Summer 2011

The Behavior and Choices of Serial Bidders in M&A Transactions: A Prospect Theory Approach

Ahmed Essam El-Din El-Bakry
Old Dominion University

THE BEHAVIOR AND CHOICES OF SERIAL BIDDERS IN M&A TRANSACTIONS: A PROSPECT THEORY APPROACH

by

Ahmed Essam El-Din El-Bakry

B.Com. June 2000, Alexandria University – Egypt
MBA April 2003, Arab Academy for Science & Technology – Egypt
CFA December 2005, CFA Institute - USA
M.A Economics, July 2007, Old Dominion University - USA

A Dissertation Submitted to the Faculty of Old Dominion University in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

BUSINESS ADMINISTRATION – FINANCE

OLD DOMINION UNIVERSITY
AUGUST 2011

Approved by:

Dr. Mohammed Najand (Chair)

Dr. Kenneth Yung (Member)

Dr. Vinod Agarwal (Member)

ABSTACT

THE BEHAVIOR AND CHOICES OF SERIAL BIDDERS IN M&A TRANSACTIONS: A PROSPECT THEORY APPROACH

by
Ahmed Essam El-Din El-Bakry
Old Dominion University
Chair: Dr. Mohammed Najand

This paper investigates the impact of previous losses incurred by U.S serial bidders on their M&A strategic choices and premiums paid to acquire targets. The Hubris and Overconfidence theories suggest that managers tend to overpay as a result of exaggerating their ability to extract value and manage post-acquisition integration process between the acquiring firm and its target. Managerial overconfidence, which is signaled by conducting several acquisitions within a short time period or by other manager-specific investment attributes, has been shown to contribute to increasing premiums in M&A transactions and subsequent poor post-acquisition performance.

Experimental findings in the area of psychology over the past three decades introduced the notion that economic agents experience utility resulting from *changes* in wealth (gains and losses) relative to a reference point rather than *the level* of total wealth and that losses loom larger than gains. The Prospect theory (Kahneman & Tversky, 1979) suggests that decision makers tend to be more aggressive (risk taking) after a loss in order to recover their losses and more risk averse after gains. The Quasi-Hedonic hypothesis (Thaler & Johnson, 1990) indicates that decision makers will become more risk taking after repeated gains ("*House Money Effect*") but tend to be more risk averse after losses

to avoid further pain. However, decision makers tend to be more risk taking after losses if there is a chance for breaking even.

Using a sample of 16,582 M&A transactions by 3,512 U.S public bidders involved in at least two acquisition attempts over the 1990-2005 period, this study introduces several loss proxies based on corporate, market, industry and managerial compensation factors. Several empirical tests are conducted in this study to control for concurrent decisions taken by managers, endogeneity effects in explaining premiums, alternate model specifications, industry factors, time period effects as well as robustness for managerial overconfidence and entrenchment. The results are consistent across all sub-periods, however, the significance of M&A success history variables diminish over the 2001-2005 period.

I present evidence that bidders suffering from earlier losses in terms of market, industry and compensation factors tend to be more aggressive in their target choices (i.e. choosing private and/or unrelated targets) and tend to overpay. Corporate loss events/shocks, such as failure to conclude an earlier merger deal, tend to motivate managers to make safer bets in terms of choosing public targets operating in related industries, however, still tend to overpay for targets. As the level of stock ownership of the bidder's management/executive team increases, managers tend to respond to corporate failure events/shocks in a similar fashion as other loss proxies. The results presented are generally robust to overconfidence, insider ownership, sub-periods and industry wide factors. The results are also robust to the compensation structure of the management team and target-bidder relative size.

In addition, the results presented in this study support the agency theory implications in regards to the bidder's target choices (i.e. related/unrelated and private/public targets) and the market-driven/mispricing theory in regards to partially explaining premiums paid by bidders to acquire their prospective targets.

The results presented provide support to the prospect theory propositions that losses experienced by economic agents induce an aggressive or risk taking behavior in subsequent bets by pursuing non-public and/or unrelated targets and offering higher premiums.

In the Name of Allah, the Most Gracious, the Most Merciful

In memory of the man whom I loved the most, my father, may he rest in peace. I dedicate this work to my father and my mother who became my companion along this journey, nothing that I can possibly do will ever repay you for your unconditional love and endless sacrifice.

To my wife and baby daughter, the blessings of my life.

ACKNOWLEDGMENTS

I would like to express my thanks and sincere appreciation to my committee chairman, Dr. Mohamed Najand, for his support and encouragement during all stages of my doctoral study and this dissertation. I extend my sincere appreciation and thanks to my committee member Dr. Kenneth Yung for his valuable comments, suggestions and discussions during the various stages of my dissertation work. My appreciations extend to my committee member Dr. Vinod Agarwal for his mentoring since the beginning of the Ph.D program, insightful comments and advice.

I owe everything to Allah Almighty, my parents, aunts, brothers, sisters (cousins), and loving family. I extend my thanks to my father, mother, and sisters in-law for their love and support. I would also like to thank my friends whose friendship I cherish each day in my life. I am also grateful to my professors in Egypt for showing me the way and supporting me throughout the journey.

Finally, to my dearest friend, lovely wife and the mother of my children, I thank God that he brought you back to me once again, for you are my life's blessing.

TABLE OF CONTENTS

LIST OF TABLES

Table **Page**

LIST OF FIGURES

Figures **Page**

CHAPTER 1

INTRODUCTION AND IMPORTANCE OF THE RESEARCH

The prospect theory stresses that decision makers are influenced by the utility experienced as a result of *changes in wealth relative to a reference point* rather than *the level* of total wealth. Losses are almost twice as painful as gains and choices/gambles are affected by the prospect of gain and loss as well as how they are framed. Mental accounting and narrow framing suggest that decision makers tend to segregate events and create mental accounts for gains and losses, thus making myopic decisions not based on the level of overall wealth as suggested earlier by consumption based utility theories.

Several hypotheses supported by experimental evidence adopting changes in wealth relative to a reference point as a carrier of utility have been raised in the area of psychology describing the likely reaction of economic agents to gains and losses in their subsequent gambles. First, the Prospect theory (Kahneman & Tversky, 1979) suggests that decision makers tend to be more aggressive (risk taking) after a loss in order to recover their losses and become more risk averse after gains to protect these gains. Second, the Quasi-Hedonic Hypothesis (Thaler & Johnson, 1990) which was developed depending on experimental evidence about choices in repeated gambles suggest that decision makers will be more risk taking after repeated gains (*House Money Effect*) but tend to be more risk averse after losses to avoid further pain. Nevertheless, decision makers tend to be more risk taking after losses if there is a chance for breakeven. Other behavioral theories provide different (complimentary or contradicting) assertions. The hubris (Roll, 1986) and overconfidence theories (Malmendier & Tate, 2005a) suggest that

decision makers exaggerate their managerial skills and abilities (ego), hence making wrong aggressive decisions. This phenomenon is generally expected to increase after gains/achievements, thus managers are expected to be more aggressive after gains. In addition, the Agency theory (Jensen, 1986) points out that managers tend to engage in empire building and organizational diversification to hedge their human capital investment. Accordingly, managers may resort to less risky choices than optimal from the perspective of stockholders. Further, the Organizational Learning theory (Haleblian & Finkelstein, 1999; Hayward, 2002) introduced in the strategic management research area highlights the role of increasing acquisition experience in mitigating the risks of making bad acquisition choices and decisions and thus is associated with better performance.

The research agenda of the current study is to examine the effect of historical losses and gains on the risk-attitude of managers executing subsequent M&A transactions. This paper provides an empirical testing of the contradicting predictions suggested by the prospect theory and the quasi-hedonic hypothesis in the context of M&A transactions. The empirical results of this study should shed light on the risk-attitude of management post losses and the manner in which this attitude affects their M&A decisions including the choice between related/unrelated targets, local/foreign targets, public/non-Public targets, relative size of target, and premiums paid by bidders. Results are driven from a sample of M&A completed and uncompleted deals by public U.S bidders attempting 2 or more acquisitions during the 1990-2005 time period.

The current study makes a novel and significant contribution by introducing and empirically testing prospect theory driven propositions in the area of mergers and acquisitions in corporate finance research.

CHAPTER 2

LITERATURE REVIEW

2.1 MERGERS AND ACQUISITIONS

The area of mergers and acquisitions (M&A) attracted high level of research attention over the past 3 decades. The neoclassical economic theory suggests that mergers and acquisitions are considered to be corporate reorganization transactions that improve firm's efficiency and resource allocation/utilization. However, theories following a behavioral view of financial markets and economic agents suggest that other market inefficiencies may partially explain, *at least*, the phenomenon of M&A transactions particularly when neoclassical based theories fail to explain such transactions. Early attempts to explain and theorize the motives behind M&A deals included agency, hubris and synergy theories, where in the later bidders were assumed to pursue different forms of organizational synergy resulting in a combined value of the firm post merger exceeding the sum of the pre-merger stand-alone values of the bidder and target (Berkovitch & Narayanan, 1993). Some studies attempted to examine merger announcement returns in order to infer the stand-alone values of the bidder and the target as well as the resulting synergies from the market's perspective (Hietala, Kaplan, & Robinson, 2003). Nevertheless, empirical evidence pointed out that while some bidders do create value, many acquisition transactions result in losses incurred by bidders.

Moeller, Schlingemann, and Stulz (2005) highlighted the large scale of value destroyed in M&A transactions during the latest merger wave during the 1998-2001

period. During this time period, few large-scale transactions resulted in $240 billion in losses to bidders (12% of deals value) while earlier waves resulted in $7 billion losses only (1.6% of deals value). Further, firms conducting these deals performed poorly afterwards for an extended time frame and are generally serial acquirers. Interestingly, excluding the extreme loss transactions from the sample, the study found that bidders on average achieved modest positive returns. The study points out that the reported empirical evidence is consistent with Jensen's (2004) hypothesis that high valuations increase managerial discretion which increases the possibility of managers tendency to make poor acquisitions when they have run out of good ones.

2.1.1 Motives of Mergers and Acquisitions

Several theories were advanced to explain mergers and acquisitions activity, management motives behind making such transactions, and the perceived performance of bidders and targets post acquisition. First, the Hubris and overconfidence theories, (Malmendier & Tate, 2005a; Roll, 1986), suggest that managers suffering from hubris tend to overpay for their targets. Second, the agency theory (Jensen, 1986) suggests that managers initiate such transactions as a form of empire building behavior that enhances their personal flexibility and gains rather than maximizing shareholder's wealth. Third, the equity signaling theory, (Myers & Majluf, 1984; Travlos, 1987), suggests that firms paying for targets using equity send a signal to the market that their assets in place are likely to be overvalued. Forth, the overvaluation and market-driven acquisitions theories (Dong, Hirshleifer, Richardson, & Teoh, 2006; Shleifer & Vishny, 2003) point out that bidders with overvalued stock are motivated to conduct such deals using their overvalued

currency. High volume of M&A transactions is explained at least partially by the overvaluation of bidders' stock and the dispersion of valuation across bidders and targets. Fifth, the growth opportunities signaling theory (McCardle & Viswanathan, 1994) suggests that firms resorting to acquisitions as an investment strategy send a signal to the market that the bidder exhausted its internal growth opportunities.

Several behavioral theories, which assume one form or another of irrationality in markets and/or economic agents, have offered alternative explanations to M&A transactions related issues and empirical findings. Two main theories in this area have received more attention in recent financial research, hubris/overconfidence and mispricing, which are discussed further below. Roll (1986) introduced the Hubris theory to explain part of the observed regularities in corporate takeover transactions. Accordingly, managers' excessive self-confidence and overbearing pride can lead them to consistently make mistakes in selecting the appropriate targets as well as determining the price to be offered to consummate the takeover reflecting the underlying fundamental value of the target firm. The key element in this consistent bias is the valuation of an asset that has an observable price determined by market participants in case of public targets in particular. Roll argues that takeover gains may have been overestimated if they exist at all.

The mechanism by which takeover attempts are initiated and consummated suggests that at least part of the sizable price increases experienced by the shareholders of target firms may represent a simple value transfer from the bidding firm rather than potential synergies. In other words, the observed takeover premium overstates the increase in economic value of the corporate combination. Moreover, Roll suggests that

there is little reason to expect that a particular individual bidder can learn from his/her own previous mistakes and as such refrain from repeating this kind of behavior in future transactions. Bruton, Oviatt, and White (1994) examined the effect of acquisition experience on the firm's performance and drew comparisons between bidders acquiring distressed targets versus non-distressed targets. In 51 acquisitions of financially distressed firms, related business combinations in which the acquirers had prior acquisition experience performed best which supported earlier conclusions that acquisition experience has a positive impact on performance. However, the study found that business relatedness and acquisition experience had no effect on performance in a control group of 46 acquisitions of non-distressed targets. This result points out that the acquisition experience might be more valuable when acquiring distressed targets because it equips management with the ability to turn around the target and/or reshaping its activities, however, acquiring successful targets requires integrating functions and operations in order to extract synergies which is a harder source of value to master.

The hubris theory implies that the average increase in the target firm's market value should be at least offset by the average decrease in the value of bidding firms, which was supported my many empirical studies reporting positive significant announcement returns for targets, insignificant or negative returns for acquirers on average, and positive returns for acquirers acquiring private targets (Chang, 1998; Huang & Walkling, 1987; Morck, Shleifer, & Vishny, 1990).

Malmendier and Tate (2005a) developed several empirical proxies for CEO overconfidence and tested their effect on corporate investment. The authors characterized managers as overconfident if they failed to reduce their exposure to company-specific

risk. As such, managers holding deep in-the-money stock options for an extended period of time suggests that managers believe that their company's stock is still expected to climb further. The study shows that overconfident managers are biased in their investment decisions. Other studies attempted to characterize managers as overconfident using the world's perception of those managers rather than their own personal investment/divestment decisions (Malmendier & Tate, 2005b, 2009). Accordingly, CEOs who were found to achieve a "superstar" status in the press tended to underperform subsequently relative to the market and their hypothetical peers beyond mean reversion. This declining performance on part of overconfident management is at least partially attributed to their tendency to enjoy status by spending more time and effort extracurricular and social activities rather than focusing on their jobs at hand.

Doukas and Petmezas (2007) suggests that overconfident managers are inclined to perform several acquisitions in a short period of time, thus they test the impact of acquisitions by serial acquirers on their shareholders wealth. This study tests the overconfidence hypothesis as applied to merger and acquisitions, which suggests that overconfident managers are more inclined to perform value destructive mergers and acquisitions. The study indicates that overconfidence is attributed to self-attribution bias; managers tend to credit pervious successes or accomplishments to their superior abilities in picking merger targets and therefore become more overconfident. These managers realize lower announcement returns and exhibit poor long-term performance relative to "rational" managers. Two proxies were used to characterize managers as overconfident, first, managers were considered to be overconfident if they executed multiple mergers in a short period of time. Second, insider trading measured by the net holding of companies

stocks held by managers (stocks bought minus sold for the company). The sample utilized in the study included 5324 M&A deals in London stock market during the period 1980 – 2004. The sample included public acquirers listed in London stock exchange acquiring Private targets. The study found that high-order mergers, defined as conducting 5 or more deals within 3 years, produce poorer performance.

The mispricing or market driven acquisitions theory highlights market wide mispricing of bidders and targets, rather than individual irrationality assumed by hubris and overconfidence theories on part of management. Shleifer and Vishny (2003) presented a theoretical model in which M&A transactions are driven my mispricing of acquirers and targets. The authors assume managers to be rational decision makers attempting to capitalize on market inefficiencies through acquiring mispriced targets and or using their own mispriced stock as currency. However, this view presents an opposite rational for management behavior compared to the hubris theory advanced by Roll (1986).

According to Shleifer and Vishny's model, stock acquisitions increase with high overall market valuations and higher dispersion in valuation between targets and bidders. Rhodes-Kropf and Viswanathan (2004) argue that periods of high markets valuation tend to increase the volume of merger activity given that errors in estimating resulting synergies are often mistaken for market driven overvaluation despite the target's attempt to decouple both elements. As such, despite that management teams of target firms understand that part of the offered high acquisition valuations are due to market wide overvaluation, they are assumed to fail in correctly estimating synergies which increases the likelihood of deals being successfully consummated. Several studies offered

empirical support to the market-driven mispricing explanation of merger activity (see for example Ang and Cheng (2006)).

Brown (2006) presented a model explaining M&A activity that integrated both forms of irrationality on the market side (Rhodes-Kropf & Viswanathan, 2004; Shleifer & Vishny, 2003) and managerial optimism (Malmendier & Tate, 2005a; Roll, 1986). According to the model proposed by Brown's thesis, market valuation plays a stronger role in determining the method of payment in the merger deal while managerial optimism have a stronger impact on premiums paid. As such, empirical results pointed out that market overvaluation leads to stock mergers and undervaluation leads to cash mergers while optimistic managers, whether that of the acquiring or target firms, are generally associated with larger premiums.

2.1.2 Performance of Bidders and Targets

The area of examining value creation and performance for bidders and targets received attention in the merger and acquisitions body of research. In the area of corporate finance, earlier studies suggested that M&A deals create value on the outset. Jensen and Ruback (1983) pointed out the empirical evidence available up to that point of time suggests that corporate takeovers generate positive gains with most of the gains going to target shareholders. The study concludes that shareholders of bidders do not lose and therefore M&A transactions involve value creation rather than mere redistribution. Jarrel, Brickley, and Netter (1988) highlight the apparently excessive premiums paid to targets and point out the acquiring firms receive at best modest increases in their stock

price, however, research findings regarding bidder's post-acquisition stock performance are mixed and inconclusive.

Recently, more studies are showing that bidders do not always perform poorly post-acquisitions. Moeller, Schlingemann, and Stulz (2004) document a size effect in the post-merger announcement returns. Studying a sample of 12,023 acquisitions made by public US bidders over the period 1980-2001, the study points out that acquisitions by small firms are profitable for their shareholders while large firms make large acquisitions resulting in large dollar losses. This size effect is robust to firm and deal characteristics and is not reversed over time. The average dollar change in wealth of acquiring-firm shareholders after acquisition announcement is negative. The study suggests that managers of large firms tend to pay more for acquisitions and are more likely to complete their deals which supports Roll's 1986 hubris hypothesis, while the size effect seems unrelated to overvaluation suggested by Shleifer and Vishny (2003).

Andre, Kooli, and L'Her (2004) provide an out of sample examination of the long-term performance of Mergers and Acquisitions up to three years post transaction using a sample of 267 transactions performed by Canadian bidders during 1980-2000 period. The authors report that on average, Canadian acquiring firms underperform over the post-acquisition period.

2.1.3 Factors Affecting Performance of Bidders and Targets

Other studies attempted to explore the conditionality of bidder's returns on various firm and transaction related factors. For example, a number of papers examined the return of acquirers depending on whether they acquire publicly listed or private

targets, currency of acquisition used, relative size of target to bidder, acquisition experience and industry familiarity (Faccio, McConnell, & Stolin, 2005; Fowler & Schmidt, 1989; Fuller, Netter, & Stegemoller, 2002).

Fowler and Schmidt (1989) studied the organizational and transactional factors affecting post-acquisition performance. This study extended previous research in the area of strategic management while attempting to test the impact of several factors on the long-term financial performance of acquiring firms including bidder's relative size, previous acquisition experience, organizational age, industry commonality, contested versus uncontested acquisitions, and percentage of stock acquired. Fuller, Netter, and Stegemoller (2002) examined the returns to shareholders of firms making five or more successful bids within three years between 1990-2000 to hold bidder characteristics constant while studying the effects of target and transaction characteristics. The empirical design of the studied sample allowed the scholars to focus on examining the returns to acquirers making bids for public, private, and subsidiary targets, using cash and stock, and seeing how the acquirers' returns vary accordingly. The study concludes that shareholders on average gain when their company acquires a private target and returns tend to be positively related to the target's size, regardless of whether the bidder uses stock or cash as the acquisition currency. In addition the study reports that acquisitions of public targets result in insignificant bidder returns using either cash or a combination of cash/stock but turns to be significantly negative in case bidders used stock.

Faccio, McConnell and Stolin (2005) examined returns achieved by firms acquiring public (listed) and private (unlisted) targets. This paper examined announcement period abnormal returns to acquirers of listed and unlisted targets in 17

countries in Western Europe over the interval 1996-2001. Acquirers of listed targets earned an insignificant average abnormal while acquirers of unlisted targets earned a significant average abnormal return, which was described by the authors as a "Listing Effect". This listing effect was shown by the authors to be consistent through time and across countries and is robust after controlling for the method of payment, acquirer's size, Tobin's Q, pre-announcement leakage of information about the transaction, resulting acquirer's ownership structure, and host of other variables.

A number of scholars conducted Meta-Analysis studies on M&A performance in the strategic management literature. A recent effort in this line of work is a Meta-Analysis study by King, Dalton, Daily, and Covin (2004). The authors analyzed earlier empirical research studying the performance of M&A transactions, the quest to extract synergy, and the likely impact of acquisition experience on the deal performance. The authors point out that at the outset that the observed enthusiasm among managers of bidding firms for M&A transactions might not be justified. Further, earlier studies did not consistently identify factors contributing to the post-acquisition performance of M&A deals. The authors point out that sources for synergy are still illusive in academic research. Acquiring related firms leads to increased post-acquisition performance, while diversifying transactions have contradictory effects on firm's performance. Despite many scholars buy into the theoretical argument that acquisition experience should enable managers to identify and extract values and better integrate companies after acquisitions, several research papers failed to support empirically such assertion of a relationship between acquisition experience and performance.

2.1.4 Currency/Mode of Mergers and Acquisitions

One of the other areas that attracted attention in this body of research is the mode of conducting acquisitions. A key study in this line of research is the work advanced by Faccio and Masulis (2005). This study examined the bidders' choice of payment method in European mergers and acquisitions and described a tradeoff taking place between the bidder's corporate control threats, which discouraged stock financing, and the bidder's financing constraints, which encourages stock financing. The authors point out that the bidder's choice between using cash or stock as currency for acquisition is implicitly a choice between debt and stock financing respectively. Accordingly, bidders resort to cash as the currency for acquisition when having a significant borrowing capacity and/or risk reduction of control over the firm post acquisition as a result of introducing new block shareholders.

2.2 Behavioral Finance and Prospect Theory

2.2.1 Behavioral Finance

The area of behavioral finance received increasing levels of attention over the past few years due to its potential to explain the increasingly documented anomalies in financial markets under the previous raining paradigm. Depending on key ground breaking research studies conducted during the last decade, behavioral finance overcame the taboo of market efficiency and commanded deep consideration by researchers and practitioners.

Shleifer & Summers (1990) proposed the idea that behavioral finance rests on two main building blocks, namely, Limits of arbitrage and psychology. Figure 1 sketches the behavioral finance literature based on this proposition and the widely agreed upon organization of recent surveys covering this area (Barberis & Thaler, 2003; Hirshleifer, 2001; Shleifer, 2000). The building blocks of research in the behavioral finance area are summarized in figure 1.

[Insert Figure 1 here]

The rational paradigm to financial economics has been the favored frame of analysis for financial economics for a long time. Most economic and financial research conducted up to early 90's assumed rational economic agents and consistent beliefs. This frame of analysis considered any unexplained phenomena as anomalies representing outliers to that frame. For quite some time, such anomalies were indeed considered outliers; however, this view was weekend by the increasing scholarly research documenting the regular occurrences of such anomalies.

Kahneman (2003) points out several groundbreaking studies documenting such anomalies. First, all traders in a stock market believed that their performance is above average (Odean, 1999). This negates the common finding that most traders fail to outperform the market portfolio through active investment strategy. Second, investors and traders in the stock market are often believed to be myopic and loss averse as found and applied by Benartzi & Thaler (1995). Third, Kahneman points out the other studies implying traders who are too quick to jump on conclusions, use quasi-hyperbolic preferences, or find problems in self-control.

