lord Krishna Bank Ltd	06/19/06		
19	ICICI Bank Ltd	Sangli Bank Ltd	12/09/06	04/19/07	<b>3,033.382</b>

	Acquiror Name	Target Name	Date Announced	Date Effective	Host Curr. Value of Deal (mil)
20	Bank of India	Bank Swadesi Tbk PT	12/11/06	02/14/07	1145.3988
29	Canara Bank	Can Fin Homes Ltd	08/27/07	01/07/08	4.98
31	Kotak Mahindra Bank Ltd	IFCI Ltd	09/15/07		
32	IDFC	IFCI Ltd	09/15/07		
33	ING Vysya Bank Ltd	Centurion Bank of Punjab Ltd	09/25/07		
34	ING Vysya Bank Ltd	Kotak Mahindra Bank Ltd	09/25/07		
38	State Bank of India	Global Trade Finance Ltd	01/24/08	03/25/08	5,205.5
40	HDFC Bank Ltd	Centurion Bank of Punjab Ltd	02/25/08	05/23/08	95,259.205

	Acquiror Name	Target Name	Date Announced	Date Effective	Host Curr. Value of Deal (mil)
49	National Housing Bank	Mahindra Rural Housing Finance	08/13/08		58.0
51	Shriram Retail Hldg Pvt Ltd	Shriram City Union Finance Ltd	09/15/08	10/15/09	1,245.8
60	State Bank of India	State Bank of Indore	10/31/09	07/28/10	249.257
62	Punjab National Bank	Danabank	11/23/09	12/13/10	697.92
70	ICICI Bank Ltd	Bank of Rajasthan Ltd	05/18/10	08/12/10	28,537.089
75	Kotak Mahindra Bank Ltd	Barclays-India Credit Card Bus	02/01/12	02/01/12	3,000.0

	Acquiror Name	Target Name	Date Announced	Date Effective	Host Curr. Value of Deal (mil)
78	Shriram City Union Finance Ltd	Shriram Retail Hldg Pvt Ltd	10/30/12		21,442.897
92	Kotak Mahindra Bank Ltd	ING Vysya Bank Ltd	11/20/14	04/01/15	148,660.756
94	IndusInd Bank Ltd	RBS-Diamond Jewellery Fin Bus	04/10/15	07/27/15	2,870.0
	IndusInd Bank Ltd	Deutsche Bank – Credit Card Portfolios	12/20/10	12/20/10	
	Kotak Mahindra Bank Ltd	Barclays Corp Loans	01/25/13	01/25/13	

End of TABLE 1

### 5.3 TABLE 2. Sample Set and Analysis Dimensions to use for Bidder wealth / Target returns appropriation

Table 2: Sample Set and Analysis

The Transactions are classified to categorize transactions in the selected period from 01 – January – 2006 to 31 – December – 2015.

Note that Acquirors are mentioned in the first column and Targets in the next column. For a chronological analysis refer Table 1

Acquiror/Bidder	Target	DoA	DoE	Deal Value (INR Millions)
<b>Only Bidder/wealth effects</b>				
IDBI	United western	1/12/2006	10/3/2006	836.856
Federal Bank Ltd	Ganesh Bank	1/25/2006		
<b>Microfinance</b>				
DCB Bank Ltd	Annapurna Microfinance Ltd	3/1/2016		99.9
<b>Foreign Bank Acquisition (</b>				
Bank of India (P)	Bank Swadesi	12/11/2006	2/14/2007	1145.3988
Punjab National Bank(P)	Danabank	11/23/2009	12/13/2010	697.92
<b>Inhouse consolidation (ILE / Not subsidiary) - is it Financing transaction</b>				
Shriram City Union Finance Ltd	Shriram Retail Holding Ltd	9/15/2008	10/15/2009	1245.8