Barberis & Thaler (2003) describe the general assumptions of the rational paradigm as well as the approach adopted by the behavioral finance literature to relax these assumptions. The two main assumptions of the traditional paradigm are investors' rationality and consistent (homogenous) beliefs. On one hand, Kahneman (2003) highlights that the rationality assumption implies that economic agents maximize their subjective expected utility involving Von Neumann-Morgenstern preferences and a Bayesian belief structure. In other words, economic agents have the objective to maximize their utilities through adjusting their prior beliefs correctly to new information (Bayesian updating) and making normatively correct decisions based on those updated beliefs. On the other hand, the second assumption is guaranteed if economic agents are expected to be homogenous in terms of their beliefs and their decision-making in addition to the information set at their disposal to make decisions. Under this paradigm, arbitrage forces help to control any temporary mispricing in financial markets.

Shleifer (2000) points to the proposed role to be played by rational arbitrageurs under the traditional paradigm to correct for any mispricing in financial markets. If irrational investors (noise traders) caused a mispricing to occur in in asset prices, rational arbitrageurs (arbitrageurs) would be able to pinpoint this mispricing opportunity and fashion an appropriate profitable risk less investment strategy to achieve profits which closes this mispricing. Despite that the rationale governing the role played by rational arbiteragures in closing down any mispricing seems attractive in theory, Shleifer highlights the existence of many obstacles to this arbitrage process that essentially limit its capacity to correct for mispricing caused by noise traders. Therefore, arbitrage is expected to fail to fully confront mispricing forces in the market.

Further, Barberis & Thaler (2003) point out that the competing paradigm challenged the traditional framework through invoking investor's irrationality as well as heterogeneity between economic agents and less than full information available to decision makers. This in essence implies heterogeneous beliefs and investors dissimilarity.

2.2.2 Prospect Theory

Kahneman and Tversky (1984) discussed the shortcomings of the expected utility theory in explaining economic behavior (decision making) of agents in the economy. They highlighted that the Expected Utility theory (Rationality) depends on two essential assumptions that are *Dominance* and *Invariance*. Dominance essentially means that a prospect "A" would be preferred to prospect "B" if they are similar in all respects but prospect "A" is better in at least one aspect while Invariance is defined as the assumption that economic agents understand the choice at hand in a similar way regardless of the approach in which it was described or "Framed". In other words, economic agents make the same decisions facing the same problems packaged in different ways. In their attempt to refute the Expected Utility theory explained above, Kahneman and Tversky contended that the Dominance and Invariance assumptions cannot be considered as a true representation of reality, further, new theories deviating from these principles in the future could account for some commonly observed anomalies in economic decision making. For example, the authors show that the decision made by a representative agent changes depending on whether a particular negative outcome is packaged (framed) as a cost or an uncompensated loss, which violates the invariance assumption. Choices made

by agents given different framing approaches are addressed in detail through the prospect theory.

Tversky and Kahneman (1986) articulated how the prospect theory accounts for violations to the *Dominance* and *Invariance* principles of the Expected Utility theory. Tversky and Kahneman do not challenge the normative value of the rationality decision-making process which prevailed earlier. While rational decision-making is an absolute ideal, they stress that violations are so frequent, profound, and persistent to be ignored. Therefore, the prospect theory does not attempt to approach the decision making process in a normative manner, but rather in a descriptive sense. Essentially, it focuses on how decision-making and choices are actually made rather than how they should be ideally made, which offers an approach to explain actual behavior by economic agents in various arenas. Tversky and Kahneman proposed through the prospect theory a value/utility function, convex over losses and concave over gains, which results in a shifting risk taking attitude depending on the current position relative to a reference point (gains/losses) which deviates from the dominance principle (some choices are rejected in some situations but accepted in others). In addition, a choice would have different utility to the decision maker depending on whether it is framed as a disadvantage or a reduction of a previous advantage (absolute loss vs. reduction in profit).

The prospect theory was first developed by Kahneman & Tversky (1979) to offer a parsimonious explanation to several anomalies that the Expected Utility theory failed to explain. The main thesis of this theory is that the carriers of utility are not total wealth and eventual consumption as proposed by earlier economic theories but rather fluctuations in financial wealth. An integrated concept in this theory is the concept of

Mental Accounting. Many papers offered detailed descriptions of the mental accounting concept including Thaler (1999), according to which Mental Accounting is generally defined as the tendency of economic agents (investors) to categorize their holdings and activities in separate accounts for the purpose of following up changes in a similar fashion as the accounting process in a firm.

Thaler pointed out that mental accounting necessarily includes three sub-concepts. First, how outcomes are perceived, experienced, and evaluated. Second, assigning certain functions to different accounts (example: consuming dividends and avoiding to liquidate stock holdings). Third, how often are these mental accounts reviewed (daily, weekly, monthly, and yearly). Kahneman and Tversky integrated this concept into the prospect theory in order to convey the idea that individuals place gains and losses in different mental accounts and assign them with different utility functions, evaluation perspective, and resulting risk taking attitude. The scholars developed this initial version of the prospect theory governing separate gambles and documented their observation that losses loom larger than gains in individual utility. Accordingly, they proposed a hypothetical S-shaped value/utility function shown in the figure 2.

[Insert Figure 2 here]

While utility was assumed to be a function of wealth because of its consumption value, the prospect theory points out that the amount of pain or regret that an individual feels as a result of a loss is larger than the amount of comfort or happiness resulting from gains of the same magnitude. This differential sensitivity to gains and loss affects the risk-taking attitude of investors in the following manner: individuals tend to take more

risk (risk seeking) after confronting losses and avoid risk (risk averse) after achieving gain.

The main building blocks of the prospect theory as manifested in the proposed S-shaped utility curve of economic agents include, first, *Loss Aversion* that reflects the idea that economic agents are more sensitive to losses than to gains. This shows up in the kink at the point of origin of the S-shaped utility function. Second, *Diminishing Utility or Curvature* refers to the concavity of the utility function over the territory of gains and convexity over the territory of losses. Third, *Non-linear Probability Weighting*, which reflects individuals' tendency to overweight prospects that are either certain or with very low probabilities relative to, prospects with moderate probabilities.

In an empirical setting, Fiegenbaum and Thomas (1988) tested the risk-return relationship implied by the prospect theory. The authors operationalized the definition of the reference point necessary in the prospect theory to measure gains and losses as the industry average return levels borrowing from the financial statements analysis literature. Using a data set of U.S companies from the COMPUSTAT database, they found a negative association between risk and return for companies below target return levels. In other words, companies with return levels below industry average exhibited a negative relationship between risk and return while returns above this average exhibited the expected positive relation between risk and return. They interpreted their results as offering empirical support to the predictions of Kahneman and Tversky (1979).

Tversky & Kahneman (1992) proposed a revised version of the prospect theory which they called the "Cumulative Prospect theory" to offer better description to series of gambles with higher uncertainties and with more than two prospects. This study extended

the earlier version of the prospect theory in terms of the risk taking attitudes of individuals facing sequence of gambles. Contrary to Kahneman and Tversky's (1979) thesis that gains invoke risk avoidance and losses invite risk seeking on part of individuals, the Cumulative prospect theory offers fourfold risk attitudes. In specific, individuals tend to be risk averse over gains and risk seeking over losses with high probabilities; however, they tend to be risk taking over gains and risk averse over losses with low probabilities.

Some studies looked at the application of the prospect theory's main thesis to risk less decision-making and choices. In another paper, Tversky and Kahneman utilized the concept of loss aversion in structuring reference-dependent indifference curves (Tversky & Kahneman, 1991). This effort shed light on the idea that changes in reference points created reversals in preferences which helped explaining anomalies observed based on violations to the invariance principle of the rational decision making approach.

Kahneman, Knetsch, & Thaler (1991) extended the arguments of the prospect theory in order to explain other commonly observed biases in economic transactions based upon the loss aversion concept. This study highlighted several biases affecting individual's behavior, namely, *The Endowment Effect* and *Status Quo Bias*. Building on the loss aversion idea, that the disutility of giving up an object is greater than the utility associated with acquiring it, the endowment effect reflect the discrepancy between the price that people endowed with an object will require for selling this object and the price they are willing to pay to replace it. Formally, willingness to pay is lower than the willingness to accept. In addition, given the higher sensitivity for loses, faced with uncertain situation, individuals prefer the current status rather than entering into a

transaction in which they might either acquire or sell the objects that they were endowed with. A number of papers applied the concept of disposition effect in the area of funds management and investment (Cici, 2010; Locke & Mann, 2000; Shefrin & Statman, 1985; Teo & O'Connell, 2003).

The agreement among scholars regarding the predictions of the prospect theory under risk-less choice is not universal. For example, List (2004) tested the predictions of the prospect theory against that of the neoclassical theory. A key element in this study was market place experience suggesting that the level of experience of consumers (decision makers) has a strong bearing on the degree to which they exhibit behavior conformable with the prospect theory predicted pattern of behavior. The study pointed out that on one hand subjects participating in the study and having high level of open market experience tend to behave in a manner parallel to that predicted by the neoclassical theory, in other words, they do not exhibit the *Endowment Effect* suggested by the prospect theory. Nevertheless, the prospect theory tends to capture the behavior of less experienced subjects. Moreover, as the learning opportunities become more abundant, individuals overcome the endowment effect bias.

2.2.3 Loss Aversion And Myopia

Perhaps the first influential study using the loss aversion concept conveyed by the prospect theory to explain asset prices behavior in capital markets is the study conducted by Benartzi and Thaler (1995), which attempted to explain the equity puzzle (i.e. the observation that equity returns are very high relative to government bonds). Two main explanations were suggested for this puzzle, specifically, the existence of excessive risk

aversion by investors or unrealistically high risk-free rate of return. The study integrated the loss aversion concept and the concept of narrow framing (high frequency of evaluating mental accounts) to introduce the concept of *Myopic Loss Aversion.* Using the myopic loss aversion concept, the scholars simulated such large equity premiums commonly observed in financial markets. The paper adopted the most common revision frequency, annual revision, depending on the idea that individuals go through many accounting cycles forcing them to adopt this revision frequency. In other words, individuals pay taxes annually forcing them to evaluate their wealth accounts. Incorporating this revision frequency in a mathematical formulation for the utility theory implied by the prospect theory through simulations enabled the authors to explain what had been know as the equity puzzle.

The authors followed up on their earlier study by putting their annual revision frequency assumption to the test in order to examine retirement planning decisions (Benartzi & Thaler, 1999). Through studying asset allocations and retirement planning, the results of the study suggested that longer revision periods (slower frequency) result in higher allocations to stocks. Accordingly, a yearly revision speed –Myopia– is a sound assumption that helps explain the high risk-aversion by investors and their shying away from stocks. The idea of myopia is widely agreed upon and used by researchers in studying the effects of loss aversion on different financial phenomena. Gneezy & Potters (1997) adopted an experimental analysis approach to test the notion that myopia increases risk aversion, in other words, higher frequency of evaluating investments increased investor's risk aversion and decreased the attractiveness of risky investments (stock).

Their study provides support to the *Myopic Loss Aversion* concept introduced by Benartzi and Thaler and the general idea that myopia increases risk aversion.

One point of caution is due regarding the concept of myopia. While the idea that increasing myopia reduces the attractiveness of risky choices is sensible and intuitive, some studies called the generalization of this concept into question (Langer & Weber, 2005). This study showed, through simulation, that higher myopia *does not generally* increase risk aversion. Langer and Weber shed light on the importance of conditioning this relation on the profile of the risky investment. Their results concluded that lotteries with small gains associated with high probabilities invite investors to become most risk taking if feedback is offered more frequently, in other words, the risky choice with such profile gets more attractive the more myopic investors become. These results do not negate the general thesis of the myopic loss aversion concept but rather warns that this relation is not universal.

An interesting question that emerged in the area of financial research after initial experimental evidence supporting the existence of the Myopic Loss Aversion (MLA) bias among non-professionals, student subjects to be specific, is whether the MLA bias can also be found in the case of professional traders. Haigh and List (2005) addressed this issue directly using experimental manipulation and comparing the behavior of professional traders recruited from the CBOT (Chicago Board Of Trade) against students. While the results seem to suggest that differences in behavior does in fact appear between professionals and non-professional, however, the results suggest that professional investors seem to exhibit a myopic loss averse behavior (MLA) to a greater extent than students. In other words, professional traders seemed to place larger and more aggressive

bets to recover losses relative to those offered by students. This study is one of the very few experimental studies appearing in *The Journal of Finance* indicating the qualitative importance of its results which suggest that similar biases are not expected to disappear with higher experience.

2.2.4 House Money Effect

Thaler, Tversky, Kahneman and Schwartz (1997) tested the two components of the *Myopic Loss Aversion* concept and supported the propositions of Benartzi and Thaler. Their experimental results indicated that subjects tended to be more risk averse the higher the feedback/evaluation frequency (faster evaluation/shorter evaluation period). In addition, facing gains which reduced the chance of potential future losses, subjects tend to be risk seeking. Similarly, Thaler and Johnson (1990) suggested the same tendency of risk seeking over gains territory. The scholars coined this behavior as the *"House Money Effect"* which draws an analogy between individual behavior and a gambler facing risky choice after achieving some profits. Through the mental accounting concept, the gambler isolate his wins into "House money" and therefore does not feel high pain as a result of deductions from that account. This psychological framing process induces a risk taking behavior by individuals in similar situations.

An important study by Barberis, Huang and Santos (2001), attempted to model the utility propositions offered by the prospect theory in the area of financial economics in light of the failure of the previous consumption based utility models to capture many of the regularities of financial assets behavior documented in earlier research. The study pointed out the following; first, earlier research aimed at understanding stock market

behavior (prices, returns, volatility, and predictability) was dominated by Consumption-Based Models approach which assumed utility to be a function of lifetime consumption and therefore total wealth is critical in deriving utility. Second, Consumption-Based models could not explain the attributes of empirical data including high average returns, high volatility, predictability over the cross section and time series, and low correlation between stock volatility and consumption volatility.

Barberis et al (2001) looked at how investors define their utility from the prospect theory perspective. Accordingly, investors derive utility from consumption and fluctuations in value of their financial wealth. In other words, gains and losses are additional carrier of utility along with consumption. Their approach captured two ideas. First, *Loss Aversion,* which means that investors are more sensitive to reductions than increases in wealth. Second, the non-constant nature of the degree of loss aversion experienced by economic agents through time. Rather, the degree of loss aversion was assumed to be conditional on prior outcomes (previous gains and losses). In other words, the degree of loss aversion varies according to prior investment performance (less loss averse after gains and vice versa). The authors simulated stock returns and price-dividend ratios utilizing the prospect theory generating high level of returns, high levels of volatility, significant predictability, low correlation with consumption growth, and low/stable risk-free interest rate as previously pointed out to be important empirical regularities of returns behavior. The authors adopted a novel utility function incorporating fluctuations in financial wealth (which is a function of current and reference prices in addition to previous/historical investment performance) in addition to the traditionally acceptable consumption based utility term. The intuitive prediction of

this specification is that if investors have accumulated prior gains providing a cushion against future losses, they tend to get aggressive in their investment behavior. Similarly, if investors were burned by earlier losses, they tend to be excessively sensitive/conservative. This prediction is parallel to the *"House Money Effect"* (Thaler & Johnson, 1990) and contrary to the initial predictions of the prospect theory (Kahneman & Tversky, 1979).

The difference between both predictions can be simply visualized in Figure (3). In graph (B), previous gains serve as a cushion against future losses and therefore reduce sensitivity to immediate losses, and vice versa in case of previous losses. Barberis et al. (2001) argued that this opposite prediction regarding risk attitude is not a failure to the prospect theory, but rather, is an evidence against the *Sequential Integration Hypothesis* assuming that investors integrate their prior performance history/memory and evaluate risky outcomes in isolation. The authors agree with the higher sensitivity of investors to losses than gains, but by disagreeing with the Sequential Integration Hypothesis, produce opposing risk attitude predictions.

[Insert Figure 3 here]

Other studies attempted to test empirically the reaction of investors to various definitions of loss and gains (Massa & Simonov, 2005). The authors collected a comprehensive data set including assets holdings, real estate investments, and tax accountings of representative investors in Stockholm stock exchange. The study concluded that their results about risk attitudes after gains and losses support either the

revised predictions of the prospect theory or standard utility theory but fail to support the initial predictions of the prospect theory.

Barberis and Huang (2001) examined the proposed model by Barberis et al. (2001) under two different mental accounting processes, namely, whether investors conduct mental accounting on the level of individuals stocks or portfolio holdings. The simulation results provided by Barberis and Huang employing narrow framing perspective, individual stocks, appear to be closer the empirical regularities of stock prices (high mean returns, excess volatility, predictability, and loss correlation to consumption). The authors utilized their results to expand the discussion about the impact of changing framing effects (mental accounting) on asset prices. Accordingly, if investors are forced to evaluate their holdings on portfolio levels, their expected degree of loss aversion is expected to fall because gains and losses are balanced to an extent in the portfolio. Another implication is that the degree of loss aversion exhibited by investors should be expected to change over time as a function of changing historical return performance over time. In a later review, Barberis and Huang (2008) stressed that modeling utility according to the prospect theory's carriers of utility was more successful compared to consumption-based models in equity returns in order to explain the equity premium puzzle.

2.2.5 The Prospect Theory in Investment Research

A sizable strand of research in the area of investment focuses on explaining commonly observed phenomena that is overreaction and underreaction of prices to news. In general, many studies utilized event study based methodologies in order to examine

the response of stock prices to firm news. The results reported by such studies shed light on the efficiency assumption of capital markets. A recent effort representing an interesting approach to the idea of underreaction from the prospect theory perspective is the study conducted by Frazzini (2006). Frazzini built upon the idea of disposition effect to offer an explanation for the underreaction anomaly. According to this study, since investors are disposed to sell winners too early, good news are not fully reflected in asset prices due to the selling pressure resulting after good events taking place. Therefore, the initial price response is below the full potential price response to news resulting in a post announcement drift in prices/returns. The explanation offered by Frazzini seems intuitive and offers a theoretical explanation to the anomaly of momentum profitability discovered by the seminal work of Jegadeesh and Titman (1993) (Buying past winners and selling past losers to construct a zero-cost portfolio results in significant abnormal holding returns).

Coval and Shumway (2005) offered an empirical support to Haigh and List (2005), using a dataset from the same source, namely, CBOT based traders. This study revealed how risk-taking attitudes, as manifested in trading behavior, reflect intra-day gains and losses. Simply putting it, the authors found that traders tend to be more aggressive and risk-seeking in the afternoon session to recover morning losses. These results corroborated the experimental findings of Haigh and List (2005) in terms that professional traders exhibit behavior in congruence with the myopic loss aversion concept. Coval and Shumway add an interesting remark that price pressures caused by such loss averse investors can be distinguished by the market and therefore prices tend to

reverse quickly. That is, price pressures of traders with morning gains tend to be more persistent than price pressures exercised by traders with morning losses.

2.2.5 Prospect Theory in Corporate Finance

The first attempt to utilize the prospect theory to explain managerial behavior in the area of corporate finance is the research presented by Ljungqvist and Wilhelm (2005). This study investigated the potential explanatory power of the prospect theory in driving managerial satisfaction from previous underwriting experiences that would impact their decision to hire the same underwriter for subsequent equity or debt issues. By introducing a proxy for managerial satisfaction based on the monetary gain to managerial portfolios driven by stock price changes subsequent to the initial public offering, the authors show that satisfied managers (achieved gains; trading price exceeded offer price) tend to stick with the same underwriters in future offerings. This observation is similar to the endowment effect in a sense that managers feel reluctant to give away their positive experience with an underwriter and therefore tend to prefer the status quo by hiring the same underwriter.

The dearth of empirical research applying the prospect theory to various areas of corporate finance decisions and in explaining managerial behavior creates a strong potential contribution for further research conducted in these areas. Among the corporate decisions that standout as a prime candidate to test these behavioral predictions of the prospect theory is the area of Mergers and Acquisitions, which is the focus of the current thesis.

CHAPTER 3

HYPOTHESES, DATA AND METHODOLOGY

3.1 HYPOTHESES

The Prospect theory suggests that decision makers tend to be more aggressive or risk taking after a loss (Kahneman & Tversky, 1979, 1984; Tversky & Kahneman, 1986, 1992). The Quasi-Hedonic Hypothesis suggests that decision makers will tend to be more aggressive (risk taking) after repeated gains (*House Money Effect*) but tend to be more risk averse after losses in order to avoid further pain. Nevertheless, decision makers tend to be more risk taking after losses if there is a chance for a breakeven (Barberis, et al., 2001; Thaler & Johnson, 1990). These two views are adopted to formulate competing hypotheses regarding the reaction of bidders experiencing various forms and proxies of loss in relation to choices and decisions made during their subsequent acquisitions. Should neither hypothesis be supported by the empirical tests conducted in this study, a conclusion can be drawn that changes in wealth (gains and losses) as carriers of utility with bearing on post gain/loss risk aversion as proposed by the prospect theory (as measured by the proxies suggested later) may not have an impact on corporate investment decisions.

3.1.1 Public Vs. Non-Public Target Choice

Capron and Shen (2007) studied the factors that influence bidder's decision to choose a public vs. non-public targets and subsequent performance. The study draws a

conclusion that bidders favor private targets in familiar industries and turn to public targets to enter new business domains or industries with a high level of intangible assets. One key difference between private and public firm acquisitions is the quantity and quality of information available on private vs. public targets. Information on public firms is more widely available to bidders, whereas managers of private firms typically have better control over the information they want to communicate. As such, the market for corporate control for public firms serves as an information-processing and asset valuation mechanism, which is available to all bidders, thus complements the acquirer's own information processing and asset valuation capabilities. From an information asymmetry perspective, private targets seems to pose additional risk for the bidder.

***$H1_{(A)}$**: After suffering a previous loss, serial bidders tend to become more aggressive and are more likely to acquire non-public targets.*

***$H1_{(B)}$**: After suffering a previous loss, serial bidders tend to become more risk-averse and are more likely to acquire public targets.*

3.1.2. Local Vs. Foreign Target Choice

Shimizu et al. (2004) conducted a survey study on the theoretical and empirical studies addressing cross-border M&A transactions. The study discusses the riskiness of acquiring foreign targets by summing up the challenges faced by bidders as suggested by earlier research. Accordingly, firms engaging in cross-border M&A face unique risks including the liability of foreignness, double-layered acculturation, and the added uncertainty and information asymmetry prevailing in unfamiliar markets, which hinders organizational learning. However, bidders can achieve benefits by entering markets with

lower competition and by obtaining better access to sources of supply or markets. It may be noted that serial bidders going abroad may seek to mitigate such risks through various strategies including joining forces with other local companies, entering countries with relatively similar competitive forces and market mechanisms, and/or pursuing markets with minimal local incumbents and limited foreign competition. These strategies may conceal/mitigate the inherent riskness of moving abroad and as such weaker explanatory power can be expected for prospect theory risk attitude provisions, however, the following two hypotheses are proposed for the purpose of empirical testing.

***$H2_{(A)}$**: After suffering a previous loss, serial bidders tend to become more aggressive and are more likely to acquire foreign targets.*

***$H2_{(B)}$**: After suffering a previous loss, serial bidders tend to become more risk-averse and are more likely to acquire local targets.*

3.1.3 Related Vs. Unrelated Target

Morck, Shleifer, and Vishny (1990) found that returns to bidders conducting diversifying mergers (acquiring non-related targets) are generally low. The authors point out that management of acquiring firms involved in diversifying takeover transaction are penalized by the market because they are considered investing in an industry in which their managerial capabilities and knowledge is not useful. The authors conclude that managerial objectives may drive acquisitions that reduce bidding firms' values. The lower level of managerial familiarity with unrelated industries poses additional risks to bidders and as such management or often penalized by the market for such steps.

Therefore the apparent higher risk of investing in unrelated industries is the underlying motivation for the following hypotheses.

***$H3_{(A)}$**: After suffering a previous loss, serial bidders tend to become more aggressive and are more likely to acquire targets in unrelated industries.*

***$H3_{(B)}$**: After suffering a previous loss, serial bidders tend to become more risk-averse and are more likely to acquire targets in related industries.*

3.1.4 Premiums and Overpayment

Following the propositions offered by the prospect theory, more aggressive or risk taking managers are expected to overpay for their targets in order to close the deal and avoid a loss. This interpretation developed in line with the prospect theory can compete with rival theoretical hypotheses attempting to explain premiums paid by bidders including hubris/overconfidence, overvaluation, and agency theories.

***$H4_{(A)}$**: After suffering a previous loss, serial bidders tend to become more aggressive and are more likely to overpay for their potential targets while controlling for other factors.*

***$H4_{(B)}$**: After suffering a previous loss, serial bidders tend to become more risk-averse and are less likely to overpay for their potential targets while controlling for other factors.*

3.2 SAMPLE AND DATA

3.2.1 Sample

M&A transactions sample was obtained from the Thomson Reuter's SDC database of U.S publically traded bidders making two (2) or more acquisitions during the

sample period. The sample includes 16,582 completed and uncompleted M&A attempts/transactions conducted by 3,512 bidders over the 1990-2005 period covering all 48 Fama-French industrial classification (including regulated banking and utilities sectors). The results for various subsamples are reported in the empirical findings for the whole sample, a subsample that excludes regulated sectors (i.e. banks and utilities), bidders without uncompleted deals, bidders with uncompleted deals, in addition to various sub samples to check for robustness. Bidders' daily stock returns were obtained from the CRSP database while bidders and targets financial details were obtained from the COMPUSTAT database. Detailed information regarding management teams of bidders in the sample including managerial stock holdings, option holdings and annual compensation data were obtained from the ExecComp database. In addition, industry classifications and factor returns during the sample period were obtained from the online data library of Prof. Kenneth R. French.

Target firms in the sample include public and non-public targets as well as U.S based and foreign targets. If a target is involved in an uncompleted deal, there is a chance that this target will later be acquired either by the same bidder or by a totally different firm. 385 firms in the sample were involved at least once in an acquisition transaction after being involved in an earlier uncompleted M&A deal. The total number of transactions completed by bidders are 15,713 transactions (94%) of the total sample. Out of the 3,512 bidders included in the sample, 697 bidders were involved in 1 or more uncompleted acquisition transaction. The ratio of uncompleted deals to total deals attempted by the latter subgroup of bidders is 20%.

[Insert Table 1 here]

Panels B and C in table 1 shows the distribution of the sample transactions over the time period covered (1990 – 2005) and across Fama-French 48 industries classification. It can be noted that 43.65% of all transactions in the sample take place during the 1996 – 1999 period. Sampled transactions exhibit some degree of industrial clustering, specifically, the business services, banking, and financial trading sectors represent 17.9%, 9.9%, and 8.7% of total sample size respectively. In order to address this temporal and cross sectional clustering, separate regressions are reported for sub-periods in the sample and incorporating industry medians data to test the robustness of the reported results.

3.2.2. Measuring Previous Losses

I adopted five different definitions of the loss suffered by bidding firms and their management teams in previous transactions/periods.

1- *Market Reaction/Feedback*: this is the market reaction to the announcement of previous attempts/transactions announced by the bidders. The market reaction is calculated as the standardized Cumulative Abnormal Returns (CAR) computed around the announcement date(s) of previous attempts/transactions. I computed raw and standardized CARs using various windows surrounding the announcement and finalization dates using equally and value weighted portfolios. The results provided in the empirical results tables employ the standardized CARs using equally-weighted portfolios and using (-5,+5) estimation window around announcement dates. The CARs for the previous 3 transactions by a certain bidder are denoted PCAR_1, PCAR_2 and PCAR_3 respectively. A negative PCAR suggests that the market

penalized management for bad acquisition choice/decision made and therefore may possibly be coded as a loss from the bidder's perspective.

2- *Relative Industry Performance*: The bidder's industry adjusted stock return during the fiscal year preceding an M&A transaction. A company might have positive annual return during the preceding year, however, comparing a company's performance to its peers can reflect management's focus on their peers and industry rivals. As such, a negative industry relative return, despite a positive over absolute return, may be code as a loss or poor performance by bidders. The relative industry-adjusted stock return of each bidder is calculated using the value weighted returns of Fama-French 48 industry classification over the fiscal year preceding a merger attempt/transaction. The use of a fiscal year was adopted in line with the revision frequency suggested by the myopic loss aversion concept discussed earlier.

3- *M&A Success History*: a number of binary/Dummy variables taking the value 1 if the bidder failed to complete the previous acquisition attempt(s) are introduced to the regression models reflecting the lost time, organizational resources, and ego (pain) resulting from the inability to close a deal. Therefore, if a bidder announced an M&A transaction but couldn't close it and the transaction was eventually abandoned, this would be used as proxy for pain/loss experienced by the bidder's management team.

4- *Change in Management Compensation:* a number of variables are introduced to model the annual change in compensation of the bidder's management team. I include the top 5 company executives as part of the management team. Results are produced initially using a measure of total compensation change experienced jointly by the top management team of the bidder (the change in the compensation of the top 5

members of the management/executive team) in the year preceding an acquisition transaction. Later in the empirical results chapter, this measure in dissected further into 4 compensation change proxies including (i) *Percentage change in cash compensation of top executive*, (ii) *Percentage change in the non-cash compensation of the top executive*, (iii) *Percentage change in the cash compensation of the top management team (excluding top executive)* and (iv) *the Percentage change in non-cash compensation of the top management team (excluding top executive).*

5- *Change in Bidder's Bottom-line Performance:* the change of the company's operating performance during the preceding fiscal year to the merger attempt/transaction. This is measured as the change in bidder's net income before extraordinary items (NIBEX) over two consecutive years during the fiscal year preceding the acquisition attempt/transaction.

It is important to note that *Market Reaction/Feedback* proxies do not involve a clear reference point to the management team involved in making critical M&A decisions for their companies. The *Relative Industry Performance* proxies involve a sense of comparison of the bidder's own performance to peers, as such the reference point is cross sectional, as applied by Morck et al (1990), rather than temporally defined as implied by the theoretical framework of the prospect theory. Relative performance can provide insights into management behavior to the extent that management teams have a sense of competitiveness with rival management teams of firms in their same industry. However, the reference point is not as clear and may vary from one manager to another depending on which companies he or she perceives to be direct benchmarks and rivals as opposed to Fama French classification which is used to define rival bidders.

The M&A Success history of the bidder signifies the ability and willingness of the management to close previous transactions. Given the broken deal costs and ego issues suffered by managers walking away from acquisition attempts post announcement, an uncompleted deal may be perceived as a loss by management. *The Managerial Compensation* proxies provide a clearer definition of the personal gain/loss experienced by management. The reference point is also temporally defined and adopts the preferred annual framing and revision frequency (compensation changes are often decided annually upon reviewing various firm's results and industry wide factors by the board of directors and shareholders). *The Change in Company Performance* proxy provides a measure of temporal change in company's bottom line performance (net income before extraordinary items).

3.2.3 Data Definitions

Dependent Variables:

1- *Public*: is a dummy variable taking the value of (1) in case of publicly traded target and (0) if otherwise.

2- *Local_Target*: is a dummy variable taking the value of (1) in case of a U.S based target and (0) otherwise.

3- *Related_Target*: is a dummy variable taking the value of (1) in case the bidder and targets operate in related industries and (0) if otherwise.

4- *Premium*: Ratio of the offer price to a pre-deal value proxy of the target (Offer Price / Pre-announcement target value). Four (4) proxies are reported in the empirical results chapter including (i) offer price divided by the target's stock price prevailing 1-day

prior to the announcement, (ii) offer price divided by the target's stock price prevailing 1-week prior to the announcement, (iii) offer price divided by the target's stock price prevailing 4-weeks prior to the announcement date, and (iv) offer value dividend by the total assets value of the target.

5- *Relative Size*: the relative size measure is calculated as the *Implied Market Value* of the target dividend by the market capitalization of the bidder. The implied target value is calculated as the deal value divided by the percentage shareholding sought by the bidder. This proxy is used given that 80.8% of targets in the sample are private and as such direct market values are not observable.

6- *Period-to-Close*: this is the number of calendar days between the announcement and completion/withdrawal date of a single deal.

7- *Intra-Deals Period*: this is the number of calendar days between the announcement date of the current deal and the completion/withdrawal date of the previous deal by the same bidder. Another definition of this variable is the number of calendar days between the announcement dates of the current and previous deals by the same bidder (the empirical results chapter reports results using the first definition of this variable).

Loss Proxy Variables:

8- Market Reaction/Feedback (*PCAR_1*, *PCAR_2* and *PCAR_3*): these are the first, second and third deal lagged equally weighted standardized cumulative abnormal returns experienced by the bidder during (-5,+5) time window surrounding the announcement dates of the previous acquisition attempts (i.e. PCAR_1 is the standardized cumulative abnormal returns of the bidder surrounding the

announcement date of the previous acquisition attempt and PCAR_3 refers to the standardized cumulative returns surrounding the announcement date of the 3rd lag deal attempt by the same bidder). The cumulative abnormal returns (CARs) were estimated using the single factor market model for each firm in the sample using 252 daily returns starting 10 days prior to respective acquisition announcement date. The CRSP-value weight and equally weighted indices were used as market indices in the market model estimation. Accordingly, the abnormal returns for each firm-event combination were estimated the as the prediction error of the single factor market model. CARs were estimated by accumulating daily abnormal returns over the event windows (-10,0), (-5,+5), and (-2,+2) around the announcement date (event date).

9- Industry Relative Performance ($Ret - R_{VW\text{-}IND}$): this is the industry adjusted return of the bidder's stock during the 1-year period before the acquisition attempt/transaction. Industry returns are calculated using a value-weighted approach. I adopted Fama-French's 48 industrial classifications to classify bidders into different industries and computing industry-level value weighted returns.

10- M&A Success History ($Loss\_Reaction_1$, $Loss\_Reaction_2$, and $Loss\_Reaction_3$): $Loss\_Reaction_1$ is a dummy variable that takes a value of (1) if the previous acquisition attempt/transaction (first lag) by the bidder was uncompleted and (0) if otherwise. $Loss\_Reaction_2$ is a dummy variable that takes a value of (1) if the second lagged attempt/transaction was uncompleted by the bidder and (0) if otherwise. $Loss\_Reaction_3$ is a dummy variable that takes a value of (1) if the third lagged attempt/transaction was uncompleted by the bidder and (0) if otherwise.

11- Change in Management Compensation (*CHG-Total Mgt Compensation*, CHG-Top Exec. Comp., *CHG-Cash Comp. of Top Executive*, *CHG-Non-Cash Comp. of Top Executive*, *CHG-Cash Comp. of Mgt Team*, and *CHG-Non-Cash Comp. of Mgt Team)*: These variables are estimated using data obtained from the ExecuComp database and they capture the annual change in management compensation reported in the fiscal year preceding the acquisition transaction. The "Change in total management compensation" variable measures the change in both cash and non-cash compensation combined for the top 5 executives while the CHG-Top Exec. Comp. estimates the annual change in the cash and non-cash compensation of the top executive in the company. CHG-Cash Comp. of Top Executive and CHG-Non-Cash Comp. of Top Executive capture cash and non-cash changes in the compensation package of the lead executive and the two remaining variables capture the cash and non-cash compensation changes combined for the second-to-fifth highest ranking executives in the company. The cash compensation refers primarily to salary and bonus paid to management in addition to other cash payments including severance payments, debt forgiveness, payouts for cancellation of stock options, 401K contributions, signing bonuses...etc. Non-cash compensation include stock and options awards and other non-cash perks and benefits.

Control Variables:

12- Ret (Price Run-up): is the 1-year run-up or price appreciation in the bidder's stock prior to the transaction.

13- Mkt-Cap: is the log of the bidder's market capitalization at the end of the fiscal year preceding the acquisition attempt/transaction (End of year price * Shares outstanding at year-end).

14- MB (Tobin's Q): is the market-to-book value calculated as the market value of equity plus the book value of debt divided by the book value of equity plus book value of debt [(MV of Equity + BV of Debt) / (BV of Equity + BV of Debt)] at the end of the fiscal year preceding the acquisition attempt/transaction.

15- Leverage: this is the total liabilities to assets ratio at the end of the fiscal year preceding a transaction.

16- FCF: Free-Cash-Flow, operating cash flow by the firm at the end of the fiscal year preceding to the transaction net of all capital expense requirements.

17- Intangibles/Assets: the ratio of intangible assets divided by total assets of the company at the end of the preceding fiscal year.

18- NIBEX: is the net income before extra ordinary items of the bidder at the end of the preceding fiscal year to the transaction.

19- Relative size: similar to the definition stated in point 5 above.

20- Insider Ownership: this is the ratio of all vested shares owned and by the top five executives in the company to outstanding shares at the end of the preceding fiscal year to the transaction.

21- Cash Compensation Ratio: this variable captures the compensation structure of the bidder's management team. It is calculated as the ratio of cash-to-total compensation received by the management team.

[Insert Table 2 here]

[Insert Table 3 here]

Summary statistics and Pearson correlations for the main data set variables are summarized in tables 2 and 3. In table 2, the summary statistics are reported for the whole sample as well as a sub-sample which excluded banks and utilities. The median premium paid by bidders in acquisition attempts/transactions in the full sample and the sub-sample excluding banks and utilities is 26.9% and 27.3% respectively. Similarly, median market capitalization of firms in the two samples is 407.9 and 381.3 million respectively. Raw returns (price run-up) of bidders during the fiscal year preceding the acquisition attempt/transaction were on average 22.9% and 22.5% over the two samples while industry adjusted returns were 4.1% and 4.5%. Median leverage, intangible assets ratio, relative size and insider ownership were almost identical across both samples around 20%, 6.5%, 8.7%, and 0.7% respectively. The mean (median) deal values for the full sample were $ 275.1 million ($27.3 million) while for the sub-sample excluding banks and utilities deal values were on average $ 255 million ($ 25.3 million) respectively.

The majority of targets in the sample are non-public (80.3% and 83.3% in the full sample and sub-sample excluding banks and utilities respectively) , local (87.3% and 85.8% in the full sample and sub sample excluding banks and utilities respectively), and operating in unrelated industries to the bidder (89.5% and 89.7% in the full sample and sub sample excluding banks and utilities respectively).

3.3 METHODOLOGY: REGRESSION MODELS

3.3.1 Testing Target Choice Variables:

I estimated various maximum likelihood probit regression models with various specifications to gauge the impact of various loss/performance proxies on the choices made by bidders regarding prospective targets, namely, whether targets are Public/Non-Public, Local/Foreign, and operated in Related/Unrelated industries (i.e. diversifying acquisitions). The basic model estimated is as follows:

$$\text{Target Choices} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Perfor.} + \beta_4 \Delta \textit{Mgt Compensation} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \varepsilon \quad (1)$$

Given that some of these choice variables may be interlinked and therefore inferences regarding bidders reaction to previous losses may be unclear if bidders make opposing target choices from a risk perspective. For example, if a bidder react to previous losses by selecting a public target in un-related industry, then it would be difficult to infer whether this represents a risk seeking or risk avoiding behavior as compared to a bidder selecting a private target in a related industry. As such, I created several sub-samples to test target choice variables while controlling for other target choices/decisions. For example, model 1 is regressed to explain the bidder's choice of public versus non-public targets where all targets in this subsample are local targets in related industries to that of the bidder. The results of these regressions are reported for 8 subsamples reflecting the various possible target choice combinations.

It is important to note that various bidder specific variables are significantly correlated which may bias estimates and standard errors necessary to draw statistical inferences to test the formulated hypotheses. Therefore, I estimated another version of the previous model following Masulis et al (2007) by substituting industry median variables using Fama-French 48 industrial classification for bidder specific variables with strong correlations. This version of the model is estimated using probit maximum likelihood regressions as follows:

Target Choices = $\alpha + \beta_1$ *Market Feedback* + β_2 *M&A Success History* + β_3*Relative Industry Performance* + β_4 *Δ Mgt Compensation* + β_5 *Δ Bidder Performance* + β_6*FF-Industry Median Bidder Characteristics* + β_7*Other Firm Level Controls* + ε (2)

3.3.2 Testing Relative Size, Closing Time, and Intra-deal Period variables

I ran a number of simple OLS regressions of a similar to model 1 where the dependent variable is substituted by target-to-bidder Relative size, close period of the deal, and the time period elapsing between consecutive deals. The following are the models estimated:

Relative Size = $\alpha + \beta_1$ *Market Feedback* + β_2 *M&A Success History* + β_3*Relative Industry Performance* + β_4 *Δ Mgt Comp.* + β_5 *Δ Bidder Performance* + β_6*Firm Level Controls* + ε (3)

Period Close/Intra-Deal Period = $\alpha + \beta_1$ *Market Feedback* + β_2 *M&A Success History* + β_3*Relative Industry Performance* + β_4 *Δ Mgt Comp.* + β_5 *Δ Bidder Performance* + β_6*Firm Level Controls* + ε (4)

3.3.3 Testing Premiums paid by bidders:

Initially, simple OLS regressions are estimated to explain premiums paid by bidders similar to model 1 as shown in model 5-1. In addition, model 5-2 represents an OLS regression model estimated for premiums paid by bidders including Fama-French industry medians data in a similar fashion to model 2 discussed above.

$$\text{Premium} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{Mgt Comp.} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \varepsilon \quad (5\text{-}1)$$

$$\text{Premium} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{Mgt Compensation} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{FF-Industry Median Bidder Characteristics} + \beta_7 \textit{Other Firm Level Controls} + \varepsilon \quad (5\text{-}2)$$

Given that target choice variables have often been used in literature to partially explain premiums paid, their introduction into the premium regressions is warranted (for example, premiums paid for public targets are expected to be significantly different from those of non-public targets). However, introducing these variables into the regression along with various loss proxies will cause an endogeneity problem. Shaver (1998) built upon earlier work done by Heckman (1979) to propose a 2-stage Probit-OLS model with endogeneity correction. I follow Shaver's solution by initially running simple maximum likelihood probit regressions for the Target Choice Variables (Public, Related, and Local) similar to model 1 and compute the inverse-mill's ratio (defined as the ratio of probability density function to the cumulative distribution function). The inverse-mill's ratio

estimation when a target choice variable takes value of 1 and 0 in the maximum likelihood probit regression is as follows:

$$\lambda = \frac{\phi(\gamma' w)}{\Phi(\gamma' w)} \text{ if target dummy=1, and } \lambda = \frac{-\phi(\gamma' w)}{[1-\Phi(\gamma' w)]} \text{ if target dummy=0.} \quad (6)$$

Accordingly, premium OLS models are ran including target choice variables along with the respective endogeneity correction term (lambda). The following three models estimate premiums controlling for the various target choice variables.

$$\text{Premium} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{Mgt Comp.} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \beta_7 \textit{Public Target} + \beta_8 \lambda_{\text{Public Target}} + \varepsilon \quad (6\text{-}1)$$

$$\text{Premium} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{Mgt Comp.} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \beta_7 \textit{Local Target} + \beta_8 \lambda_{\text{Local Target}} + \varepsilon \quad (6\text{-}2)$$

$$\text{Premium} = \alpha + \beta_1 \textit{Market Feedback} + \beta_2 \textit{M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{Mgt Comp.} + \beta_5 \Delta \textit{Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \beta_7 \textit{Related Target} + \beta_8 \lambda_{\text{Related Target}} + \varepsilon \quad (6\text{-}3)$$

Similarly, target-to-bidder relative size has often been reported in literature to partially explain premiums paid. As such, I estimated a 2-stage least squares model (2SLS) which adopted an IV approach to explain premiums incorporating relative size and accounting for potential endogeneity issues with target choice variables as show in model 7.

$$\text{Premium} = \alpha + \beta_1 \textit{ Market Feedback} + \beta_2 \textit{ M\&A Success History} + \beta_3 \textit{Relative Industry Performance} + \beta_4 \Delta \textit{ Mgt Comp.} + \beta_5 \Delta \textit{ Bidder Performance} + \beta_6 \textit{Firm Level Controls} + \beta_7 \textit{ Relative Size} + \varepsilon \quad (7)$$

Given the potential impact of changes in management compensation, another model using only changes in management variables is estimated to explain premiums paid by bidders. Two versions of this model are estimated including a firm level data version and Fama-French industry medians data version similar to models 5-1 and 5-2. The estimated models are as follows:

$$\text{Premium} = \alpha + \beta_1 \Delta \textit{ Cash Comp. of Top Exec.} + \beta_2 \Delta \textit{ Non-cash Comp. of Top Exec.} + \beta_3 \Delta \textit{Cash Comp. of Other Mgt} + \beta_4 \Delta \textit{ Non-cash Comp. of Other Mgt} + \beta_5 \textit{Firm Level Controls} + \varepsilon \quad (8\text{-}1)$$

$$\text{Premium} = \alpha + \beta_1 \Delta \textit{ Cash Comp. of Top Exec.} + \beta_2 \Delta \textit{ Non-cash Comp. of Top Exec.} + \beta_3 \Delta \textit{Cash Comp. of Other Mgt} + \beta_4 \Delta \textit{ Non-cash Comp. of Other Mgt} + \beta_5 \textit{FF-Industry Median Bidder Characteristics} + \beta_6 \textit{Firm Level Controls} + \varepsilon \quad (8\text{-}2)$$

3.3.4 Robustness Checks:

Several models are estimated to explain various M&A variables under study over various sub-samples. I employed several proxies for key variables including premiums paid by bidders and management compensation. In addition, further robustness regressions were ran for subsamples resulting from sorting the data by key variables to check for managerial entrenchment (ownership), sample sub-periods, and managerial overconfidence (3 approached were employed).

CHAPTER 4

EMPIRICAL RESULTS AND DISCUSSION

4.1 TARGET CHOICES AND ACQUISITION BEHAVIOR

Table (4) summarizes the results of the maximum likelihood probit regressions to explain the bidder's choice of public/non-public targets. Panels A, B and C report various specifications of model 1 over 4 subsamples including (i) the full sample, (ii) subsample excluding banks and utilities (iii) bidders without uncompleted deals and (iv) bidders with uncompleted deals. It should be pointed out that bidders are classified into subsample (iii) if they have not experienced an uncompleted deal previously and otherwise bidders are classified in sample (iv). As such, M&A Success History variables are not reported to subsample (iii).

[Insert table 4 here]

In panel A, bidders generally have a negative significant relationship between choosing a public target and the lagged standardized Cumulative Abnormal Returns (CARs) of previous attempts/transactions, namely, the first and third lags. This negative relationship is significant at 1% confidence level across various subsamples. This suggests that negative market reactions surrounding the announcement dates of earlier acquisition attempts/transactions increase the likelihood of bidders choosing public targets in later acquisition attempts. A similar result is observed by looking at the results of the M&A Success history variables ($Loss\_Reaction_1$, $Loss\_Reaction_2$, and

Loss_Reaction$_3$). The positive significant estimates of the three lags for the full sample and the subsample excluding banks and utilities suggest that bidders with an earlier uncompleted/failed acquisition attempt tend to choose public targets in following bids. An opposite result is provided by the relative bidder to industry performance (Ret - R_{VW-IND}). However, the magnitude of this relationship is smaller compared to the other loss proxies. It can be noted that CHG-NIBEX variable is insignificant. Panel B substitutes the Change in top executive compensation (CHG-Top Exec. Comp.) for change in bidder's NIBEX, however, has insignificant relationship with the Public dependent variable while lagged market reaction variables and M&A success history variables have a similar result as reported in Panel A.

Panel C introduces additional control variables into the probit specification, namely, the ratio of cash compensation to total compensation received by bidder's management as well as level of insider ownership. The relationship between market reaction variables and M&A success history variables is generally similar to that reported in Panel A, albeit with lower level of significance. In addition, all loss proxies seem to loss their significance in the subsample (iv).