Acquiror/Bidder	Target	DoA	DoE	Deal Value (INR Millions)
Shriram City Union Finance Ltd	Shriram Retail Holding LTd	10/30/2012		21442.897
<b>Pvt Sector / Cooperative / RRBs / Local Private Banks</b>				
ICICI BANK	LKB			
ICICI BANK	Sangli Bank			3033.382
<b>PSU / PSU transactions ( in house - two parties listed(T) , one party listed (O) )</b>				
IOB	BOB(O)	2/7/2006		1700.0
<b>PSU / PSU</b>				
Canara Bank	CanFin Homes(T)	8/27/2007	1/7/2008	4.98
SBI	SBI Factors			5205.5
SBI	State Bank of Indore(O)	10/31/2009	7/28/2010	249.257
<b>Loan Portfolio/Stake Purchase</b>				
Kotak Bank	IFCI	9/15/2007	Not included	Event concomitant with Kotak as target
IDFC	IFCI	9/15/2007		
ING Vysya Bank Ltd	CBOP Ltd	9/25/2007		
ING Vysya Bank Ltd	Kotak Bank	9/25/2007		
<b>Large Mergers</b>				
ICICI Bank Ltd	Bank o f Rajasthan	/2010	/2010	28537.089
Kotak Bank Ltd	ING Vysya Bank Ltd	11/20/2014	4/1/2015	148660.756

<b>Acquiror/Bidder</b>	<b>Target</b>	<b>DoA</b>	<b>DoE</b>	<b>Deal Value (INR Millions)</b>
HDFC Bank	Centurion Bank of Punjab	2/25/2008	5/23/2008	95259.205
<b>Foreign Bank Business Exit</b>				
Indusind Bank Ltd	RBS - Diamond Jewelry Fin Business	4/10/2015	7/27/2015	2870.0
<b>Foreign Bank Business Exit</b>				
Indusind Bank Ltd	Deutsche Bank – Credit Card Business	20/12/2010		
Kotak Bank Ltd	Barclays India - Credit card Business	2/1/2012		3000.0
Kotak Bank Ltd	Barclays India – Corp Loans (two portfolios)	25/1/2013		np*

\* np= not provided

END OF TABLE 2

## 5.4 TABLE 3: Cumulative Abnormal Returns

Table 3: Cumulative Abnormal Returns

The table presents the CAR statistic for the chosen event windows in the study. The 20 OLS market model data and regressions are not included here for reasons of brevity and clarity.

DoA: Date of Announcement, DoE: Effective Date

Acquiror/Bidder	Target	DoA	DoE	Deal Value (INR Millions)	Target Returns -20 to +0	Target Returns -20 to trading closed	Pre Announcement -15 to +0	Announcement Returns -2 to +2	Announcement Returns -1 to +1	Post Announcement Returns 0 to +15	Post Announcement Returns +15 to +75	
					Target Returns		Acquiror Returns					
<b>Only Bidder/wealth effects</b>												
IDBI	United western	1/12/2006	10/3/2006	836.8	No target returns		0.078	-0.016	0.027	-0.170	0.016	
Federal Bank Ltd	Ganesh Bank	1/25/2006					-0.017	-0.074	-0.031	-0.044	0.123	
<b>Microfinance</b>												
DCB Bank Ltd	Annapurna Microfinance Ltd	3/1/2016		99.9								
<b>Foreign Bank Acquisition ( P-PSU)</b>												
Bank of India (P)	Bank Swadesi	12/11/2006	2/14/2007	1145.3				-0.054	-0.092	-0.126	-0.017	-0.244
Punjab National Bank(P)	Danabank	11/23/2009	12/13/2010	697.92				-0.049	-0.028	-0.017	-0.056	-0.023
<b>Inhouse consolidation (ILE / Not subsidiary) - is it Financing transaction</b>												
Shriram City Union Finance Ltd	Shriram Retail Holding Ltd	9/15/2008	10/15/2009	1245.8								



Acquiror/Bidder	Target	DoA	DoE	Deal Value (INR Millions)	Target Returns -20 to +0	Target Returns -20 to trading closed	Pre Announcement -15 to +0	Announcement Returns -2 to +2	Announcement Returns -1 to +1	Post Announcement Returns 0 to +15	Post Announcement Returns +15 to +75
Shriram City Union Finance Ltd	Shriram Retail Holding Ltd	10/30/2012		21442.8							
<b>Pvt Sector / Cooperative / RRBs / Local Private Banks</b>											
ICICI BANK	LKB						0.023	-0.019	-0.003	-0.038	0.353
ICICI BANK	Sangli Bank			3033.3			-0.033	0.039	0.005	0.029	0.114
<b>PSU / PSU transactions ( in house - two parties listed(T) , one party listed (O) )</b>											
IOB	BOB(O)	2/7/2006		1700.0			-0.118	0.033	0.031	-0.047	-0.123
Canara Bank	CanFin Homes(T)	8/27/2007	1/7/2008	10.9			0.072	0.081	0.017	0.168	0.378
SBI	SBI Factors			5205.5			0.079	-0.025	-0.005	-0.053	-0.198
SBI	State Bank of Indore(O)	10/31/2009	7/28/2010	249.2			0.190	0.093	0.010	-0.002	-0.306
<b>Loan Portfolio(P)/Stake Purchase(S)</b>											
Kotak Bank	IFCI	9/15/2007									
<b>Loan Portfolio(P)/Stake Purchase(S)</b>											
IDFC	IFCI	9/15/2007	(-15 to +0) event window				-0.155				
ING Vysya Bank Ltd(S)	CBOP Ltd	9/25/2007					-0.017	-0.074	-0.031	-0.053	-0.056
ING Vysya Bank Ltd(S)	Kotak Bank	9/25/2007					0.348			-0.109	-0.164
<b>Large Mergers</b>											
ICICI Bank Ltd	Bank of Rajasthan			28537.0			-0.163	-0.087	-0.078	-0.083	0.114