Table (5) summarizes the results of the maximum likelihood probit regressions to explain the bidder's choice of related/unrelated targets. Panels A, B and C report various specifications of model 1 over 4 subsamples similar to those reported in table (4) including (i) the full sample, (ii) subsample excluding banks and utilities (iii) bidders without uncompleted deals and (iv) bidders with uncompleted deals.

[Insert table 6 here]

In panel A, the 2nd and 3rd estimates of the market reaction lagged CARs are significantly positively related with the dependent dummy variable which takes the value of 1 if the target operates in a related industry to that of the bidder (the 3rd lag is marginally significant at 15% confidence level with a chi-square value of 2.123). This observation persists over the subsamples which exclude banks and utilities as well as in which bidders experienced earlier uncompleted acquisition attempts (the estimates are also of higher absolute value and enjoy higher level of significance). The direction of the estimates suggests that losses, in terms of a negative market reaction, increase the likelihood of choosing an unrelated target. The estimates of the M&A Success history lagged dummies are positive and strongly significant with the target's related dummy variable over the whole sample and the subsample excluding banks and utilities. The estimates of the three loss reaction variables are 0.256, 0.235 and 0.221 respectively (the first two lags are significant at 1% and the third lag is significant at 5%) and therefore have the largest impact or target's choice related to all other variables in the model except for the leverage level of the bidder. This suggests that experiencing a previous uncompleted deal increases the likelihood that the bidder may choose a target in a related industry. An interesting observation is that these lags lose their significance in the subsample including bidders with previous uncompleted deals which may suggest that bidders who experienced previous uncompleted deals are less sensitive to such incidents compared to bidders without any uncompleted bids.

The relative firm-industry performance ($Ret - R_{VW\text{-}IND}$) is positively related with the related target dummy suggesting a similar inference noted earlier in relation to market

reaction lagged CARs. However, M&A success history are stronger in terms of magnitude compared to the lagged CARs and relative firm-industry performance.

Panel B reports the results of another specification by substituting change in management compensation proxy for CHG-NIBEX variable. The change in management compensation is significantly positively related to the related target dummy only at 10% in the subsample including bidders with previously uncompleted acquisition attempts/transactions. This result suggests that cuts in managerial compensation increases the likelihood for bidders choosing unrelated targets. The same observation made earlier can be pointed again, the M&A Success history has a larger impact than other loss proxies included in the regression. It is also interesting to note that leverage has a sizable significantly positive relation with this choice variable suggesting that bidders with higher level of debt are more likely to choose related targets. This appears to be in line with Jensen (1986) assertion that debt limits the freedom of managers in using free cash flow of the firm to pursue sub-optimal projects and thus reduce agency issues. In panel C, the results of an expanded specification of the model are reported including all loss proxies and control variables. While the lagged market reaction CARs lose significance, the earlier observations made in panel B regarding the M&A history success and change in management compensation persist. Overall, the regressions reported in table 5 show that market reaction lagged CARs and management compensation change suggest that losses (negative changes) increase the likelihood of bidders picking unrelated targets, however, the M&A success history dummies have opposite and more sizable interpretation. This suggests that corporate failure events such as inability to close an acquisition deal have a strong effect on following choices, albeit, infrequent. In the

absence of such events, other proxies of loss seems to increase the likelihood of choosing unrelated targets.

Table (6) summarizes the results of the maximum likelihood probit regressions to explain the bidder's choice of local/foreign targets. Panels A, B and C report various specifications of model 1 over 4 subsamples similar to those reported in tables (4 & 5) including (i) the full sample, (ii) subsample excluding banks and utilities (iii) bidders without uncompleted deals and (iv) bidders with uncompleted deals.

[Insert table 6 here]

Unlike tables 4 & 5, table 6 reports weaker representation of the relationship between the various loss proxies and the local/foreign target dummy variable. In panel A, only the 3rd lagged M&A Success history is significant negatively related to the dependent variable over all subsamples with all other proxies appearing to be insignificant. In panels B & C the 2nd lagged market reaction CAR estimate is significantly negative in the whole sample at 5% and in the subsample including bidders without uncompleted deals at 10% while other proxies, including M&A success history lags, are insignificant. This suggests that experiencing losses in terms of negative market reaction as measure by lagged CARs may increase the likelihood of bidders to pick local targets in following attempts.

Table (7) summarizes the results of the maximum likelihood probit regressions to explain the bidder's choice of Public/Non-Public and Related/Unrelated targets over 8 subsamples representing all sub-sampling possibilities of the full sample by three factors; targets being foreign/local, related/unrelated & public/private (2 x 2 x 2). For the purpose

of further discussion, it seems logical that bidders will not make all decisions regarding the target's nature concurrently and as such some decisions may precede others. In other words, bidders have to make earlier decisions regarding the strategic direction of the company in terms of venturing into a new industry or pursuing a foreign expansion. Therefore, it is likely that choosing a public/private target would follow deciding on related/unrelated and local/foreign target choices. As such, I shall focus on sub-samples 1, 2, 5, and 6.

[Insert table 7 here]

Looking at the M&A success history variables we can observe that various lags have positive significant coefficients in sub-samples 1, 2 and 5 suggesting that previous uncompleted acquisition attempts increase the likelihood of the bidder picking a public target in subsequent attempts in case of local targets, whether related or unrelated, and foreign related targets. Market reaction lagged CARs are only positively significant in subsample 5 at 1% and change in managerial compensation has a positive significant coefficient in subsamples 1 and 6. This suggests that managers experiencing losses in terms of negative market reactions (CARs) in previous deals or compensation cuts are likely to pick private targets regardless of the target being local/foreign and operating in a related/unrelated industry. Similar to the observation made previously, managers seem to respond differently to financial loss in terms of market reaction and compensation change versus a corporate event such as failing to complete previous bids. Corporate events tend to induce a safe betting tendency in picking public and related targets while market reaction and compensation change induce a risk taking behavior.

Other observations that are worth noting include that Tobin's Q – which may be assumed to signify growth opportunities (Lang, Ofek, & Stulz, 1996) or mispricing (Dong, et al., 2006; Harford, 2005; Shleifer & Vishny, 2003) – bidder's price run-up, compensation structure and insider's ownership seem to have little impact on any of key categorical choices that bidders make regarding their prospective targets. However, leverage and intangibles have significant and consistent impact on the bidder's choices of related/unrelated and public/private targets in the local targets subsample. This again supports the agency theory's assertions regarding managerial behavior in corporate takeovers in a local acquisition setting as well as the decision to pursue international expansion, however, have no impact on further decisions regarding the target's nature once the bidder decided to move abroad.

Table 8 reports regressions including loss proxies proposed in this study and finds a significant impact on relative size of target to bidder and a similar pattern is observed to bidder's behavior in previous tables.

[Insert table 8 here]

The lagged market reaction variables are significantly positively related to target size suggesting a loss in terms of negative market reaction will have a negative effect on the relative size of the target. The M&A success history is significantly positively related to the relative size variable (with larger magnitude) suggesting that the bidders experiencing uncompleted lagged attempts tend to go for higher relative size targets in consecutive bids. Given the significant results reported in table 8, premium regressions

reported in following tables will account for the relationship between the adopted loss proxies and relative size.

Table 9 reports OLS regressions investigating the impact of proposed loss proxies and control variables on the time taken by bidders to close a deal and to move from one deal to another. The results are reported using 2 model specifications over 4 samples including (i) the full sample, (ii) subsample excluding banks and utilities (iii) bidders without uncompleted deals and (iv) bidders with uncompleted deals.

[Insert table 9 here]

In terms of time taken by bidders to close a deal, the M&A success history lags and relative bidder-to-industry stock return seem to be significantly positively related to the time variable. This suggests that in the absence of a previously uncompleted deals, a loss in terms of poor performance relative to company's industry peers may induce the bidder to close deals faster. However, if the bidder experienced previously an uncompleted/failed deal, this significantly increase the time taken by the bidder to close deal. Other interesting results include that higher leverage levels and market capitalization of the bidder are associated with longer periods to close a deal. This may suggest that higher leverage levels impose constraints on bidders and force them to consider further deal implications.

In regards to the time period between two consecutive deals, a similar outcome is observed by the loss proxies, previous uncompleted deals or managerial compensation cuts increase the time period taken by bidders to embark on the following bid while

negative market reaction lagged CARs and relative bidder-industry performance induces bidders to embark on the following acquisition attempts in a quicker fashion.

4.2 PREMIUMS PAID BY BIDDERS FOR TARGETS

Table 10 reports simple premium OLS regressions carried out over 4 subsamples (whole sample, excluding banks & utilities, bidders without uncompleted deals, and bidders with uncompleted deals) using 4 proxies for premiums paid by bidders in M&A attempts/transactions, namely, (i) 1-day premium, (ii) 1-week premium, (iii) 4-weeks premium, and (iv) deal-asset ratio.

[Insert table 10 here]

Panel A reports a positive significant relationship between M&A success history lagged dummies premiums paid. In panel B, market reaction lagged CARs appear to have a positive significant relationship with premiums paid by bidders particularly at the first lag (3 out of 4 subsamples) and to a lesser extent at the second lag (2 out of 4 subsamples) while lagged M&A success dummies lose significance. In panel C, M&A success history have positive significant relationship with premiums particularly when banks and utilities are excluded from the sample and in the subsample including bidders with previous uncompleted deals. This is consistent with the relative bidder-industry performance variable, in case of a significant negative coefficient, suggesting losses in terms of negative relative bidder-industry performance is associated with higher premiums. This observation goes opposite to the market reaction lagged CARs over the

sub-sample including only bidders with uncompleted deals. This suggests that bidders faring poorly from a market perspective tend to pay lower premiums unless they experience a previous failed/uncompleted transaction. It should be pointed out that change in management compensation had mixed results reported in this table which may be attributed to its nature as all encompassing compensation proxy (including both cash and non-cash compensation which may have opposite impacts on premiums paid). Over all, important missing variables which may help better explain premiums include the choice variables regarding the target which will be addressed in the following table along with controlling for resulting endogeneity. Tables 11 and 12 shed more light on the impact of the explanatory variables used to explain premiums paid by bidders while controlling for potential endogeneity with the target choice variables and relative size in addition to dissecting the change in managerial compensation variable to investigate whether managerial compensation loss has an impact on premiums paid or not.

Table 11 reports premium regressions using a 2-stage Probit-OLS regressions to control for endogeneity resulting from the introduction of target choice variables into premium regression models in addition to a 2 Stage Least Squares (2SLS) to account for the endogeneity resulting from introducing relative size into premium regressions.

[Insert table 11 here]

Panel A reports the premium regression results while controlling for the target's nature of being public/non-public and local/foreign while panel B reports results for premium regression controlling for target being related/unrelated and the target-bidder relative size. A number of observations should be pointed out, first, market reaction

lagged CARs have a negative correlation with premiums paid by bidders in the 1st and 3rd lags while having a positive estimate at the 2nd lag which suggests that initial negative market reactions increase premiums paid by bidders initially then a reversal takes place in following transactions. Second, relative bidder-industry performance seems not to be robust across various model specifications, however, takes a negative significant , albeit small in magnitude, relationship with premiums when controlling for target-bidder relative size suggesting poor relative performance to be correlated with subsequent higher premiums. Third, M&A success history variables have a positive significant, mostly consistent, relationship with premiums paid by bidders particularly in case of the 1st and 2nd lags. Forth, changes in management compensation does not seem to have an impact on premiums paid by bidders (this shall be investigated in greater detail in table 12). Overall, results of table 11 suggest that previous losses in terms of negative market reaction and/or failed acquisition attempts induce bidders to overpay during following bids.

Table 12 reports premium OLS-regressions using managerial compensation changes as proxy for loss. There are three key motivations behind carrying out these regressions; first, to check whether other loss proxies may have masked the effect of compensation changes since compensation changes may be passed by shareholders and the board of directors following events of corporate loss, failed acquisition attempts and/or poor relative industry performance. Second, the change in total compensation variable used in previous regressions lump both cash and non-cash compensation (including options and stock grants) paid to management which may have opposite effects on the risk attitude of management. Harford and Li (2007) found that management

tend to become insensitive to stock performance after mergers, this may suggest that decoupling cash and non-cash stock based compensation (stocks and options) may have different impact on management response. Third, compensation changes experienced by company's top executive (CEO, Chairman, President..etc) may have a very different impact on their decision making compared to compensation paid to the rest of the management team which may or may not be equally involved in the acquisition decisions. As such, the change in managerial compensation is dissected into 4 variables, namely (i) *percentage change in the cash compensation of the top executive*, (ii) *percentage change in the non-cash compensation of the top executive*, (iii) *percentage change in the cash compensation of other management team members*, and (iv) *percentage change in the cash compensation of other management team members.*

[Insert table 12 here]

Table 12 include regressions using 3 different proxies for premiums paid by bidders (1-day premium, 1-week premium, and 4-weeks premium) and include two versions of the regression model using both company level data and Fama-French industry medians data. The later version is meant to control for potential colliniarity of the explanatory variables especially firm characteristics variables. A number of important outcomes can be pointed out, first, changes in the cash compensation of the top executive and remaining management team has a significantly negative impact on premiums paid by bidders. Second, non-cash compensation changes of the top executive has a negative insignificant relationship with premiums paid by bidders. Third, changes in non-cash compensation of the remaining management team has a significant positive effect on

premiums paid, however, smaller in magnitude relative to changes in cash compensation changes to management team. Forth, these results seem to be consistent whether firm level data or Fama-French industry medians were used and robust particularly on the 1-day premium proxy. Fifth, I ran separate regressions including changes in management compensations variables -unreported results- to explain target choices, (public, related and local), however, I was unable to find an impact of changes in compensation whether cash or non-cash on target choices that bidders make and therefore couldn't support the argument that incorporating stock options and other non-cash compensation elements in managerial compensation package would adjust the risk taking attitude of managers towards a more optimal level (Williams & Rao, 2006). Other observations which may be pointed out include the positive significant relationship between the bidder's MB ratio with premiums paid consistent with Shleifer and Vishny (2003) mispricing hypothesis on firm level and using industry wide proxies (Harford, 2005).

4.3 Robustness Checks

The following section summarizes robustness checks for regression results for the target choice variables and premiums paid by bidders. A number of influential studies looked at the impact/relationship of direct stock ownership by management on agency issues, market responses to insider trading, corporate decisions and corporate governance mechanism in their respective companies (Berger, Ofek, & Yermack, 1997; Fidrmuc, Goergen, & Renneboog, 2006; Jensen & Meckling, 1976). In regressions reported earlier, the introduction of insider ownership often affected the significance of the loss

proxy variables. As such, I sorted the sample by percentage of stock directly owned by management relative to outstanding shares and formed two subsamples representing the top and bottom quartiles. The maximum likelihood probit and premium OLS regressions are reported for both sub-samples to illustrate any possible effect managerial ownership may have on previously reported results. Table 13 provides summary statistics of the key variables of both subsamples.

[Insert table 13 here]

Table 14 reports the regression results observed over the two entrenchment subsamples. The table summarizes probit and OLS regressions for target choice variables and premiums paid by bidders using two model specifications over both subsamples.

[Insert table 14 here]

A number of observations can be made in the high entrenchment sub-sample. First, the relationship between M&A Success history lags have negative significant relationship on public/private and related/unrelated targets whereby previous uncompleted deals will increase the likelihood of the bidder choosing a private and unrelated targets. This goes against the results found earlier under moderate levels of insider ownership. Second, managers with high ownership in their companies seem to be insensitive to previous losses in regards to the premium paid by their firms for new targets. Third, in the low entrenchment subsample, M&A success history has a positive relation with premiums paid by bidders. Forth, loss and uncompleted earlier deal proxies have largely no impact on premiums paid in the higher entrenchment subsample.

Recent studies in the area of behavioral finance looking at the overconfidence concept and documented its impact on corporate investment decisions taken by the firm. Proxies for overconfidence including number of acquisitions undertaken and in-the-money exercisable options held by management which are not exercised for an extended period (Doukas & Petmezas, 2007; Malmendier & Tate, 2005a). The logic that can be derived from examining overconfident managers is that they will attempt to make risky decisions given that they exaggerate their personal abilities and ignore market signals. I sorted the sample according to three different overconfidence proxies (number of deals conducted by the bidder, log of the dollar value of in-the-money exercisable options held by management, and ratio of total exercisable options held by management to total outstanding stocks). Upon sorting the sample by each overconfidence proxy, I formed 6 subsamples representing top and bottom quartiles by various overconfidence proxies. Table 15 shows the summary statistics of key variables over the 6 subsamples.

[Insert table 15 here]

Probit regressions for target choice variables and OLS regressions results are reported for the 6 subsamples in table 16.

[Insert table 16 here]

The results reported in Panel A refer to overconfident managers identified by bidders conducting 13 or more acquisition attempts/transactions. Higher level of overconfidence seems to decrease the bidder's sensitivity of M&A Success History, however, the 2nd lag of uncompleted transaction still has a positive significant relation

with the related/unrelated target choice. Changes in management compensation variable points that bidders following a loss tend to choose private and unrelated targets, however, increases the likelihood of paying lower premiums. M&A success history variables seem to produce the same result regarding bidder's choosing related/unrelated target in the high overconfidence subsample in panel B using value of in-the-money options held by management. In panel C, losses measured by market reaction lagged CARs and M&A success history factors increases the likelihood of bidders choosing public and related targets respectively while measures are conflicting for local/foreign dummy variable. In addition, none of the loss proxies seem to have an impact on premiums paid by bidders. In general, higher level of overconfidence tends to break the relationship between losses and premiums paid.

Another set of regressions are conducted to check the relationship between the proposed loss proxies and target choice variables and premiums paid by bidders over various sub periods of the full sample. Earlier research suggests that mergers waves which may be caused by industrial and/or market shocks often taking place and can have a significant impact on the attributes of the deals (Harford, 2005). In addition, some clustering seem to be present in the sample in few industrial sectors which may raise the potential of industry wide effects being present and affecting variables tested in the current study. Accordingly as discussed in the methodology chapter, I estimated all probit and regression models using industry median variables previous model following Masulis et al (2007) by substituting Fama-French 48 industry medians data variables instead of firm level data over full sample and 3-subperiods. Table 17 provides summary statistics

for key variables over the 3 sub-periods. A side benefit of this approach is to control for any possible colliniarity among the explanatory variables.

[Insert table 17 here]

Table 18 summarizes the regressions results over the three sub-samples a long with the full sample. These results can be taken to test the results reported earlier while controlling for time period and industry level factors.

[Insert table 18 here]

In general, the overall directional relationship between the various loss proxies and target choice variables and premium which were reported in previous tables are maintained across various subsamples. However, significance of the M&A success history variables seem to diminish in the last subsample (2001-2005), nevertheless, market reaction lagged CARs and relative bidder-industry return are still significant. Further, the results are robust to the use of Fama-French industries data. Further, controlling for industry shocks, management compensation changes is significantly positively related to target choice variables. This suggests that, losses in terms of management compensation increases the bidder's likelihood of picking private, foreign and unrelated targets.

CHAPTER 5 – CONCLUSION

The research agenda of this study aimed at introducing the concept of loss aversion advanced as the center piece of the prospect theory proposed by Kahneman & Tversky. The key idea proposed by the theory is that economic agents derive utility from *changes in wealth* as opposed to *total level of wealth*, in other words, gains and losses are carriers of utility and as such have an impact on post gain/loss risk aversion. The empirical study conducted introduced various loss proxies including firm, market, track record, industry, and managerial compensation based. In general, results reported suggest that firm based events of loss seem to be qualitative in nature and illicit different reactions by bidders as compared to the other loss proxies. A number of key results may be pointed out, first, management teams of bidding companies subject to losses in terms of market and industry feedback tend to be more risk taking in terms of choosing to acquire unrelated, private targets and relatively smaller.

Second, events of corporate loss such as failing to complete a previous merger attempt tend to increase the likelihood of bidders playing it safe by choosing targets that are publicly listed, in related industries, and with higher relative size to the bidder. The impact of such corporate loss events is larger in absolute terms, albeit, infrequent. This suggests that bidders failing to complete previous bids tend to make safer bets in following attempts by choosing targets in related industries which the bidder is familiar with and publically listed, as such, making it easier for bidders to check the targets performance due to decreasing information asymmetry.

Third, management teams experiencing previous losses in terms of failed merger attempts, lower return relative to industry rivals and compensation cuts tend to overpay for targets in subsequent bids. The relationship between compensation loss and overpayment is primarily related to changes in salary and bonus. Non cash compensation losses by the top executive have a positive insignificant impact on premiums paid by bidders while non cash compensation losses by the other management team tend to decrease premiums, however, has a small absolute impact on premiums related to other compensation loss proxies.

Forth, when controlling for various target choice decisions, compensation loss tends to increase the likelihood of choosing a private target regardless whether this target is local/foreign or operated in a related/unrelated industry. Fifth, when insider ownership increases, proxies of corporate loss events (i.e. M&A success history) give opposite results suggesting that a previously unsuccessful merger attempt increases the likelihood of the bidder choosing private and unrelated targets. This suggests that as managerial stock ownership increases, corporate events of loss such as failed merger attempts tend to illicit the same reactions from the management team of the company as may be induced by a compensation loss. Sixth, managers characterized by higher levels of overconfidence tend to make riskier choices in terms of choosing unrelated targets and private targets after suffering compensation losses. The main results reported earlier are robust to overconfidence using number of acquisitions and ratio of stock options held by management as proxies but tend to lose significance using the absolute value of options held by managers. Finally, results are robust to controlling for endogeneity, industry wide

factors and across time subsamples, however, the significance of M&A success history factors diminish over the 2001 – 2005 period while other proxies retain their significance.

The results provide support to the agency theory propositions especially in terms of explaining bidder's target choices. Other factors including Tobin's Q, profitability, insider ownership and compensation structure seem to have little effect on such choices. In addition, the mispricing theory has significant explanatory power in relation to premiums paid by bidders.

The results in general tend to support the propositions of the prospect theory, losses induce subsequent risk taking, in terms of target choice variables and premium paid especially using market, industry and management compensation proxies. Corporate loss events tend to illicit an opposite reaction. Bidders tend to play safe after failing to complete an acquisition in terms of target choice variables (public/private and related/unrelated). This supports the quasi-hedonic proposition. However, as insiders ownership increases, management reaction to corporate loss events tend to mimic their reaction to other loss proxies. Overall, bidders tend to overpay for targets after experiencing losses.

BIBLIOGRAPHY

André, Paul, Kooli, Maher, & L'Her, Jean-François. (2004). The Long-Run Performance of Mergers and Acquisitions: Evidence from the Canadian Stock Market. *Financial Management, 33*(4), 27-43.

Ang, James S., & Cheng, Yingmei. (2006). Direct Evidence on the Market-Driven Acquisition Theory. *The Journal of Financial Research, 29*(2), 199-216.

Barberis, Nicholas, & Huang, Ming. (2001). Mental Accounting, Loss Aversion, and Individual Stock Returns. *The Journal of Finance, 56*(4), 1247-1292.

Barberis, Nicholas, & Huang, Ming. (2008). The Loss Aversion / Narrow Framing Approach to the Equity Premium Puzzle. In R. Mehra (Ed.), *Handbook of the Equity Risk Premium* (Vol. 1). Amersterdam, The Netherlands: Elsevier Science.

Barberis, Nicholas, Huang, Ming, & Santos, Tano. (2001). Prospect Theory and Asset Prices. *The Quarterly Journal of Economics, 116*(1), 1-53.

Barberis, Nicholas, & Thaler, Richard. (2003). A survey of behavioral finance. In G.M. Constantinides, M. Harris & R.M. Stulz (Eds.), *Handbook of the Economics of Finance* (1 ed., Vol. 1, pp. 1053-1128): Elsevier.

Benartzi, Shlomo, & Thaler, Richard H. (1995). Myopic Loss Aversion and the Equity Premium Puzzle. *The Quarterly Journal of Economics, 110*(1), 73-92.

Benartzi, Shlomo, & Thaler, Richard H. (1999). Risk Aversion or Myopia? Choices in Repeated Gambles and Retirement Investments. *Management Science, 45*(3), 364-381.

Berger, Philip G., Ofek, Eli, & Yermack, David L. (1997). Managerial Entrenchment and Capital Structure Decisions. *The Journal of Finance, 52*(4), 1411-1438.

Berkovitch, Elazar, & Narayanan, M. P. (1993). Motives for Takeovers: An Empirical Investigation. *Journal of Financial and Quantitative Analysis, 28*(3), 347-362.

Brown, Todd A. (2006). *Managerial Optimism and Market Misvaluation: The Effects on Mergers and Acquisitions.* Ph.D, Stephen F. Austin State University, Nacogdoches TX 75961.

Bruton, Garry D., Oviatt, Benjamin M., & White, Margaret A. (1994). Performance of Acquisitions of Distressed Firms. *The Academy of Management Journal, 37*(4), 972-989.

Capron, Laurence, & Shen, Jung-Chin. (2007). Acquisitions of private vs. public firms: Private information, target selection, and acquirer returns. *Strategic Management Journal, 28*(9), 891-911.

Chang, Saeyoung. (1998). Takeovers of Privately Held Targets, Method of Payment, and Bidder Returns. *The Journal of Finance, 53*(2), 773-784.

Cici, Gjergji. (2010). *The Relation of the Disposition Effect to Mutual Fund Trades and Performance*. Working Paper. College of William and Mary - Mason School of Business.

Coval, Joshua D., & Shumway, Tyler. (2005). Do Behavioral Biases Affect Prices? *The Journal of Finance, 60*(1), 1-34.

Dong, Ming, Hirshleifer, David, Richardson, Scott, & Teoh, Siew Hong. (2006). Does Investor Misvaluation Drive the Takeover Market? *The Journal of Finance, 61*(2), 725-762.

Doukas, John A., & Petmezas, Dimitris. (2007). Acquisitions, Overconfident Managers and Self-attribution Bias. *European Financial Management, 13*(3), 531-577.

Faccio, Mara, & Masulis, Ronald W. (2005). The Choice of Payment Method in European Mergers and Acquisitions. *The Journal of Finance, 60*(3), 1345-1388.

Faccio, Mara, McConnell, John J., & Stolin, David. (2005). *Returns of Acquirers of Listed and Unlisted Targets*. Unpublished Manuscript. Krannert School of Management, Purdue University. West Lafayette, IN 47907.

Fidrmuc, Jana P., Goergen, Marc, & Renneboog, Luc. (2006). Insider Trading, News Releases, and Ownership Concentration. *The Journal of Finance, 61*(6), 2931-2973.

Fiegenbaum, Avi, & Thomas, Howard. (1988). Attitudes toward Risk and the Risk-Return Paradox: Prospect Theory Explanations. *The Academy of Management Journal, 31*(1), 85-106.

Fowler, Karen L., & Schmidt, Dennis R. (1989). Determinants of Tender Offer Post-Acquisition Financial Performance. *Strategic Management Journal, 10*(4), 339-350.

Frazzini, Andrea. (2006). The Disposition Effect and Underreaction to News. *The Journal of Finance, 61*(4), 2017-2046.

Fuller, Kathleen, Netter, Jeffry, & Stegemoller, Mike. (2002). What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions. *The Journal of Finance, 57*(4), 1763-1793.

Gneezy, Uri, & Potters, Jan. (1997). An Experiment on Risk Taking and Evaluation Periods. *The Quarterly Journal of Economics, 112*(2), 631-645.

Haigh, Michael S., & List, John A. (2005). Do Professional Traders Exhibit Myopic Loss Aversion? An Experimental Analysis. *The Journal of Finance, 60*(1), 523-534.

Haleblian, Jerayr, & Finkelstein, Sydney. (1999). The Influence of Organizational Acquisition Experience on Acquisition Performance: A Behavioral Learning Perspective. *Administrative Science Quarterly, 44*(1), 29-56.

Harford, Jarrad. (2005). What drives merger waves? *Journal of Financial Economics, 77*(3), 529-560.

Harford, Jarrad, & Li, Kai. (2007). Decoupling CEO Wealth and Firm Performance: The Case of Acquiring CEOs. *The Journal of Finance, 62*(2), 917-949.

Hayward, Mathew L. A. (2002). When do firms learn from their acquisition experience? Evidence from 1990 to 1995. *Strategic Management Journal, 23*(1), 21-39.

Heckman, James J. (1979). Sample Selection Bias as a Specification Error. *Econometrica, 47*(1), 153-161.

Hietala, Pekka, Kaplan, Steven N., & Robinson, David T. (2003). What Is the Price of Hubris? Using Takeover Battles to Infer Overpayments and Synergies. *Financial Management, 32*(3), 5-31.

Hirshleifer, David. (2001). Investor Psychology and Asset Pricing. *The Journal of Finance, 56*(4), 1533-1597.

Huang, Yen-Sheng, & Walkling, Ralph A. (1987). Target abnormal returns associated with acquisition announcements: Payment, acquisition form, and managerial resistance. *Journal of Financial Economics, 19*(2), 329-349.

Jarrell, Gregg A., Brickley, James A., & Netter, Jeffry M. (1988). The Market for Corporate Control: The Empirical Evidence Since 1980. *Journal of Economic Perspectives, 2*(1), 49-68.

Jegadeesh, Narasimhan, & Titman, Sheridan. (1993). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. *The Journal of Finance, 48*(1), 65-91.

Jensen, Michael C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review, 76*(2), 323-329.

Jensen, Michael C. (2004). The Agency Costs of Overvalued Equity and the Current State of Corporate Finance. *European Financial Management, 10*(4), 549-565.

Jensen, Michael C., & Meckling, William H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.

Jensen, Michael C., & Ruback, Richard S. (1983). The market for corporate control: The scientific evidence *Journal of Financial Economics, 11*(1), 5-50.

Kahneman, Daniel. (2003). A Psychological Perspective on Economics. *The American Economic Review, 93*(2), 162-168.

Kahneman, Daniel, Knetsch, Jack L., & Thaler, Richard H. (1991). Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias. *The Journal of Economic Perspectives, 5*(1), 193-206.

Kahneman, Daniel, & Tversky, Amos. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, 47*(2), 263-291.

Kahneman, Daniel, & Tversky, Amos. (1984). Choices, Valuesn and Frames. *American Psychologist, 39*(4), 341-350.

King, David R., Dalton, Dan R., Daily, Catherine M., & Covin, Jeffrey G. (2004). Meta-analyses of post-acquisition performance: indications of unidentified moderators. *Strategic Management Journal, 25*(2), 187-200.

Lang, Larry, Ofek, Eli, & Stulz, RenéM. (1996). Leverage, investment, and firm growth. *Journal of Financial Economics, 40*(1), 3-29.

Langer, Thomas, & Weber, Martin. (2005). Myopic prospect theory vs. myopic loss aversion: how general is the phenomenon? *Journal of Economic Behavior & Organization, 56*(1), 25-38.

List, John A. (2004). Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace. *Econometrica, 72*(2), 615-625.

Ljungqvist, Alexander, & Wilhelm, William J. (2005). Does Prospect Theory Explain IPO Market Behavior? *The Journal of Finance, 60*(4), 1759-1790.

Locke, Peter R., & Mann, Steven C. (2000). *Do professional traders exhibit loss realization aversion?* Working Paper. Texas Christian University.

Malmendier, Ulrike, & Tate, Geoffrey. (2005a). CEO Overconfidence and Corporate Investment. *The Journal of Finance, 60*(6), 2661-2700.

Malmendier, Ulrike, & Tate, Geoffrey. (2005b). Does Overconfidence Affect CorporatevInvestment? CEO Overconfidence Measures Revisited. *European Financial Management, 11*(5), 649-659.

Malmendier, Ulrike, & Tate, Geoffrey. (2009). Superstar CEOs. *Quarterly Journal of Economics, 124*(4), 1593-1638.

Massa, Massimo, & Simonov, Andrei. (2005). Behavioral Biases and Investment. *Review of Finance, 9*(4), 483-507.

Masulis, Ronald W., Wang, Cong, & Xie, Fei. (2007). Corporate Governance and Acquirer Returns. *The Journal of Finance, 62*(4), 1851-1889.

McCardle, Kevin F., & Viswanathan, S. (1994). The Direct Entry Versus Takeover Decision and Stock Price Performance Around Takeovers. *The Journal of Business, 67*(1), 1-43.

Moeller, Sara B., Schlingemann, Frederik P., & Stulz, René M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics, 73*(2), 201-228.

Moeller, Sara B., Schlingmann, Frederik P., & Stulz, Rene M. (2005). Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave. *The Journal of Finance, 60*(2), 757-782.

Morck, Randall, Shleifer, Andrei, & Vishny, Robert W. (1990). Do Managerial Objectives Drive Bad Aquisitions? *The Journal of Finance, 45*(1), 31-48.

Myers, Stewart C., & Majluf, Nicholas S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221.

Odean, Terrance. (1999). Do Investors Trade Too Much? *American Economic Review, 89*(5), 1279-1298.

Rhodes-Kropf, Mathew, & Viswanathan, S. (2004). Market Valuation and Merger Waves. *The Journal of Finance, 59*(6), 2685-2718.

Roll, Richard. (1986). The Hubris Hypothesis of Corporate Takeovers. *The Journal of Business, 59*(2), 197-216.

Shaver, J. Myles. (1998). Accounting for Endogeneity When Assessing Strategy Performance: Does Entry Mode Choice Affect FDI Survival? *Management Science, 44*(4), 571-585.

Shefrin, Hersh, & Statman, Meir. (1985). The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence. *The Journal of Finance, 40*(3), 777-790.

Shimizu, Katsuhiko, Hitt, Michael A., Vaidyanath, Deepa, & Pisano, Vincenzo. (2004). Theoretical foundations of cross-border mergers and acquisitions: A review of current research and recommendations for the future. *Journal of International Management, 10*(3), 307-353.

Shleifer, Andrei. (2000). *Inefficient Markets: An Introduction to Behavioral Finance*. Oxford: Oxford University Press.

Shleifer, Andrei, & Summers, Lawrence H. (1990). The Noise Trader Approach to Finance. *The Journal of Economic Perspectives, 4*(2), 19-33.

Shleifer, Andrei, & Vishny, Robert W. (2003). Stock market driven acquisitions. *Journal of Financial Economics, 70*(3), 295-311.

Teo, Melvyn, & O'Connell, Paul G. (2003). *Prospect Theory and Institutional Investors*. SSRN eLibrary. Singapore Management University - School of Business.

Thaler, Richard H. (1999). Mental accounting matters. *Journal of Behavioral Decision Making, 12*(3), 183-206.

Thaler, Richard H., & Johnson, Eric J. (1990). Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice. *Management Science, 36*(6), 643-660.

Thaler, Richard H., Tversky, Amos, Kahneman, Daniel, & Schwartz, Alan. (1997). The Effect of Myopia and Loss Aversion on Risk Taking: An Experimental Test. *Quarterly Journal of Economics, 112*(2), 647-661.

Travlos, Nickolaos G. (1987). Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance, 42*(4), 943-963.

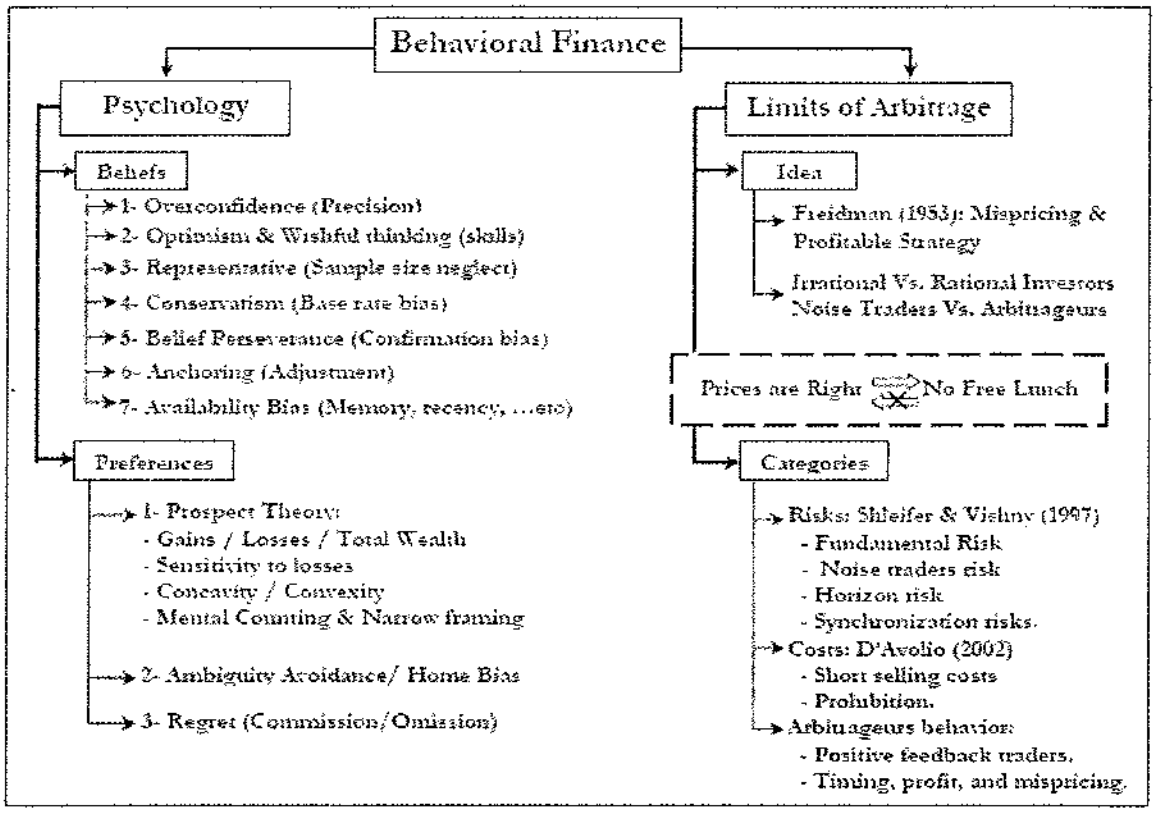
Tversky, Amos, & Kahneman, Daniel. (1986). Rational Choice and the Framing of Decisions. *The Journal of Business, 59*(4), 251-278.

Tversky, Amos, & Kahneman, Daniel. (1991). Loss Aversion in Riskless Choice: A Reference Dependent Model. *The Quarterly Journal of Economics, 106*(4), 1039-1061.

Tversky, Amos, & Kahneman, Daniel. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty, 5*(4), 297-323.

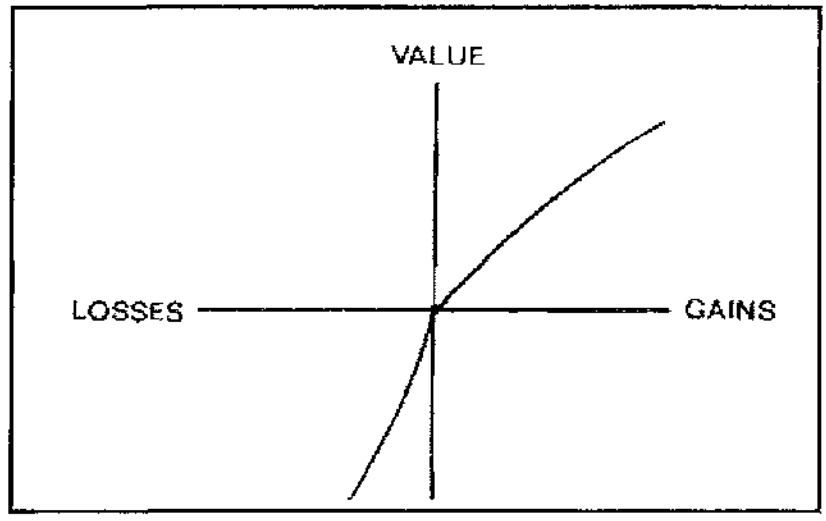
Williams, Melissa A., & Rao, Ramesh P. (2006). CEO Stock Options and Equity Risk Incentives. *Journal of Business Finance & Accounting, 33*(1-2), 26-44.

Figure 1: Building Blocks of Behavioral Finance Literature*



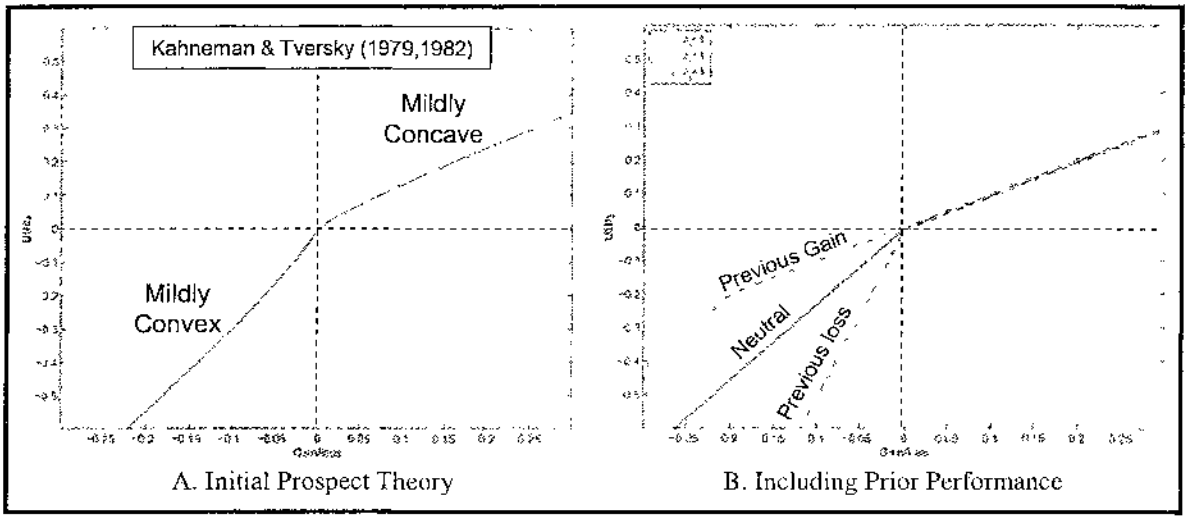
** Based on Barberis and Thaler (2003), Hirshleifer (2001), and Shleifer (2000)*

Figure 2: S-Shaped Utility Function



* *Source: Kahneman & Tversky (1979)*

Figure 3: Impact of Prior Performance on the S-Shaped Utility Curve



A. Initial Prospect Theory B. Including Prior Performance

** Source: Barberis, Huang, and Santos (2001).*

TABLE I
SAMPLE DISTRIBUTION OF M&A TRANSACTIONS IN U.S 1990 – 2005

The sample consists of 16,582 M&A transactions obtained from SDC conducted by U.S bidders attempting 2 or more takeover transactions between 1990 and 2005.

PANEL A: Cross Tabulation of the Sample Data 1/1/1990 – 12/31/2005

Sub-Samples	Completed Deals	Uncompleted Deals	All Deals	Bidders
Bidders without uncompleted deals	12,237	0	12,237	2,815
Bidders with uncompleted deals	3,476	869	4,345	697
Total	15,713	869	16,582	3,512

PANEL B: Sample Distribution by Announcement Year - Mean (Median)

Year	Number of Acquisitions	Percentage of Sample	Bidder Eqt. MV ($mil)	Deal Value ($mil)	Relative Size
1990	318	1.91	2600.45*(227.51)*	131.57 *(14.00)*	0.286 *(0.101)*
1991	429	2.58	1237.16*(168.81)*	89.25 *(13.30)*	0.577 *(0.130)*
1992	665	4.01	1384.27*(185.08)*	75.25 *(13.39)*	0.592 *(0.111)*
1993	813	4.90	1397.16*(159.57)*	143.11 *(15.43)*	0.478 *(0.093)*
1994	1080	6.51	1292.70*(214.32)*	106.95 *(15.99)*	0.273 *(0.092)*
1995	1176	7.09	1335.39*(235.32)*	171.11 *(22.00)*	0.383 *(0.115)*
1996	1540	9.28	1766.80*(317.28)*	196.42 *(23.92)*	0.300 *(0.091)*
1997	2127	12.82	2349.40*(367.96)*	207.10 *(24.63)*	0.358 *(0.091)*
1998	2060	12.42	2895.67*(434.02)*	392.26 *(30.15)*	0.255 *(0.080)*
1999	1515	9.13	5572.88*(559.15)*	367.88 *(38.00)*	0.358 *(0.088)*
2000	1249	7.53	8286.13*(991.11)*	626.85 *(44.11)*	0.307 *(0.066)*
2001	831	5.01	7017.62*(731.23)*	340.75 *(40.40)*	0.416 *(0.074)*
2002	767	4.62	4381.64*(660.22)*	151.94 *(31.00)*	0.238 *(0.070)*
2003	664	4.00	4116.08*(567.36)*	211.37 *(40.84)*	0.275 *(0.086)*
2004	752	4.53	4589.91*(685.41)*	270.88 *(43.12)*	0.249 *(0.079)*
2005	596	3.59	4746.23*(810.28)*	556.61 *(49.85)*	0.227 *(0.068)*

PANEL C: Sample Distribution Fama-French 48 Industries Classification

FF IND	OBS NUM	FF IND	OBS NUM	FF IND	OBS NUM	FF IND	OBS NUM	FF IND	OBS NUM	FF IND	OBS NUM
1	20	9	211	17	186	25	26	33	148	41	442
2	161	10	101	18	135	26	42	34	2983	42	467
3	65	11	611	19	170	27	42	35	674	43	305
4	14	12	487	20	47	28	17	36	871	44	1639
5	14	13	336	21	426	29	16	37	211	45	425
6	116	14	229	22	145	30	724	38	144	46	96
7	157	15	98	23	202	31	370	39	28	47	1448
8	121	16	65	24	82	32	787	40	256	48	222

TABLE II
DESCRIPTIVE STATISTICS OF EXPLANATORY AND DEPENDENT VARIABLES

Descriptive statistics reported for variables divided into the whole sample and a sub sample excluding banks & utilities The full sample consists of 16,582 M&A transactions including 2,211 M&A transactions in the banking and utilities sectors

PANEL A: Descriptive Statistics for Continuous Variables

	Full Sample					Sub-Sample Excluding Banks & Utilities				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Premium	34 25	44 76	11 82	26 92	46 67	34 85	47 52	11 11	27 27	48 43
Deal/Asset Ratio	2 166	191 2	0 025	0 089	0 296	2 468	205 2	0 033	0 109	0 337
Lag1 SCAR	0 067	0 987	-0 37	0 000	0 476	0 088	0 995	-0 35	0 000	0 507
Lag2 SCAR	0 044	0 819	0 08	0 000	0 161	0 061	0 824	0 03	0 000	0 176
Lag3 SCAR	0 033	0 709	0 000	0 000	0 000	0 047	0 708	0 000	0 000	0 000
$(Ret - R_{VW\ IND})$	55 45	2020	21 2	4 107	37 13	62 33	2184	-23 5	4 542	40 06
NIBEX (m$)	109 9	882 4	0 461	9 358	52 24	94 80	923 6	-0 11	7 271	40 13
NIBEX CHG	10 85	868 7	-1 48	2 895	15 01	7 903	926 5	2 04	2 552	13 67
CHG in Mgt Comp	0 468	1 583	0 12	0 164	0 606	0 496	1 709	-0 15	0 155	0 644
CHG in Top Exec Comp	0 773	3 191	0 16	0 176	0 749	0 854	3 472	-0 17	0 173	0 808
Ret (Run-up)	75 14	2014	5 13	22 94	57 66	81 92	2182	7 28	22 56	59 15
Mkt Cap (m$)	3454	16248	107 6	407 9	1533	3434	17140	100 3	381 3	1373
MB	2 297	4 647	0 867	1 341	2 318	2 549	4 932	1 006	1 482	2 542
Leverage	0 242	0 255	0 046	0 200	0 369	0 245	0 246	0 036	0 206	0 377
FCF (m$)	64 75	607 8	-8 63	1 718	28 81	74 53	572 1	-8 07	1 981	29 65
Intangibles/Assets	0 127	0 175	0 000	0 044	0 197	0 142	0 181	0 000	0 065	0 227
Deal Value (m$)	275 1	2209	8 500	27 30	101 0	255 0	2211	7 914	25 37	97 49
Relative Size	0 335	1 788	0 027	0 087	0 264	0 349	1 912	0 028	0 087	0 267
Insider Shareholding	0 032	0 076	0 003	0 007	0 024	0 036	0 083	0 002	0 007	0 028
Cash Comp Ratio	0 477	0 235	0 297	0 453	0 632	0 471	0 239	0 284	0 441	0 631

PANEL B: Descriptive Statistics for Binary Variables

	Full Sample					Sub-Sample Excluding Banks & Utilities				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Public	0 197	0 398	0 000	0 000	0 000	0 167	0 372	0 000	0 000	0 000
Local Target	0 873	0 332	1 000	1 000	1 000	0 858	0 348	1 000	1 000	1 000
Related Target	0 105	0 307	0 000	0 000	0 000	0 103	0 303	0 000	0 000	0 000
Loss_Reaction1	0 041	0 198	0 000	0 000	0 000	0 038	0 192	0 000	0 000	0 000
Loss_Reaction2	0 027	0 163	0 000	0 000	0 000	0 026	0 158	0 000	0 000	0 000
Loss_Reaction3	0 021	0 143	0 000	0 000	0 000	0 019	0 136	0 000	0 000	0 000

TABLE III
PEARSON CORRELATION MATRIX

The sample consists of 16,582 M&A transactions (including 2,211 transactions in the banking and utilities sectors) conducted during the 1990 – 2005 period covered by the SDC database. The dataset variables were compiled from SDC, CRSP, COMPUSTAT and ExecuComp databases. The Pearson correlations are reported in the following table and p-values are reported in parentheses.