Acquiror/Bidder	Target	DoA	DoE	Deal Value (INR Millions)		Target Returns -20 to +0	Target Returns -20 to trading closed		Pre Announcement -15 to +0	Announcement Returns -2 to +2	Announcement Returns -1 to +1	Post Announcement Returns 0 to +15	Post Announcement Returns +15 to +75	
Kotak Bank Ltd	ING Vysya Bank Ltd	11/20/2014	4/1/2015	148660.7		0.245	0.281		0.080	0.082	0.101	0.134	0.103	
HDFC Bank	Centurion Bank of Punjab	2/25/2008	5/23/2008	95259.2		-0.190	-0.285		-0.079	-0.082	-0.074	-0.053	-0.056	
<b>Foreign Bank Business Exit</b>														
Indusind Bank Ltd	RBS - Diamond Jewelry Fin Business	4/10/2015	7/27/2015	2870.0	No target returns				0.001	0.021	0.032	-0.114	-0.016	
Kotak Bank Ltd	Barclays India - Credit card Business	2/1/2012		3000.0						0.158	0.059	0.080	0.147	-0.107
Indusind Bank Ltd	DB – Card Portfolios	20/12/2010		np*						-0.188	-0.084		-0.135	0.028
Kotak Bank Ltd	Barclays –Corp Loan	25/1/2013		np*						-0.036	0.056		0.055	0.070

END OF TABLE 3

## 5.5 TABLE 4: Abnormal Returns Statistics

Table 4: Abnormal Returns Statistics

The table presents the statistics for the computed Abnormal Returns in each of the chosen event windows

S.No.	Merger	MA-ID	Date of Announcement	Announcement Return	3 Day Announcement Return	5 Day Announcement Return	Information leakage period Acquisition Return	Short Term Acquisition Return	75day Acquisition Return (till trading stops)	Post STAR Acquisition Return	Deal Value
				Day 0	-1 to +1	-2 to +2	-15 to -1	0 to +15	0 to +75	+16 to +75	-15 to +75
3	IDBI -UWB	MA01	Jan 12, 2006	-3.4782%	-6.6996%	-6.0941%	4.0436%	-14.8394%	-15.1527%	-0.3133%	-11.1091%
4	Federal Bank - GKB	MA02	Jan 25, 2006	-4.2621%	-3.1096%	-7.4183%	2.5474%	-4.4310%	15.5886%	20.0196%	18.1360%
5	IOB - Bharat Overseas Bank	MA03	Feb 7, 2006								
15	ICICI Bank - Lord Krishna Bank	MA04	June 19, 2006	-1.9836%	-0.3268%	-1.9341%	4.3419%	-3.8400%	24.3657%	28.2056%	28.7076%
19	ICICI Bank - Sangli Bank	MA05	Dec 09, 2006	-3.4827%	0.5395%	3.9799%	0.1661%	2.9614%	14.5325%	11.5712%	14.6986%
20	Bank of India - Bank Swadesi Indonesia	MA06	Dec 11, 2006	-7.0165%	-12.6035%	-9.2082%	1.5411%	-1.7146%	-22.1417%	-20.4271%	-20.6006%
29	Can Fin Homes/ Canara Bank -Is it Financing txn	MA07	Aug 27, 2008	0.6850%	1.7683%	8.1128%	6.5510%	16.8336%	48.6563%	31.8227%	55.2073%
38	SBI - Global Trade (now SBI Factors)	MA12	Jan 24, 2008	4.5533%	1.0121%	9.3155%	14.5200%	-0.2077%	-28.7947%	-28.5870%	-14.2747%
40	HDFC Bank - CBOP	MA13	Feb 25, 2008	-5.5681%	-7.4603%	-8.2124%	-2.4121%	-5.3140%	-10.6175%	-5.3035%	-34.5556%
60	SBI - SB Indore	MA14	Oct 31, 2009	-0.6253%	-0.5264%	-2.5090%	8.5879%	-5.3687%	-24.8067%	-19.4380%	-16.2188%
62	Punjab National Bank - DanaBank KZ	MA15	Nov 23, 2009	-2.3101%	-1.7584%	-2.8320%	-2.6459%	-5.6440%	-8.0694%	-2.4254%	-10.7153%
70	ICICI Bank – BOR	MA16	May 18, 2010	-7.6909%	-7.8957%	-8.7977%	-8.6514%	-8.3790%	1.7286%	10.1076%	3.3174%
75	Kotak Bank - Barclays CCB	MA17	Feb 01, 2012	2.7750%	8.0767%	5.9424%	13.0714%	14.7893%	6.9400%	-7.8493%	20.0114%
92	Kotak Bank - ING Vysya	MA18	Nov 20, 2014	7.1568%	10.1622%	8.2912%	0.9052%	13.4755%	21.3327%	7.8573%	46.3064%