	Public Target	Local Target	Related Target	Deal - Asset Ratio	Premium	Lag CAR	Loss Lag-1	Loss Lag-2	Loss Lag-3	1-Year Industry Adj Ret	NIBEX CHG	Mgt Comp CHG	Top Exec Comp CHG	Stock Price Runup	NIBEX	Mkt Cap	Tobin's Q	FCF	Leverage	Intang Asset Ratio	Relative Size	Insider Ownership
Local	0 029																					
	(0 00)																					
Related	0 169	-0 053																				
	(0 00)	*(0 00)*																				
Deal / Asset	-0 003	0 004	-0 003																			
	(0 65)	*(0 64)*	*(0 72)*																			
Premium	0 026	-0 027	0 002	0 022																		
	(0 19)	*(0 17)*	*(0 89)*	*(0 73)*																		
Lag SCAR	-0 031	0 004	0 007	-0 001	0 022																	
	(0 00)	*(0 57)*	*(0 34)*	*(0 95)*	*(0 25)*																	
Loss Lag-1	0 039	-0 001	0 038	-0 002	0 024	-0 014																
	(0 00)	*(0 92)*	*(0 00)*	*(0 82)*	*(0 23)*	*(0 07)*																
Loss Lag-2	0 049	-0 004	0 048	-0 001	0 004	-0 014	0 054															
	(0 00)	*(0 56)*	*(0 00)*	*(0 85)*	*(0 82)*	*(0 06)*	*(0 00)*															
Loss Lag-3	0 047	-0 024	0 026	-0 001	-0 006	0 003	0 038	0 063														
	(0 00)	*(0 00)*	*(0 00)*	*(0 85*	*(0 76)*	*(0 72)*	*(0 00)*	*(0 00)*														
1-Y Adj Ret	-0 009	0 005	-0 007	0 000	0 004	-0 005	-0 004	-0 002	-0 003													
	(0 24)	*(0 55)*	*(0 42)*	*(0 98)*	*(0 82)*	*(0 55)*	*(0 62)*	*(0 77)*	*(0 73)*													
NIBEX CHG	0 014	-0 013	0 009	-0 001	-0 020	0 012	-0 002	0 002	0 002	-0 358												
	(0 09)	*(0 13)*	*(0 27)*	*(0 93)*	*(0 33)*	*(0 16)*	*(0 79)*	*(0 82)*	*(0 84)*	*(0 00)*												
Mgt Comp CHG	0 020	0 017	-0 01	0 079	0 037	-0 018	-0 018	-0 003	-0 019	0 047	-0 050											
	(0 21)	*(0 29)*	*(0 52)*	*(0 00)*	*(0 24)*	*(0 26)*	*(0 26)*	*(0 84)*	*(0 23)*	*(0 00)*	*(0 00)*											
Top Exec Comp CHG	0 013	0 009	-0 01	0 030	0 024	-0 011	0 003	-0 002	0 001	0 037	-0 045	0 768										
	(0 36)	*(0 54)*	*(0 53)*	*(0 04)*	*(0 42)*	*(0 46)*	*(0 82)*	*(0 88)*	*(0 96)*	*(0 01)*	*(0 00)*	*(0 00)*										
Price Runup	-0 010	0 005	-0 01	0 001	-0 001	-0 005	-0 005	-0 003	-0 003	0 999	-0 358	0 047	0 037									
	(0 23)	*(0 53)*	*(0 39)*	*(0 94)*	*(0 96)*	*(0 56)*	*(0 59)*	*(0 76)*	*(0 73)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 01)*									
NIBEX	0 066	-0 073	0 043	-0 001	-0 005	-0 002	0 006	0 016	0 017	-0 051	0 619	-0 044	-0 037	-0 051								
	(0 00)	*(0 00)*	*(0 00)*	*(0 86)*	*(0 79)*	*(0 77)*	*(0 42)*	*(0 04)*	*(0 03)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 01)*	*(0 00)*								
Market-Cap	0 073	-0 107	0 048	-0 022	0 013	-0 024	0 003	0 014	0 017	0 001	0 059	-0 001	0 004	0 001	0 589							
	(0 00)	*(0 00)*	*(0 00)*	*(0 01)*	*(0 50)*	*(0 00)*	*(0 68)*	*(0 07)*	*(0 03)*	*(0 93)*	*(0 00)*	*(0 99)*	*(0 79)*	*(0 90)*	*(0 00)*							
Tobin's Q	-0 051	-0 016	-0 04	0 418	-0 000	-0 019	-0 024	-0 020	-0 025	0 010	0 003	0 146	0 104	0 013	-0 005	0 086						
	(0 00)	*(0 04)*	*(0 00)*	*(0 00)*	*(0 99)*	*(0 01)*	*(0 00)*	*(0 01)*	*(0 00)*	*(0 22)*	*(0 67)*	*(0 00)*	*(0 00)*	*(0 14)*	*(0 52)*	*(0 00)*						
FCF	0 062	-0 078	0 029	-0 001	-0 025	-0 002	0 007	0 012	0 019	-0 027	0 137	-0 028	-0 003	0 027	0 686	0 651	0 002					
	(0 00)	*(0 00)*	*(0 00)*	*(0 89)*	*(0 35)*	*(0 86)*	*(0 50)*	*(0 22)*	*(0 05)*	*(0 01)*	*(0 00)*	*(0 14)*	*(0 84)*	*(0 01)*	*(0 00)*	*(0 00)*	*(0 84)*					
Leverage	-0 037	0 021	0 056	-0 006	-0 034	0 016	-0 002	0 005	0 013	0 007	0 001	-0 032	-0 035	0 007	0 008	0 007	-0 139	-0 047				
	(0 00)	*(0 01)*	*(0 00)*	*(0 47)*	*(0 08)*	*(0 04)*	*(0 76)*	*(0 52)*	*(0 11)*	*(0 40)*	*(0 87)*	*(0 04)*	*(0 02)*	*(0 41)*	*(0 27)*	*(0 37)*	*(0 00)*	*(0 00)*				
Intangible Assets	-0 063	-0 041	-0 003	-0 007	-0 010	0 004	-0 031	-0 006	0 008	-0 007	-0 030	0 048	0 035	-0 008	-0 052	-0 002	-0 010	0 002	0 101			
	(0 00)	*(0 00)*	*(0 75)*	*(0 39)*	*(0 64)*	*(0 59)*	*(0 00)*	*(0 48)*	*(0 35)*	*(0 42)*	*(0 00)*	*(0 00)*	*(0 03)*	*(0 36)*	*(0 00)*	*(0 77)*	*(0 24)*	*(0 82)*	*(0 00)*			
Relative Size	0 072	0 023	0 049	0 512	0 006	0 025	0 028	0 002	-0 002	-0 006	-0 001	0 008	0 004	0 006	-0 017	-0 029	-0 031	-0 022	0 048	-0 006		
	(0 00)	*(0 00)*	*(0 00)*	*(0 00)*	*(0 74)*	*(0 00)*	*(0 00)*	*(0 79)*	*(0 84)*	*(0 50)*	*(0 94)*	*(0 63)*	*(0 80)*	*(0 49)*	*(0 04)*	*(0 00)*	*(0 00)*	*(0 03)*	*(0 00)*	*(0 52)*		
Insider Shareholding	-0 061	0 007	-0 04	0 086	0 074	0 032	0 000	0 002	0 004	-0 007	-0 006	0 029	0 022	0 007	-0 104	-0 086	0 106	-0 093	-0 053	-0 024	0 025	
	(0 00)	*(0 65)*	*(0 01)*	*(0 00)*	*(0 02)*	*(0 04)*	*(0 95)*	*(0 91)*	*(0 76)*	*(0 65)*	*(0 71)*	*(0 08)*	*(0 16)*	*(0 66)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 16)*	*(0 12)*	
Cash Comp Ratio	-0 006	0 016	0 026	-0 036	-0 039	0 048	0 021	0 012	0 019	-0 027	0 027	-0 316	-0 223	-0 027	-0 092	0 171	-0 209	-0 057	0 033	-0 124	0 086	0 117
	(0 68)	*(0 29)*	*(0 08)*	*(0 01)*	*(0 19)*	*(0 00)*	*(0 17)*	*(0 42)*	*(0 19)*	*(0 07)*	*(0 08)*	*(0 00)*	*(0 00)*	*(0 07)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 00)*	*(0 03)*	*(0 00)*	*(0 00)*	*(0 00)*

TABLE IV
THE BIDDER'S CHOICE OF PUBLIC VS. PRIVATE TARGET IN M&A DEALS

PANEL A: Base Model with Basic Explanatory and Control Variables

Public = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 NIBEX\_CHG + \beta_9 Ret + \beta_{10} MB + \beta_{11} Debt/Assets + \beta_{12} Intangibles/Assets + \varepsilon$

The dependent variable "Public" which takes a value of (1) in case of Publicly traded target and (0) if otherwise is regressed over four definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	-0 0418***	(9 172)	-0 0144	(0 907)	-0 0199	(1 3498)	-0 0899***	(14 264)
PCAR_2	-0 0086	(0 283)	0 0103	(0 332)	0 0031	(0 0216)	-0 0330	(1 6113)
PCAR_3	0 0584***	(9 918)	-0 0423**	(4 238)	-0 0690***	(7 9483)	0 0498*	(3 0657)
Loss_Reaction$_1$	0 2665***	(17 555)	0 2443***	(11 282)			-0 0584	(0 7416)
Loss_Reaction$_2$	0 3063***	(17 145)	0 2662***	(9 986)			0 0053	(0 0048)
Loss_Reaction$_3$	0 3339***	(16 515)	0 1785*	(3 378)			0 0320	(0 1415)
(Ret – $R_{VW\ IND}$)	0 0006	(1 469)	0 0019***	(10 65)	0 0002	(0 1589)	0 0014	(2 0479)
NIBEX_CHG	0 0000	(1 507)	0 0000	(1 625)	0 0000	(1 620)	-0 0000	(0 1353)
Price Runup (Ret)	-0 0008	(2 159)	-0 0022***	(14 174)	-0 0006	(0 8735)	0 0014	(1 9804)
MB	-0 0445***	(27 351)	-0 0035	(0 2390)	-0 0364***	(13 160)	0 0552***	(11 542)
Debt/Assets	-0 2941***	(17 176)	-0 0799	(1 1269)	-0 3132***	(13 207)	-0 3701***	(7 7891)
Intangibles/Assets	-0 5767***	(43 192)	-0 1664*	(3 4561)	-0 5330***	(26 056)	-0 3701***	(8 5923)
Intercept	-0 6089***	(424 899)	-0 8615***	(707 03)	-0 7353***	(430 03)	-0 2112***	(14 325)
No Obs	10427		8983		7568		2859	
Percent Concordant	59 6%		54 9%		58 1%		59 7%	
Percent Discordant	39 3%		42 7%		40 3%		39 5%	
Percent Tied	1 1%		2 4%		1 6%		0 8%	

TABLE IV – *Continued*
THE BIDDER'S CHOICE OF PUBLIC VS. PRIVATE TARGET IN M&A DEALS

PANEL B: Base Model Including Compensation Loss Proxy and Control Variables

Public = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7$ *Change in Top Executive Compensation* $+ \beta_8 Ret + \beta_9 MB + \beta_{10} Debt/Assets + \beta_{11} Intangibles/Assets + \varepsilon$

The dependent variable "Public" which takes a value of (1) in case of Publicly traded target and (0) if otherwise is regressed over three definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi square
PCAR_1	-0 0323[a]	(2 485)	-0 0225	(0 935)	-0 0347	(1 8676)	-0 0241	(0 4517)
PCAR_2	0 0128	(0 3249)	0 0294	(1 336)	0 0251	(0 7673)	0 0061	(0 0271)
PCAR_3	-0 0626***	(6 274)	-0 0479*	(2 8273)	0 1124***	(11 908)	0 0740	(0 0126)
Loss_Reaction$_1$	0 0164	(0 0247)	-0 0646	(0 2648)			0 2887***	(6 7859)
Loss_Reaction$_2$	0 2670***	(6 2421)	0 2431**	(3 793)			0 0124	(0 0120)
Loss_Reaction$_3$	0 1845[a]	(2 4556)	0 0339	(0 0592)			0 0740	(0 3611)
CHG-Top Exec Comp	0 0087	(1 1772)	0 0081	(0 9709)	-0 0004	(0 0016)	0 0318**	(4 5452)
Price Runup (Ret)	-0 0000	(0 0497)	0 0003	(0 6213)	-0 0000	(0 1614)	0 0011	(1 6603)
MB	-0 0509***	(15 768)	-0 0101	(0 8512)	-0 0296**	(4 8022)	0 0950***	(11 812)
Debt/Assets	0 1964	(1 8331)	0 5430***	(11 579)	0 3921**	(4 7425)	0 4386*	(3 0158)
Intangibles/Assets	-1 0178***	(50 887)	-0 5981***	(15 839)	-0 8336***	(25 938)	1 1501***	(13 961)
Intercept	-0 4092***	(65 339)	-0 7050***	(160 89)	-0 6162***	(102 61)	0 1481	(2 5971)
No Obs	3771		3117		2623		1148	
Percent Concordant	61 0%		56 7%		59 7%		63 0%	
Percent Discordant	38 2%		42 0%		39 4%		36 4%	
Percent Tied	0 8%		1 3%		0 9%		0 6%	

TABLE IV – *Continued*
THE BIDDER'S CHOICE OF PUBLIC VS. PRIVATE TARGET IN M&A DEALS

PANEL C: Public Target Choice while Controlling for Insider Ownership and Management Compensation Structure

Public = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\text{-}IND}) + \beta_8 NIBEX\_CHG + \beta_9$ *Change in Top Executive Compensation* $+ \beta_{10} Ret + \beta_{11} MB + \beta_{12} MB + \beta_{13}$ *Debt/Assets* $+ \beta_{14}$ *Intangibles/Assets* $+ \beta_{15}$ *Cash Compensation Ratio* $+ \beta_{16}$ *Insider Ownership* $+ \varepsilon$

The dependent variable "Public" which takes a value of (1) in case of Publicly traded target and (0) if otherwise is regressed over four definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, the ratio of intangibles to total assets, ratio of total compensation received by senior management in cash, and insider ownership.

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	-0.0159	(0.4785)	0.0093	(0.1289)	-0.0142	(0.2507)	-0.0110	(0.0750)
PCAR_2	-0.0044	(0.0308)	0.0188	(0.4419)	-0.0101	(0.0973)	0.0006	(0.0002)
PCAR_3	-0.0614**	(4.7638)	-0.0471[a]	(2.1851)	-0.1203***	(10.646)	0.0179	(0.1632)
$Loss\_Reaction_1$	-0.1167	(0.9116)	0.0052	(0.0013)			-0.1083	(0.7047)
$Loss\_Reaction_2$	0.2739**	(4.9296)	0.2189*	(2.3910)			0.0813	(0.3936)
$Loss\_Reaction_3$	0.2244*	(2.9071)	0.0867	(0.3134)			0.0368	(0.0716)
$(Ret - R_{VW\text{-}IND})$	-0.0020*	(3.8117)	-0.0009	(0.6558)	-0.0019*	(2.8570)	-0.0015	(0.5201)
NIBEX_CHG	0.0001	(2.2836)	0.0001	(1.6871)	0.0002**	(3.8098)	-0.0000	(0.0594)
CHG-Top Exec. Comp.	0.0091	(0.9325)	0.0025	(0.0661)	-0.0002	(0.0003)	0.0363**	(3.5887)
Price Runup (Ret)	0.0019**	(3.7758)	0.0006	(0.3828)	0.0020*	(2.8918)	0.0010	(0.2828)
MB	-0.0882***	(25.115)	-0.0359**	(4.1700)	-0.0767***	(13.627)	-0.0863***	(8.2163)
Debt/Assets	0.1412	(0.7145)	0.5854***	(9.9922)	0.3916*	(3.4899)	-0.5841***	(4.0411)
Intangibles/Assets	-1.0225***	(37.146)	-0.7122***	(16.345)	-0.8780***	(20.736)	-1.2137***	(11.282)
Cash Comp. Ratio	-0.1480	(1.5972)	-0.2965**	(5.0981)	-0.0819	(0.3019)	-0.1631	(0.6657)
Insider Ownership	-0.6958*	(2.9217)	-0.1887	(0.2568)	-1.1138**	(3.8547)	-0.1946	(0.0772)
Intercept	-0.3012***	(11.833)	-0.5249***	(28.179)	-0.4964***	(20.875)	0.1219	(0.6051)
No. Obs	3016		2506		2098		918	
Percent Concordant	62.3%		58.2%		62.5%		61.5%	
Percent Discordant	37.1%		40.7%		36.8%		37.9%	
Percent Tied	0.6%		1.0%		0.7%		0.6%	

TABLE V
THE BIDDER'S CHOICE OF RELATED VS. UNRELATED TARGETS IN M&A DEALS

PANEL A: Base Model with Basic Explanatory and Control Variables

Related = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 NIBEX\_CHG + \beta_9 Ret + \beta_{10} MB + \beta_{11} Debt/Assets + \beta_{12} Intangibles/Assets + \varepsilon$

The dependent variable "Related" which takes a value of (1) in case the target operates in the same industry as the bidder and (0) if otherwise is regressed over four definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	0 0136	(0 7430)	0 0247	(2 1285)	-0 0031	(0 0231)	0 0250	(0 9266)
PCAR_2	0 0403**	(4 6750)	0 0458**	(5 2502)	-0 0057	(0 0519)	0 0816***	(8 1174)
PCAR_3	0 0108[a]	(2 1231)	0 0454*	(3 9844)	-0 0137	(0 2259)	0 0640**	(4 2060)
$Loss\_Reaction_1$	0 2564***	(12 756)	0 1759**	(4 5935)			-0 0452	(0 3502)
$Loss\_Reaction_2$	0 2350***	(15 753)	0 3041***	(11 102)			0 0602	(0 4971)
$Loss\_Reaction_3$	0 2218**	(5 5541)	0 2139**	(4 0979)			-0 0380	(0 1523)
$(Ret - R_{VW\ IND})$	0 0030***	(22 365)	0 0028***	(17 521)	0 0016**	(4 4565)	0 0051***	(19 705)
NIBEX_CHG	0 0000	(0 9812)	0 0000	(1 3941)	-0 0000	(1 2190)	-0 0001	(0 1902)
Price Runup (Ret)	-0 0031***	(24 245)	-0 0029***	(19 321)	-0 0016**	(4 4857)	-0 0054***	(24 119)
MB	-0 0354***	(10 740)	-0 0379***	(10 579)	-0 0496***	(12 625)	-0 0070	(0 1898)
Debt/Assets	0 5805***	(57 773)	0 5041***	(38 363)	0 5021***	(28 334)	0 6599***	(22 114)
Intangibles/Assets	-0 1649*	(2 8622)	-0 1225	(1 4741)	0 0806	(0 4923)	0 5126***	(7 0063)
Intercept	-1 2701***	(1326 4)	-1 2586***	(1004 8)	-1 3960***	(1006 8)	-0 9285***	(233 23)
No Obs	10426		8982		7567		2859	
Percent Concordant	60 3%		59 6%		57 4%		62 1%	
Percent Discordant	38 1%		38 7%		40 0%		36 5%	
Percent Tied	1 6%		1 6%		2 5%		1 5%	

TABLE V – *Continued*
THE BIDDER'S CHOICE OF RELATED VS. UNRELATED TARGETS IN M&A DEALS

PANEL B: Base Model Including Compensation Loss Proxy and Control Variables

Related = $\alpha + \beta_1$ *PCAR_1* + β_2 *PCAR_2* + β_3 *PCAR_3* + β_4 *Loss_Reaction*$_1$ + β_5 *Loss_Reaction*$_2$ + β_6 *Loss_Reaction*$_3$ + β_7 *Change in Top Executive Compensation* + β_8 *Ret* + β_9 *MB* + β_{10} *Debt/Assets* + β_{11} *Intangibles/Assets* + ε

The dependent variable "Related" which takes a value of (1) in case the target operates in the same industry as the bidder and (0) if otherwise is regressed over three definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets.