S.No.	Merger	MA-ID	Date of Announcement	Announcement Return	3 Day Announcement Return	5 Day Announcement Return	Information leakage period Acquisition Return	Short Term Acquisition Return	75day Acquisition Return (till trading stops)	Post STAR Acquisition Return	Deal Value
				<i>Day 0</i>	<i>-1 to +1</i>	<i>-2 to +2</i>	<i>-15 to -1</i>	<i>0 to +15</i>	<i>0 to +75</i>	<i>+16 to +75</i>	<i>-15 to +75</i>
94	Indusind - RBS Diamond Jewelry	MA19	Apr 10, 2015	-0.1195%	3.2683%	2.1741%	0.2295%	-11.4231%	-13.4298%	-2.0067%	-13.2003%
	Kotak Bank - Barclays Cor Loans (Two Portfolios)	MA20	Jan 24, 2013	1.8674%	3.1150%	5.6497%	-3.6281%	5.5126%	12.5493%	7.0367%	8.9211%
	Indus Ind Bank - Deutsche Bank CC	MA21	Dec 12, 2010	-2.6720%	-4.8018%	-8.3961%	-18.7919%	-13.5518%	-10.7542%	2.7976%	-29.5461%
											LTAR90
		<b>Mean</b>		-1.3857%	-1.0775%	-0.7460%	1.2735%	-0.9358%	0.7454%	2.0667%	3.7384%
		<b>SD</b>		4.0945%	5.9592%	6.8828%	8.0471%	9.7166%	21.1477%	16.7489%	8.0471%
		<b>SE</b>		1.0236%	1.4898%	1.7207%	2.0118%	2.4292%	5.2869%	4.1872%	1.8967%
		<b>t-stat</b>		-1.35	-0.72	-0.43	0.63	-0.39	0.14	0.49	1.97
		p-value(Significance)		0.9020631	0.7596710	0.6646068	0.2681303	0.6472707	0.4448744	0.3143741	<b>0.033733*</b>
		df		15	15	15	15	15	15	15	15
		Hypothesis		<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&gt;=0</i>	<i>mu&lt;0</i>
		Result		<i>Accepted</i>	<i>Accepted</i>	<i>Accepted</i>	<i>Accepted</i>	<i>Accepted</i>	<i>Accepted</i>	<i>Accepted</i>	<i>Rejected</i>

END OF TABLE 4

## 5.6 TABLE 5: Decomposing Abnormal Returns

Table 5: Decomposing Abnormal Returns

The table presents the OLS specifications drawn for each of the Abnormal Returns measures for the chosen event windows in the study.

Variable	AR91DV	STAR	AnnRet	LEAK	AR75	STAR	INFO
ALSIZE	-.1480839**	.00203705	.01351056	.01991029	-.03859948		
MULT	.50804401***					.08302751	
TLLP	1.0270271						-.14459931
DFINAN						-.02464709	
TLSIZE							-.00093639
TARFEE							
TLDRAT							
TVALPER							
ACQFEE							
TGROW							
_cons	.79361384*	-.02825149	-.10720098	-.13425184	.2924129	-.04702466	.01421788
r2	.67292195	.00058467	.05160318	.08198399	.04461617	.16499028	.01351695
r2_a	.58371884	-.07080214	-.01613945	.01641141	-.02362554	.03652725	-.15089689
F	7.5437053	.00819011	.76175339	1.2502786	.6537962	1.2843405	.08221299
p	0.0051	0.9292	0.2823	0.3975	0.4323	0.9216	0.3363
aic	-11.396841	-26.131051	-38.111103	-33.630605	-2.0733115	-27.006684	-27.697593
bic	-8.5646402	-24.585873	-36.565926	-32.085428	-.52813403	-24.688918	-25.573443
rank	4	2	2	2	2	3	3

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	DFINAN	AR75	STAR	AR91DV	LEAK	AnnRet	AR75
ALSIZE							
MULT			.08302751	.20673593	.06730447	.08202507*	
TLLP							
DFINAN			-.02464709	-.09178633	-.05197789	-.04602646	
TLSIZE							
TARFEE	.99005064						
TLDRAT	-.05934193	-.37435247*					-.10504388
TVALPER		.49216514					
PVT							
_cons	.21951483	.06591481	-.04702466	-.04650643	-.00467441	-.03408931	.04564861
r2	.15434299	.28110773	.16499028	.13888186	.17410564	.32182717	.10931158
r2_a	.02424191	.17050892	.03652725	.00640214	.04704497	.21749288	.04569098
F	1.1863313	2.5416885	1.2843405	1.0483255	1.3702559	3.0845774	1.718179
p	0.3363	0.1170	0.3097	0.3784	0.2884	0.0801	0.2110
aic	24.118262	-4.6237382	-27.006684	5.118921	-33.322573	-41.477036	-3.1952076
bic	26.436028	-2.305972	-24.688918	7.4366872	-31.004807	-39.15927	-1.6500302
rank	3	3	3	3	3	3	2

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	AR91DV	STAR	AnnRet	LEAK	AR75	STAR	LEAK
ALSIZE	-.1480839**	.00203705	.01351056	.01991029	-.03859948		
MULT	.50804401***					.08302751	
TLLP	1.0270271						-.14459931
DFINAN						-.02464709	
TLSIZE							-.00093639
TARFEE							
TGROW							
_cons	.79361384*	-.02825149	-.10720098	-.13425184	.2924129	-.04702466	.01421788
r2	.67292195	.00058467	.05160318	.08198399	.04461617	.16499028	.01351695
r2_a	.58371884	-.07080214	-.01613945	.01641141	-.02362554	.03652725	-.15089689
F	7.5437053	.00819011	.76175339	1.2502786	.6537962	1.2843405	.08221299
p	0.0051	0.9292	0.2823	0.3975	0.4323	0.9216	0.3363
aic	-11.396841	-26.131051	-38.111103	-33.630605	-2.0733115	-27.006684	-27.697593
bic	-8.5646402	-24.585873	-36.565926	-32.085428	-.52813403	-24.688918	-25.573443
rank	4	2	2	2	2	3	3

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	DFINAN	AR75	STAR	AR91DV	LEAK	AnnRet	AR75
ALSIZE							
MULT			.08302751	.20673593	.06730447	.08202507	
TLLP							
DFINAN			-.02464709	-.09178633	-.05197789	-.04602646	
TLSIZE							
TARFEE	.99005064						
TLDRAT	-.05934193	-.37435247					-.10504388
TVALPER		.49216514					
PVT							
_cons	.21951483	.06591481	-.04702466	-.04650643	-.00467441	-.03408931	.04564861
r2	.15434299	.28110773	.16499028	.13888186	.17410564	.32182717	.10931158
r2_a	.02424191	.17050892	.03652725	.00640214	.04704497	.21749288	.04569098
F	1.1863313	2.5416885	1.2843405	1.0483255	1.3702559	3.0845774	1.718179
p	0.3363	0.1170	0.3097	0.3784	0.2884	0.0801	0.2110
aic	24.118262	-4.6237382	-27.006684	5.118921	-33.322573	-41.477036	-3.1952076
bic	26.436028	-2.305972	-24.688918	7.4366872	-31.004807	-39.15927	-1.6500302
rank	3	3	3	3	3	3	2