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	-0.0092	(0.1445)	-0.0027	(0.0103)	-0.0076	(0.0606)	-0.0098	(0.0617)
PCAR_2	0.0183	(0.4811)	0.0387	(1.7353)	0.0084	(0.0577)	0.0259	(0.4019)
PCAR_3	-0.0435[a]	(2.1959)	-0.0587*	(3.1216)	-0.0567	(2.0553)	-0.0291	(0.4360)
Loss_Reaction$_1$	0.1424	(0.1174)	0.0508	(0.1311)			-0.1238	(1.0030)
Loss_Reaction$_2$	0.4464***	(15.274)	0.3705***	(7.6364)			0.1954*	(2.6448)
Loss_Reaction$_3$	0.0284	(0.0417)	-0.0061	(0.0014)			-0.2096	(2.1348)
CHG-Top Exec. Comp.	-0.0006	(0.0039)	0.0011	(0.0107)	-0.0326[a]	(2.3307)	0.0247*	(2.6776)
Price Runup (Ret)	-0.0009*	(3.1783)	-0.0006	(1.7390)	-0.0012*	(3.3649)	-0.0003	(0.1525)
MB	-0.0291	(2.6138)	-0.0388**	(3.8566)	-0.0171	(0.6011)	-0.0276	(0.8150)
Debt/Assets	1.0315***	(37.717)	0.9571***	(26.762)	0.9964***	(21.171)	0.8891***	(10.438)
Intangibles/Assets	-0.2344	(2.1072)	-0.2372	(1.9034)	-0.0154	(0.0067)	-0.4669	(1.9737)
Intercept	-1.2637***	(411.42)	-1.2263***	(283.01)	-1.3960***	(307.60)	-0.9450***	(84.582)
No. Obs	3771		3117		2623		1148	
Percent Concordant	61.1%		53.6%		60.8%		59.1%	
Percent Discordant	37.7%		44.0%		37.5%		40.0%	
Percent Tied	1.2%		2.4%		1.6%		0.9%	

TABLE V – *Continued*
THE BIDDER'S CHOICE OF RELATED VS. UNRELATED TARGETS IN M&A DEALS

PANEL C: Base Explanatory Including Compensation Loss Proxy and Control Variables

Related = $\alpha + \beta_1$ *PCAR_1* + β_2 *PCAR_2* + β_3 *PCAR_3* + β_4 *Loss_Reaction*$_1$ + β_5 *Loss_Reaction*$_2$ + β_6 *Loss_Reaction*$_3$ + β_7 *(Ret* – $R_{VW\ IND}$*)* + β_8 *NIBEX-CHG* + β_9 *Change in Top Executive Compensation* + β_{10} *Ret* + β_{11} *MB* + β_{12} *Debt/Assets* + β_{13} *Intangibles/Assets* + β_{14} *Cash Comp Ratio* + β_{15} *Insider Ownership* + ε

The dependent variable "Related" which takes a value of (1) in case the target operates in the same industry as the bidder and (0) if otherwise is regressed over three definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi square
PCAR_1	-0 0091	(0 1112)	0 0001	(0 0009)	0 0012	(0 0012)	0 0245	(0 2974)
PCAR_2	0 0226	(0 5786)	0 0413	(1 5809)	0 0076	(0 0368)	0 0341	(0 5572)
PCAR_3	-0 0281	(0 7166)	-0 0384	(1 0600)	-0 0504	(1 2311)	0 0120	(0 0590)
Loss_Reaction$_1$	0 2659**	(3 9096)	0 1514	(0 8742)			0 0007	(0 0000)
Loss_Reaction$_2$	0 4514***	(11 742)	0 3865***	(6 4805)			0 2089[a]	(2 2711)
Loss_Reaction$_3$	0 1376	(0 8213)	0 1447	(0 6875)			0 0997	(0 3989)
(Ret – $R_{VW\ IND}$)	0 0018[a]	(2 1373)	0 0012	(0 6135)	0 0015	(0 9103)	0 0030	(1 7731)
NIBEX_CHG	0 0001	(2 0001)	0 0002**	(5 5715)	0 0001	(1 5007)	0 0001	(0 4347)
CHG-Top Exec Comp	0 0048	(0 1562)	0 0074	(0 3766)	-0 0257	(1 1165)	0 0357**	(3 4010)
Price Runup (Ret)	-0 0026**	(4 6696)	-0 0017	(1 6227)	-0 0029*	(3 6999)	0 0022	(1 1654)
MB	-0 0343[a]	(2 4266)	-0 0561**	(5 1308)	-0 0226	(0 5775)	-0 0165	(0 2251)
Debt/Assets	0 9374***	(23 384)	0 7664***	(12 652)	0 8398***	(10 543)	0 8843***	(7 8055)
Intangibles/Assets	-0 1783	(0 8826)	-0 1557	(0 5932)	0 1212	(0 2946)	0 6646[a]	(2 7481)
Cash Comp Ratio	0 1478	(1 1578)	0 0947	(0 3835)	0 1101	(0 3461)	0 4552**	(4 3833)
Insider Ownership	-0 5363	(1 2146)	-0 5056	(1 0383)	2 3000***	(6 1734)	0 4111	(0 3017)
Intercept	-1 3162***	(155 26)	-1 2317***	(105 65)	-1 3784***	(96 531)	-1 2126***	(47 198)
No Obs	2930		2426		2034		896	
Percent Concordant	61 7%		61 1%		62 2%		61 7%	
Percent Discordant	37 1%		37 7%		36 3%		37 4%	
Percent Tied	1 2%		1 3%		1 4%		0 9%	

TABLE VI
THE BIDDER'S CHOICE OF LOCAL (U.S) VS. FOREIGN (NON-U.S) TARGET IN M&A DEALS

PANEL A: Base Model with Basic Explanatory and Control Variables

Local = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 NIBEX\_CHG + \beta_9 Ret + \beta_{10} MB + \beta_{11} Debt/Assets + \beta_{12} Intangibles/Assets + \varepsilon$

The dependent variable "Local" which takes a value of (1) in case of local U S target and (0) if otherwise is regressed over four definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	0 0067	(0 1946)	0 0213	(1 8322)	0 0091	(0 2523)	0 0019	(0 0051)
PCAR_2	-0 0108	(0 3661)	0 0063	(0 1176)	-0 0151	(0 4758)	0 0024	(0 0063)
PCAR_3	-0 0108	(0 2871)	0 0029	(0 0188)	0 0105	(0 1690)	-0 0436	(1 7361)
$Loss\_Reaction_1$	0 0288	(0 1465)	0 0502	(0 3917)			-0 0234	(0 0831)
$Loss\_Reaction_2$	-0 0462	(0 2835)	-0 0721	(0 6166)			-0 0429	(0 2202)
$Loss\_Reaction_3$	-0 2658***	(8 6886)	-0 3348***	(12 099)			-0 2641***	(7 7590)
$(Ret - R_{VW\ IND})$	-0 0022***	(13 867)	-0 0016***	(12 099)	-0 0019**	(7 9265)	0 0021*	(3 0285)
NIBEX_CHG	-0 0000	(2 0297)	-0 0000	(1 7720)	-0 0000	(1 6130)	0 0001	(2 0458)
Price Runup (Ret)	0 0022***	(13 926)	0 0016***	(7 6255)	0 0019***	(7 9424)	0 0027***	(5 4812)
MB	-0 0321***	(28 534)	-0 0139**	(4 8533)	-0 0188***	(6 6520)	0 0835***	(28 839)
Debt/Assets	0 2241***	(8 4037)	0 3592***	(20 029)	0 2917***	(10 847)	0 0346	(0 0505)
Intangibles/Assets	-0 4573***	(27 934)	0 2190**	(5 9775)	-0 4327***	(19 117)	-0 4934***	(7 0975)
Intercept	1 1465***	(1087 4)	0 9837***	(891 48)	1 1069***	(955 72)	1 2644***	(367 81)
No Obs	10426		8982		7567		2859	
Percent Concordant	58 2%		54 9%		56 6%		62 1%	
Percent Discordant	39 7%		42 7%		41 0%		36 5%	
Percent Tied	2 1%		2 4%		2 3%		1 5%	

TABLE VI – *Continued*
THE BIDDER'S CHOICE OF LOCAL (U.S) VS. FOREIGN (NON-U.S) TARGET IN M&A DEALS

PANEL B: Base Model Including Compensation Loss Proxy and Control Variables

Local = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7$ *Change in Top Executive Compensation* $+ \beta_8 Ret + \beta_9 MB + \beta_{10}$ *Debt/Assets* $+ \beta_{11}$ *Intangibles/Assets* $+ \varepsilon$

The dependent variable "Local" which takes a value of (1) in case of local U.S target and (0) if otherwise is regressed over three definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets.

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	-0.0035	(0.0251)	0.0267	(1.2955)	0.0114	(0.1904)	-0.0340	(0.6871)
PCAR_2	-0.0482**	(4.0123)	-0.0169	(0.4361)	-0.0500*	(2.8574)	-0.0502	(1.3894)
PCAR_3	-0.0293	(1.2242)	0.0063	(0.0493)	-0.0244	(0.5482)	-0.0408	(0.8109)
$Loss\_Reaction_1$	-0.0136	(0.0142)	-0.0083	(0.0044)			-0.1242	(1.1069)
$Loss\_Reaction_2$	-0.0647	(0.3009)	-0.0639	(0.2408)			-0.1654	(1.7055)
$Loss\_Reaction_3$	-0.1233	(0.9511)	-0.1695	(1.5279)			-0.2090[a]	(2.4048)
CHG-Top Exec. Comp.	0.0056	(0.4012)	0.0100	(1.2100)	0.0080	(0.5430)	-0.0090	(0.3183)
Price Runup (Ret)	0.0000	(0.1467)	0.0000	(0.2265)	0.0000	(0.2532)	0.0019**	(4.0762)
MB	-0.0181**	(5.2600)	-0.0031	(0.1316)	-0.0074	(0.7688)	-0.1408***	(27.555)
Debt/Assets	-0.3022**	(3.9264)	-0.3951**	(6.0651)	-0.4642**	(6.4622)	-0.0390	(0.0183)
Intangibles/Assets	-0.3473**	(6.3517)	0.1717	(1.3561)	-0.2183	(1.9775)	-0.4666	(2.1511)
Intercept	1.0182***	(406.69)	0.8102	(222.25)	0.9801***	(281.02)	1.1254***	(130.69)
No. Obs	3771		3117		2623		1148	
Percent Concordant	55.0%		53.6%		59.7%		64.4%	
Percent Discordant	42.9%		44.0%		39.4%		34.6%	
Percent Tied	2.1%		2.4%		0.9%		0.9%	

TABLE VI – *Continued*
THE BIDDER'S CHOICE OF LOCAL (U.S) VS. FOREIGN (NON-U.S) TARGET IN M&A DEALS

PANEL C: Base Explanatory Including Compensation Loss Proxy and Control Variables

Local = $\alpha + \beta_1$ *PCAR_1* + β_2 *PCAR_2* + β_3 *PCAR_3* + β_4 *Loss_Reaction*$_1$ + β_5 *Loss_Reaction*$_2$ + β_6 *Loss_Reaction*$_3$ + β_7 *(Ret* – $R_{VW\ IND}$*)* + β_8 *NIBEX-CHG* + β_9 *Change in Top Executive Compensation* + β_{10} *Ret* + β_{11} *MB* + β_{12} *Debt/Assets* + β_{13} *Intangibles/Assets* + β_{14} *Cash Comp Ratio* + β_{15} *Insider Ownership* + ε

The dependent variable "Local" which takes a value of (1) in case of local U S target and (0) if otherwise is regressed over three definitions of bidder performance in addition to price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, and the ratio of intangibles to total assets

	Whole Sample		No Bank & Utilities		Bidder's *without* uncompleted Deals		Bidder's *with* uncompleted Deals	
Variable	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square	Coefficient	Chi-square
PCAR_1	0 0121	(0 2397)	0 0426*	(2 5981)	0 0204	(0 4792)	0 0006	(0 0002)
PCAR_2	-0 0563**	(4 3778)	-0 0210	(0 5460)	-0 0534*	(2 5857)	-0 0618	(1 7084)
PCAR_3	-0 0226	(0 5776)	0 0102	(0 1010)	-0 0147	(0 1541)	-0 0439	(0 7555)
Loss_Reaction$_1$	-0 0089	(0 0044)	0 0248	(0 0271)			-0 0947	(0 4182)
Loss_Reaction$_2$	-0 0918	(0 4623)	-0 0802*	(0 2976)			-0 1677	(1 3138)
Loss_Reaction$_3$	-0 1058	(0 5443)	0 1375	(0 7808)			-0 1920	(1 5561)
(Ret – $R_{VW\ IND}$)	-0 0009	(0 6954)	0 0002	(0 0473)	-0 0005	(0 1841)	0 0006	(0 0568)
NIBEX_CHG	0 0001	(1 7420)	-0 0001	(0 9913)	-0 0002**	(6 0730)	0 0002	(1 6760)
CHG-Top Exec Comp	0 0154	(1 9557)	0 0199*	(3 0045)	0 0211[a]	(2 2690)	-0 0215	(1 1135)
Price Runup (Ret)	0 0010	(0 9948)	-0 0002	(0 0456)	0 0005	(0 1661)	0 0029	(1 9011)
MB	-0 0454***	(8 6329)	-0 0062	(0 1545)	-0 0164	(0 8870)	-0 1337***	(19 784)
Debt/Assets	-0 1699	(0 9208)	-0 2422	(1 6657)	-0 3355	(2 4686)	0 2346	(0 4818)
Intangibles/Assets	-0 4326***	(7 2031)	0 0693	(0 1637)	0 3626**	(3 9692)	-0 4767	(1 6369)
Cash Comp Ratio	0 1307	(1 0998)	0 2114[a]	(2 5402)	0 1430	(0 8780)	0 1895	(0 4185)
Insider Ownership	0 2625	(0 4783)	0 4136	(1 1093)	-0 1007	(0 0665)	1 9679**	(4 2320)
Intercept	0 9660***	(108 828)	0 6899***	(48 139)	0 9296***	(70 775)	1 0111***	(30 695)
No Obs	2930		2426		2034		896	
Percent Concordant	57 8%		55 0%		57 2%		67 8%	
Percent Discordant	40 7%		43 0%		41 2%		31 5%	
Percent Tied	1 5%		2 0%		1 6%		0 7%	

TABLE VII
THE BIDDER'S TARGET CHOICES OVER SUBSAMPLES CONTROLLING FOR OTHER CHOICES

Model 1: Choice = $\alpha + \beta_1$ *PCAR_1* $+ \beta_2$ *PCAR_2* $+ \beta_3$ *PCAR_3* $+ \beta_4$ *Loss_Reaction*$_1$ $+ \beta_5$ *Loss_Reaction*$_2$ $+ \beta_6$ *Loss_Reaction*$_3$ $+ \beta_7$ *(Ret* $- R_{VW\ IND}$*)* $+ \beta_8$ *NIBEX_CHG* $+ \beta_9$ *Change in Mgt Compensation* $+ \beta_{10}$ *Ret* $+ \beta_{11}$ *MB* $+ \beta_{12}$ *Debt/Assets* $+ \beta_{13}$ *Intangibles/Assets* $+ \varepsilon$

Model 2: Choice = $\alpha + \beta_1$ *PCAR_1* $+ \beta_2$ *PCAR_2* $+ \beta_3$ *PCAR_3* $+ \beta_4$ *Loss_Reaction*$_1$ $+ \beta_5$ *Loss_Reaction*$_2$ $+ \beta_6$ *Loss_Reaction*$_3$ $+ \beta_7$ *(Ret* $- R_{VW\ IND}$*)* $+ \beta_8$ *NIBEX_CHG* $+ \beta_9$ *Change in Mgt Compensation* $+ \beta_{10}$ *Ret* $+ \beta_{11}$ *MB* $+ \beta_{12}$ *Debt/Assets* $+ \beta_{13}$ *Intangibles/Assets* $+ \beta_{14}$ *Cash Compensation Ratio* $+ \beta_{15}$ *Insider Ownership* $+ \varepsilon$

Choice variables of Related/Unrelated and Public/Private targets are regressed using 2-models on eight (8) sub samples, namely, (1) *Local-Related* targets (2) *Local-Unrelated* targets (3) *Local-Private* targets (4) *Local-Public* targets (5) *Foreign-Related* targets (6) *Foreign-Unrelated* targets (7) *Foreign-Private* targets and (8) *Foreign-Public* targets. The control variables include price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Market-to-Book ratio, Debt ratio, the ratio of intangibles to total assets, cash compensation ratio of management team and insider ownership

	Local Targets Sample								**Foreign Targets Sample**							
	Related Sub. (1)		Unrelated Sub. (2)		Private Sub. (3)		Public Sub. (4)		Related Sub (5)		Unrelated Sub (6)		Private Sub. (7)		Public Sub. (8)	
Choice	Public / Private		Public / Private		Related/Unrelated		Related/Unrelated		Public / Private		Public / Private		Related/Unrelated		Related/Unrelated	
PCAR_1	0 0254	0 005	-0 012	0 006	0 009	-0 008	0 029	-0 020	0 48***	0 42***	-0 093	-0 07	-0 107[d]	-0 120[t]	0 274**	0 235*
PCAR_2	-0 061	-0 062	-0 008	-0 001	0 048	0 054	0 030	0 032	0 44***	0 52***	-0 035	-0 02	-0 079	-0 097	0 314***	0 291**
PCAR_3	0 052	0 021	-0 060[a]	-0 07*	-0 099*	-0 084	-0 011	-0 008	0 166[d]	0 26**	0 001	-0 014	-0 051	-0 081	0 122	0 142
Loss_Reaction$_1$	0 068	-0 018	-0 112	-0 143	0 018	-0 044	0 289	0 303	1 088**	0 98*	0 184	0 127	-0 027	0 174	0 167	0 454
Loss_Reaction$_2$	-0 239	-0 448	0 311*	0 352*	0 57***	0 65***	0 001	-0 067	0 536	0 343	0 097	-0 033	-0 077	-0 011	-0 265	-0 008
Loss_Reaction$_3$	0 93**	0 840*	-0 021	-0 055	-0 197	-0 119	0 591**	0 627**	-0 526	-0 382	-0 390	-0 267	-0 172	-0 080	0 819	0 740
(Ret – $R_{VW\ IND}$)	-0 01*	-0 01***	-0 001	-0 001	0 000	0 001	-0 000	-0 002	0 006	-0 001	0 004[t]	0 004	-0 002	0 001	-0 008	-0 003
NIBEX_CHG	0 00	0 000	0 0001*	0 0001*	0 0002*	0 000	0 000	0 000	-0 000	-0 000	-0 000	-0 000	0 0002[t]	0 0003[t]	0 000	0 001[t]
CHG-Mgt Comp	0 26***	0 16*	0 007	-0 008	0 141**	0 142**	0 080[r]	0 054	-0 003	-0 013	0 103[r]	0 119[r]	0 066	0 075	-0 027	-0 056
Price Runup (Ret)	0 003	0 01*	0 001	0 001	-0 000	-0 001	-0 000	0 001	0 001	0 006	-0 002	-0 002	-0 001	-0 003	0 003	-0 002
MB	-0 02	0 002	-0 023	-0 028	-0 065*	-0 061	-0 082[a]	-0 055	0 068	0 181[a]	-0 032	-0 016	-0 074	-0 087	0 005	-0 006
Debt/Assets	0 840	1 33**	0 465**	0 572**	0 815***	0 604*	1 42***	1 219***	-1 177	0 429	0 329	-0 088	1 376[r]	0 670	1 277	2 192[r]
Intangibles/Assets	-1 4**	-1 57**	-0 55***	-0 68***	0 343	0 446[t]	-0 316	-0 261	0 156	0 457	-0 559	-0 365	-0 776[a]	-0 722	-0 278	-0 083
Cash Comp Ratio	*n a*	-0 156	*n a*	-0 424**	*n a*	0 131	*n a*	0 402	*n a*	0 584	*n a*	0 201	*n a*	-0 116	*n a*	-0 058
Insider Ownership	*n a*	0 353	*n a*	-0 349	*n a*	-0 767	*n a*	-0 097	*n a*	2 141	*n a*	-1 496	*n a*	-3 549	*n a*	2 971
Intercept	-0 26	-0 37	-0 71***	-0 47***	-1 48***	-1 48***	-1 14***	-1 36***	-0 137	-1 102[d]	-0 98[r][t]	-1 01***	-1 232[r][t]	-0 96[r][t]	-0 58[t]	-0 791
No Obs	212	186	1668	1526	1402	1278	478	434	106	91	463	418	447	398	122	111
Percent Concordant	69 1%	71 8%	58 2%	60 2%	64 7%	64 7%	65 5%	64 4%	76 0%	77 3%	63 9%	65 4%	66 7%	66 7%	71 3%	73 1%
Percent Discordant	30 5%	27 9%	40 7%	38 9%	33 9%	34 0%	33 9%	34 9%	23 7%	22 5%	34 9%	33 5%	32 6%	32 4%	28 3%	26 6%
Percent Tied	0 4%	0 3%	1 1%	0 9%	1 4%	1 4%	0 6%	0 7%	0 3%	0 2%	1 2%	1 1%	0 8%	1 0%	0 4%	0 3%

TABLE VIII
THE RELATIVE SIZE OF TARGETS CHOSEN BY SERIAL BIDDERS IN M&A DEALS

Relative Size = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\text{-}IND}) + \beta_8$ *Change in Top Mgt Compensation* $+ \beta_9 Mkt\text{-}Cap + \beta_{10} MB + \beta_{11}$ *Debt/Assets* $+ \beta_{12} FCF + \beta_{13}$ *Intangibles/Assets* $+ \beta_{14}$ *Insider Ownership* $+ \varepsilon$

The Relative Size of Targets to Bidders are regressed on four definitions of bidder performance in addition to six other control variables, namely, Bidder's Market-Cap, Market-to-Book ratio, Debt ratio, Free-Cash-Flow, the ratio of intangibles to total assets and insider ownership.

	Whole Sample		No Bank & Utilities		*Without* uncompleted Deals		*With* uncompleted Deals	
Variable	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
PCAR_1	0.030**	1.91	0.030*	1.85	0.031[a]	1.65	0.024	0.84
PCAR_2	0.001	0.04	0.001	0.04	0.0004	0.02	-0.001	-0.02
PCAR_3	-0.01	-0.48	-0.011	-0.53	-0.011	-0.42	-0.011	-0.32
$Loss\_Reaction_1$	0.305***	3.56	0.315***	3.59			0.159***	1.91
$Loss\_Reaction_2$	0.078	0.79	0.082	0.81			-0.023	-0.24
$Loss\_Reaction_3$	0.056	0.52	0.059	0.54			-0.048	-0.48
$(Ret - R_{VW\text{-}IND})$	-0.001**	-1.61	-0.001[a]	-1.53	-0.001	-1.04	-0.002[b]	-1.87
NIBEX	0.0001***	2.61	0.0001**	2.40	0.0001[b]	1.74	0.0001***	2.36
R1Y	0.001*	1.61	0.001[a]	1.53	0.0001	1.04	0.0017	1.53
Mkt Cap	-0.154***	-16.19	-0.157***	-15.95	-0.145***	-12.47	-0.190***	-11.68
MB	0.0012	0.20	0.0014	0.23	0.0032	0.48	-0.003	-0.19
Debt/Assets	0.337	4.23	0.344***	4.19	0.404***	4.39	0.062	0.39
FCF	0.000	0.71	0.000	0.76	0.000	0.99	-0.000	-0.17
Intangibles/Assets	-0.095	-1.03	-0.098	-1.04	-0.042	-0.39	-0.204	-1.11
Intercept	1.171***	18.16	1.187***	17.91	1.065***	13.82	1.636***	13.35
No. Obs	7349		7158		5607		1742	
R^2	4.34%		4.37%		3.3%		9.62%	

TABLE IX
TIME PERIOD BETWEEN DEALS AND TO CLOSE A DEAL BY SERIAL BIDDERS IN M&A DEALS

Model (A): Time - $proxy = \alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 NIBEX + \beta_9 Ret + \beta_{10} Mkt\text{-}Cap + \beta_{11} MB + \beta_{12} Debt/Assets + \beta_{13} FCF + \beta_{14} Intangibles/Assets + \beta_{15} Relative\ Size + \varepsilon$

Model (B): Time - $proxy = \alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 Change\ in\ Mgt\ Compensation + \beta_9 NIBEX + \beta_{10} Ret + \beta_{11} Mkt\text{-}Cap + \beta_{12} MB + \beta_{13} Debt/Assets + \beta_{14} FCF + \beta_{15} Intangibles/Assets + \beta_{16} Relative\ Size + \beta_{17} Cash\ Compensation\ Ratio + \beta_{18} Insider\ Ownership + \varepsilon$

The above two models were used to explain two time factors related with serial bidders behavior in M&A transactions, namely, (i) Period utilized by bidders to close a transaction (time between announcement till closing or withdrawal) (ii) Time period lapsed between the closing of one transaction and the announcement date of the following transaction.