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001



Variable	AR75	AR91DV	LEAK	AR75	AR75	SHORT	SHORT
TLDRAT	-.10504388	-.3454186	.06937377	-.47805764*			
TVALPER		.38744754	-.1420714	.58009855			
PVT				-.12700236			
AROE					-1.0210396		
TROE						.14612131	.3579582
DTROE							.23392544
AEFF							
TEFF							
_cons	.04564861	.09264093	.00992665	.1532491	.20053833	.01910947	.00364562
r2	.10931158	.1842522	.10365578	.34118711	.10636877	.17658784	.18999105
r2_a	.04569098	.05875254	-.03424333	.17648389	.04253797	.11777269	.06537429
F	1.718179	1.468149	.7516784	2.0715266	1.6664176	3.0024208	1.5246027
p	0.2110	0.2661	0.4910	0.1170	0.2176	0.1051	0.2542
aic	-3.1952076	4.2528975	-32.012851	-4.0200894	-3.1424313	-15.005469	-13.268055
bic	-1.6500302	6.5706637	-29.695084	-.92973446	-1.5972539	-13.460292	-10.950289
rank	2	3	3	4	2	2	3

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	AR75	AR75	AR91DV	AR91DV	AR91DV	AR91DV	SHORT
ALSIZE			-.07336437		-.07694798	-.1480839**	
MULT			.25182314	.17231606	.27175106	.50804401***	
TLLP						1.0270271	
TARFEE			-.23624551				
TLDRAT		-.10999273					
AROE	-1.1608211						
TROE	-.10099882	.14116079					
DTROE	-.24136756	.14673199					
AEFF							.3316147
TEFF							.05637519
TGROW							
_cons	.25868906	.03885867	.47121185	-.05797972	.46036695	.79361384*	-.23876396
r2	.17087141	.11208915	.22288421	.11535703	.19246905	.67292195	.0656223
r2_a	-.03641073	-.10988857	.02860526	.05216825	.06823352	.58371884	-.07812811
F	.82434216	.50495676	1.1472381	1.8255935	1.5492271	7.5437053	.45650166
p	0.5053	0.6861	0.6433	0.1981	0.2492	0.0051	0.6433
aic	-.34111829	.7548192	5.4766435	3.5501598	4.0909157	-11.396841	-10.982688
bic	2.7492366	3.8451741	8.5669983	5.0953373	6.4086819	-8.5646402	-8.6649214
rank	4	4	4	2	3	4	3

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	LEAK	STAR	SHORT	STAR	STAR	SHORT	AR75
ALSIZE							
MULT	.05278443	.07450713	.12729156	.09715943	.15186089**	.22216176**	.21113*
TLLP					.18020194	.20480011	.21009861
AROA	-.28608395	-.04156175	-.32764571				
AABSLLP				-.00249838	-.00374489*	-.00474092	-.00714383
ACQTIERI							
ACQFEE							
TGROW							
_cons	.0075261	-.04738917	-.03986307	-.03640253	-.07288215	-.09179805	-.07062496
r2	.42692934	.15752571	.29275064	.24788635	.65715995	.50987759	.38864625
r2_a	.33876462	.02791428	.18394304	.13217656	.56365812	.37620784	.22191341
F	4.8424058	1.215369	2.690535	2.142311	7.028311	3.8144576	2.330952
p	0.0268	0.3282	0.1052	0.1570	0.0066	0.0427	0.1305
aic	-39.169898	-26.864288	-15.438647	-28.679579	-39.575565	-19.405798	-10.233906
bic	-36.852132	-24.546522	-13.12088	-26.361813	-36.743364	-16.573597	-7.4017057
rank	3	3	3	3	4	4	4

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

Variable	AR91	lteq	lteqfee	ltgrow	lar91v
MULT	.36851185**				
TLLP	.40957314				1.1932765
AEFF					1.3388421
AABSLLP	-.00874915*				
ACQTIERI		2.9257313	2.8957282	2.7193167	4.1145259
ACQFEE			.33543022		
TGROW				-.31083053	
_cons	-.12496244	-.21712219	-.36229518	-.18566267	-1.2868967
r2	.55877203	.16502437	.25377407	.24964445	.68142222
r2_a	.43843714	.10538325	.13897008	.13420513	.59453737
F	4.6434745	2.7669564	2.2104987	2.16256	7.8428199
p	0.0248	0.1184	0.1492	0.1546	0.0045
aic	-6.9063986	2.6256543	2.8276683	2.9159682	-11.791824
bic	-4.0741978	4.1708318	5.1454345	5.2337344	-8.959623
rank	4	2	3	3	4

legend: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

-----END OF TABLE 5