	Time Period to Close a Deal								**Time Period Between 2-Consequtive Deals**							
	Model (A)				*Model (B)*				*Model (A)*				*Model (B)*			
Variables	Full Sample	No Banks and Utilities	Without uncomp Deals	With uncomp Deals	Full Sample	No Banks and Utilities	Without uncomp Deals	With uncomp Deals	Full Sample	No Banks and Utilities	Without uncomp Deals	With uncomp Deals	Full Sample	No Banks and Utilities	Without uncomp Deals	With uncomp Deals
PCAR_1	0 26	0 57	-0 16	0 36	0 48	1 17	0 56	0 09	0 55***	0 56***	0 52**	0 73***	0 81**	0 77*	0 85*	0 84
PCAR_2	1 07	1 15	2 03*	-2 23	0 96	0 83	1 38	0 04	-0 01	-0 04	-0 19	0 57*	-0 29	-0 32	-0 75	0 67
PCAR_3	-0 83	-0 99	0 15	-4 32*	0 29	0 39	3 65**	-7 13*	-0 31	-0 36	-0 28	-0 31	-0 15	-0 52	-0 23	-1 02*
$Loss\_Reaction_1$	25 93***	26 03***	*n a*	16 23***	2 80	1 39	*n a*	-4 34	0 86	0 91	*n a*	3 16***	4 17*	4 15*	*n a*	1 92
$Loss\_Reaction_2$	14 49***	14 13***	*n a*	8 05	18 43**	19 87**	*n a*	8 72	1 74	1 53	*n a*	4 33***	1 14	0 64	*n a*	3 87*
$Loss\_Reaction_3$	3 11	5 22	*n a*	-3 17	6 93	8 69	*n a*	-0 95	-0 99	-0 91	*n a*	1 53	-0 52	-0 64	*n a*	2 19
$(Ret - R_{VW\ IND})$	0 08***	0 08***	0 08**	0 13	-0 02	-0 03	-0 02	-0 08	0 06***	0 06***	0 06***	0 04***	0 03**	0 31*	0 03*	0 02
CHG-Mgt Comp	*n a*	*n a*	*n a*	*n a*	-0 33	-0 37	-0 22	-3 01	*n a*	*n a*	*n a*	*n a*	0 57**	-0 58**	-0 59*	-0 93
NIBEX	0 002	0 003*	0 001	-0 00	-0 004	-0 004	-0 002	-0 02**	-0 000	-0 000	0 000	-0 000	-0 000	-0 000	-0 000	0 000
Price Runup (Ret)	-0 08**	-0 08**	-0 08**	-0 10	0 02	0 03	0 017	0 09	-0 06***	-0 06***	-0 06***	-0 05***	-0 03***	-0 03*	-0 03	-0 04
Mkt-Cap	5 57***	5 45***	4 72***	9 87***	11 06***	11 09***	9 06***	19 85***	-0 64***	-0 59***	-0 36**	-1 05***	-0 95***	-0 92***	-0 19	-2 86**
MB	-0 17	-0 11	0 04	-2 34*	-0 97*	-0 96*	-0 55	-7 14***	-0 48***	-0 48***	-0 50***	-0 35*	-0 19*	-0 19*	-0 26*	0 32
Debt/Assets	18 75***	17 04***	13 75***	37 17***	35 06***	23 05**	34 66***	43 38	-5 14***	-4 65*	-5 53***	-3 14*	0 64	1 27	-0 58	4 28
FCF	-0 000	-0 002	0 000	0 001	0 001	0 002	-0 000	0 013	0 001**	0 000	0 000	0 001**	0 000	0 000	-0 000	0 000
Intangibles/Assets	16 83***	19 17***	16 52***	17 55	-7 65	-1 69	1 24	-53 66*	-7 32***	-7 67***	-6 73***	-9 41***	-13 3***	-13 53***	-13 84***	-9 22*
Relative Size	9 70***	9 61***	8 57***	32 63***	65 30***	77 23	64 06***	70 08***	0 53***	0 52***	0 51***	0 68**	3 88***	4 74***	3 07*	6 88***
Cash Comp Ratio	*n a*	*n a*	*n a*	*n a*	-2 17	-6 09	-6 91	2 81	*n a*	*n a*	*n a*	*n a*	2 95**	2 96*	4 10	-1 07
Insider Ownership	*n a*	*n a*	*n a*	*n a*	-16 59	-12 62	-20 99	35 07	*n a*	*n a*	*n a*	*n a*	1 68	1 79	1 23	5 66
Intercept	7 98**	7 79**	13 32***	-20 00*	-36 47	-36 41***	-22 93	-81 9**	20 89***	20 68***	19 79***	20 15***	23 09***	22 79***	18 02***	34 46***
No Obs	7017	6835	5605	1412	2034	2005	1565	469	7345	7154	5605	1740	2125	2094	1565	560
R^2	5 1%	5 2%	4 1%	9 8%	9 5%	10 5%	10 1%	10 7%	3 1%	3 04%	2 6%	7 7%	4 2%	4 4%	3 4%	11 2%

TABLE X
THE PREMIUMS PAID BY SERIAL BIDDERS IN M&A DEALS

PANEL A: Base Model with Basic Explanatory and Control Variables

Premium - $proxy = \alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 Ret + \beta_9 Mkt\text{-}Cap + \beta_{10} MB + \beta_{11} Debt/Assets + \beta_{12} FCF + \beta_{13} Intangibles/Assets + \beta_{14} Relative\ Size + \varepsilon$

Four proxies for Premiums paid by bidders are regressed on three definitions of bidder performance in addition to seven other control variables, namely, price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Bidder's Market-Cap, Market-to-Book ratio, Debt ratio, Free-Cash-Flow, the ratio of intangibles to total assets and relative size of bidder / target.

	Whole Sample				No Bank & Utilities				Bid *Without* uncompleted Deals				Bidders *with* uncompleted Deals			
Premium Proxies	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset
PCAR_1	0 658	0 619	0 514	-0 01	1 023	1 008	0 799	-0 012	0 767	1 264	1 341	-0 004	0 504	-0 619	-0 874	-0 035
PCAR_2	1 001	0 300	0 138	0 017	-0 09	-0 74	-0 87	0 017	-0 58	-1 547	0 468	0 024*	2 974[1]	2 471	-0 296	-0 011
PCAR_3	-0 64	-0 41	-1 31	-0 00	-1 05	-0 96	-1 76	-0 001	-0 15	1 030	-0 124	-0 002	-0 938	-2 082	-2 582	-0 006
$Loss\_Reaction_1$	13 72***	12 96**	9 532	0 369***	13 92***	13 18**	9 921	0 379***	*n a*	*n a*	*n a*	*n a*	12 549 *	11 481[1]	9 456	0 130[1]
$Loss\_Reaction_2$	0 372	-5 99	-5 64	0 043	0 496	-5 90	-5 36	0 045	*n a*	*n a*	*n a*	*n a*	-1 112	-7 389	-6 311	-0 050
$Loss\_Reaction_3$	-9 16	-12 91*	-10 32	0 024	-9 10	-12 83*	-10 15	0 027	*n a*	*n a*	*n a*	*n a*	-10 98	-14 31[1]	-11 335	-0 028
$(Ret - R_{VW\ IND})$	0 046	0 057	0 087	-0 00	0 055	0 067	0 095[a]	-0 001	0 033	0 043	0 117[a]	0 000	0 062	0 067	0 043	-0 002[1]
Price Runup (Ret)	-0 05	-0 072	-0 11*	0 001	-0 07[a]	-0 09*	-0 12**	0 001	-0 058	-0 078	-0 12[a]	-0 000	-0 060	-0 067	-0 054	0 003*[1]
Mkt-Cap	-0 71	-0 93	-1 91**	-0 06***	-0 82	-1 05	-2 05**	-0 06***	-1 49[1]	-0 88	-2 85**	-0 047***	0 683	-0 684	-0 502	-0 046***
MB	0 661	0 907*	1 655**	0 103***	0 859*	1 139**	1 938***	0 103***	0 911*	1 050**	2 127***	0 093***	-0 058	0 762	-0 476	0 181***
Debt/Assets	-8 68	-7 09	-11 55	-0 25***	-7 28	-5 19	-10 51	-0 243***	-12 08	-9 095	-10 27	-0 075	-2 683	-4 289	-14 97	-0 651***
FCF	-0 00	-0 00	0 002	0 000	-0 00	0 00	0 001	0 000	0 000	-0 000	0 002	0 000	-0 002	-0 000	0 001	0 000
Intangibles/Assets	-4 97	-7 18	-6 25	-0 052	-4 31	-6 50	-4 86	-0 055	2 179	-2 078	-0 103	-0 01	-19 82[a]	-16 448	-19 06	-0 121
Relative Size	-0 11	-0 49	-0 83	0 355***	-0 06	-0 43	-0 75	0 353***	0 482	0 556	-1 263	0 228***	-0 045	-0 714	-0 681	0 882***
Intercept	41 30***	48 32***	60 74***	0 417***	41 27***	48 22***	60 83***	0 424***	44 96***	46 43***	65 28***	0 355***	35 37***	49 29***	57 11***	0 174
No Obs	1067	1065	1064	7349	1041	1039	1038	7158	658	658	656	5607	404	407	408	1742
R^2	1 5%	1 67%	1 77%	22 48%	1 75%	2 03%	2 12%	22 37%	1 73%	1 82%	2 41%	19 65%	2 61%	2 71%	2 14%	41 85%

TABLE X – *Continued*
THE PREMIUMS PAID BY SERIAL BIDDERS IN M&A DEALS

PANEL B: Base Model with additional controls for compensation structure and insider ownership

Premium - $proxy = \alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 Ret + \beta_9 Mkt\text{-}Cap + \beta_{10} MB + \beta_{11} Debt/Assets + \beta_{12} Relative\ Size + \beta_{13} Cash\ Comp.\ Ratio + \beta_{14} Insider\ Ownership + \varepsilon$

Four proxies for Premiums paid by bidders are regressed on three definitions of bidder performance in addition to seven other control variables, namely, price run-up of bidder's stock over 1-fiscal year period prior to the transaction's year, Bidder's Market-Cap, Market-to-Book ratio, Debt ratio, relative size of bidder / target, cash compensation ratio for top management and insider's ownership.

	Whole Sample				No Bank & Utilities				Bid *Without* uncompleted Deals				Bidders *with* uncompleted Deals			
Premium Proxies	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset
PCAR_1	2 417***	1 137	3 287***	0 015*	1 349	1 520	2 351[d]	0 014[d]	2 021[b]	0 458	3 567**	0 011	2 711*	1 817	2 988*	0 014*
PCAR_2	0 567	0 134	1 731[a]	0 014[a]	-0 269	-0 362	1 090	0 009	0 378	0 286	3 989**	0 015	0 711	-0 217	-1 501	0 010
PCAR_3	-0 403	0 131	-0 783	0 011	-1 09	-0 254	-1 057	0 012	-0 013	1 382	1 800	0 009	-0 575	-0 891	-3 117†	0 013[1]
$Loss\_Reaction_1$	3 575	2 145	3 318	-0 064	7 164	8 314	5 708	-0 051	*n a*	*n a*	*n a*	*n a*	5 485	6 539	6 684	-0 025
$Loss\_Reaction_2$	-3 095	-10 125[4]	-5 019	-0 001	-3 624	-11 278*	-6 046	0 027	*n a*	*n a*	*n a*	*n a*	-1 523	-6 568	-2 485	0 007
$Loss\_Reaction_3$	-0 708	-4 296	-0 662	-0 027	-7 029	-8 922	-5 074	-0 021	*n a*	*n a*	*n a*	*n a*	-0 051	-2 820	-0 746	-0 027
$(Ret - R_{VW\ IND})$	-0 001	-0 087[4]	0 041	-0 001**	-0 043	-0 078[d]	0 007	-0 001**	-0 041	-0 173[c]	-0 044	-0 001[cc]	0 071	0 050	0 142[c]	0 0003
Price Runup (Ret)	-0 027	0 041	-0 079[a]	0 001**	0 021	0 034	-0 044	0 001**	-0 023	0 09	-0 021	0 001**	-0 037	-0 053	-0 157*	0 000
Mkt-Cap	0 0001**	0 000	0 0001**	-0 00**	0 0001*	0 00	0 000	-0 000	0 000	0 000	0 000	-0 000*†	0 0001††	0 0001**	0 0001†[a]*	-0 00[c]
MB	1 060**	1 1213*	3 121***	0 045***[a]	0 645	1 100[c]	2 934***[a]	0 045***[a]	1 837**[c]	1 681[c]	3 584***[a]	0 044***[a]	0 011	0 586	2 523†[c]	0 053***[a]
Debt/Assets	10 60	15 302	15 111[b]	-0 360***	8 688	12 72	13 031	-0 391***[a]	17 10[c]	28 04[c]	25 97**	-0 424**[a]	1 612	0 247	0 585	-0 201*[a]
Relative Size	-1 716	0 721	-5 512**	1 227***[a]	0 016	-1 911	-4 001	1 469***[a]	-1 184	4 149	-5 44[1]	1 492**[a]	-2 232	-3 397	-5 563	0 731***[a]
Cash Comp Ratio	0 842	-2 546	2 521	-0 196***[a]	-2 485	-4 957	0 287	-0 189***[a]	4 315	-2 534	5 667	-0 236**[a]	-3 224	-2 785	-1 964	-0 067[c]
Insider Ownership	37 904**	52 20**	61 32***[a]	0 424***[a]	37 58**	51 36†**	63 83***[a]	0 402***[a]	27 896	37 35	29 36	0 414**[a]	43 83[c]	70 48**[a]	121 4***[a]	0 404***[a]
Intercept	26 98***	32 15***	33 83***[a]	0 054*	29 56***	35 08***[a]	35 18***[a]	0 022	23 84***[a]	29 01***[a]	30 49***[a]	0 054	30 85**[a]	35 23***[a]	36 74***[a]	0 023
No Obs	924	921	919	3785	685	682	680	3138	562	562	557	2632	362	359	362	1153
R^2	2 63%	1 76%	6 18%	35 50%	2 18%	3 38%	5 13%	38 35%	2 81%	1 98%	6 45%	37 51%	5 01%	5 24%	10 92%	46 18%

TABLE X – *Continued*
THE PREMIUMS PAID BY SERIAL BIDDERS IN M&A DEALS

PANEL C: Adjusted Model with Compensation Loss Variable

Premium - $proxy = \alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8 Mgt\ Compensation\ Change + \beta_9 MB + \beta_{10} Debt/Assets + \beta_{11} Intangibles/Assets + \beta_{12} Relative\ Size + \beta_{13} Insider\ Ownership + \varepsilon$

Four proxies for Premiums paid by bidders are regressed on four definitions of bidder performance in addition to seven other control variables, namely, Market-to-Book ratio, Debt ratio, intangible assets ratio, relative size of bidder / target, and insider's ownership.

	Whole Sample				No Bank & Utilities				Bid. *Without* uncompleted Deals				Bidders *with* uncompleted Deals			
Premium Proxies	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1 week Prem	4 weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset	1-Day Prem	1-week Prem	4-weeks Prem	Deal / Asset
PCAR_1	2 071**	0 314	2 507**	0 006	0 810	0 567	0 969	0 003	1 716	-0 333	2 743[d]	0 002	2 262[b]	1 076	2 130	0 014[b]
PCAR_2	1 721[a]	1 169	2 281*	0 007	1 241	0 977	1 587	0 003	0 611	0 311	3 018[d]	0 005	3 318[b]	2 374	1 274	0 010
PCAR_3	-0 081	0 665	-0 233	0 013**	-0 47	0 418	-0 324	0 14[b]	0 870	2 998	3 022	0 013[b]	-0 607	-1 314	-3 031[a]	0 011
Loss_Reaction$_1$	6 172	1 537	4 546	-0 036	14 15**	12 434[a]	10 69	-0 023	*n a*	*n a*	*n a*	*n a*	9 018[b]	8 196	9 999[b]	-0 036
Loss_Reaction$_2$	-0 38	-5 89	-5 539	0 028	-0 112	-7 103	-7 903	0 054[a]	*n a*	*n a*	*n a*	*n a*	1 676	-2 219	-1 739	0 024
Loss_Reaction$_3$	-2 29	-7 65	-5 959	-0 006	-10 87[d]	-14 39*	-15 08*	0 002	*n a*	*n a*	*n a*	*n a*	0 956	-1 879	-0 295	-0 013
(Ret – $R_{VW\ IND}$)	-0 053**	-0 07[b]*	-0 067**	0 000	-0 05**	-0 074***	-0 069[b]*	0 000	-0 070[b]**	-0 083[b]	-0 077[b]*	-0 000	-0 021	-0 102*	-0 118[b]	0 000
Mgt Comp Change	0 539	-0 121	0 361	0 010**	1 068	0 740	1 118	0 010[b]*	0 794	0 172	0 136	0 013[b]**	1 015	0 889	1 789	-0 004
MB	1 345**	1 663**	3 185***	0 041***	1 166**	1 576**	3 040***[b]	0 040***[b]	1 666[b]*	1 808*	3 465***[b]	0 039***[b]	0 593	0 971	1 948	0 052[b]***
Debt/Assets	19 21**	29 45**	34 99**[b]	-0 142***	17 56*	26 43**[b]	34 24**	-0 151[b]**	29 58*[b]	44 24**[b]	44 28**[b]*	-0 143[b]**	3 912	5 959	18 103	-0 133[b]
Intangibles/Assets	-1 21	-10 71	-12 412	0 103***	-3 171	-8 410	-15 067	0 078*	-2 514	-16 68	-16 49	0 067[b]	-1 888	-1 293	-1 659	0 190[b]*
Relative Size	-1 62	1 617	-7 289**	0 716***	1 173	-1 331	-4 595	0 805***[b]	-2 258	5 109	-10 39**	0 727**[b]	-0 805	-0 824	-3 275	0 703[b]**
Insider Ownership	12 21	18 99	16 42	0 067	12 282	15 834	18 417	0 0591	33 35[d]	39 86	36 56	0 056	-47 506	-33 217	-32 97	0 167
Intercept	25 05***[b]	29 34***[b]	32 05***[b]	-0 018	25 45***[b]	29 87***[b]	32 38***[b]	-0 021	23 45*[b]	27 54[b]***	33 28***[b]	-0 012	27 64***[b]	30 78	30 23***[b]	-0 042[b]*
No Obs	710	707	708	2866	510	507	508	2377	438	438	436	2004	272	269	272	862
R^2	2 87%	1 77%	5 58%	42 08%	3 38%	4 38%	5 75%	41 38%	3 93%	2 52%	7 86%	40 54%	4 30%	3 51%	4 67%	47 02%

TABLE XI
PREMIUMS REGRESSIONS WITH ENDOGENEITY CORRECTION

Three model specifications are reported to explain premiums paid by bidders for targets using a 2-stage Probit-OLS regression to correct of the endogenous effect of the choice variables (Public/Private, Local/Foreign and Related/Unrelated targets), the results of which are reported in panels A & B. In addition, Panel B reports the results of a 2 stage LS regressions (2SLS) explaining premiums paid by bidders while controlling for the endogenous effect of Relative Size on premiums paid.

PANEL A: Premium Regressions with Correction for Public/Private and Local/Foreign Targets (2-Stage Probit-OLS)

	Public / Private Targets						Local / Foreign Targets					
	Full Sample			*Without Banks & Utilities*			*Full Sample*			*Without Banks & Utilities*		
Variables	Model-1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model-2	Model 3	Model-1	Model 2	Model-3
PCAR_1	-0 025***	0 011	0 004	-0 24**	0 013	0 006	-0 02*	0 007	0 011[a]	-0 03***	0 015*	-0 011[a]
PCAR_2	0 058***	0 024 ***	0 007	0 04***	0 018*	0 002	0 049***	0 03***	0 033***	0 05***	0 015[a]	0 03***
PCAR_3	-0 044***	0 008	0 10	-0 05***	0 018[a]	0 014*	0 011	0 013	0 008	0 008	0 014	0 006
Loss_Reaction$_1$	0 67***	-0 024	-0 049	0 69***	0 016	-0 023	0 51***	-0 006	0 002	0 485***	-0 004	-0 017
Loss_Reaction$_2$	0 372***	0 089*	0 09**	0 38***	-0 007	0 055[a]	0 104	0 055	0 083**	0 114[a]	0 036	0 08**
Loss_Reaction$_3$	0 183**	0 013	0 008	0 19**	0 03	-0 001	0 52***	0 014	0 082**	0 55***	0 023	0 071*
(Ret – R$_{VW\ (IND)}$)	0 003***	-0 001	-0 001*	0 002***	0 001*	-0 0004*	0 001***	-0 001	-0 000	0 002***	-0 001*	-0 000
CHG Mgt Comp	*n a*	*n a*	0 004	*n a*	*n a*	0 006	*n a*	*n a*	-0 003	*n a*	*n a*	0 002
NIBEX	0 000	-0 000	-0 000	0 000*	0 000	0 000	0 00***	-0 000	0 000**	0 00***	-0 000	0 00***
Ret (Run-up)	-0 003***	0 001[a]	0 0004	0 002***	0 001*	0 0004*	-0 002***	0 001	0 000	-0 002***	0 001*	0 0001
Mkt-Cap	0 16***	0 051 *	0 05***	0 15***	0 04**	0 014	0 102***	0 021*	0 077***	0 11* **	0 000	0 06***
MB	0 08***	0 037***	0 033***	0 08***	0 05***	0 04***	0 08***	0 04***	0 031***	0 08***	0 04***	0 03***
Debt/Assets	-0 51***	-0 26***	-0 127**	-0 46***	-0 25***	-0 16***	-0 89***	-0 22***	-0 016	-0 84***	0 28***	0 048
FCF	0 000	0 000	-0 000***	0 000**	0 000	0 00**	0 000	0 000	-0 000***	0 000**	-0 000	-0 00**
Intangibles/Assets	0 42***	0 016	-0 007	0 44***	0 14**	0 051	-0 002	0 046	-0 091*	0 029	0 09[a]	0 050
Relative Size	0 53***	1 26***	1 015***	0 52***	0 78***	0 851***	0 33***	0 97***	0 56***	0 33***	1 14***	0 61***
Cash Comp Ratio	*n a*	-0 12***	-0 107***	*n a*	-0 13***	-0 08**	*n a*	-0 09*	0 026	*n a*	0 15***	0 037
Insider Ownership	*n a*	0 082	0 0081	*n a*	0 22*	0 074	*n a*	0 12	0 011	*n a*	0 187[a]	0 017
Public	-5 34***	-0 59**	-0 549***	-5 23***	0 67**	-0 055	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*
Local	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	6 17***	0 518	1 97***	6 31***	-0 337	1 7***
λ (endog Correction)	3 24***	0 39***	0 394***	3 19***	-0 35***	0 106	-3 37***	0 28	-1 13***	-3 45***	0 219	-0 9***
Intercept	0 15***	-0 23**	-0 22***	0 15**	0 21*	-0 065	-5 56***	-0 536	-2 06***	-5 68***	0 284	-1 8***
No Obs	7349	2341	2127	7158	2275	2096	7349	2341	2127	7158	2275	2096
R^2	25 84%	37 2%	43 67%	25 7%	37 1%	42 5%	24 2%	36 9%	43 9%	24 16%	36 8%	42 5%

PANEL B: Premium Regressions with Correction for Local/Foreign targets & Relative Size (2-Stage Probit-OLS & 2SLS)

	Related / Unrelated Targets						Relative Size					
	Full Sample			*Without Banks & Utilities*			*Full Sample*			*Without Banks & Utilities*		
Variables	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3	Model-1	Model-2	Model 3	Model-1	Model-2	Model-3
PCAR_1	-0 015	0 004	0 004	-0 012	0 007	0 004	-0 011	0 011	0 006	-0 012	0 012[a]	0 006
PCAR_2	0 025*	0 03***	0 009	0 03*	0 03***	0 007	0 017[a]	0 02**	0 004	0 018	0 02**	0 003
PCAR_3	-0 014	-0 015	0 004	-0 012	-0 012	0 005	-0 001	0 013	0 014*	-0 001	0 013	0 015*
Loss_Reaction$_1$	0 57***	0 035	0 002	0 54***	0 017	-0 008	0 37***	-0 004	-0 019	0 38***	-0 009	-0 021
Loss_Reaction$_2$	0 28***	0 32***	0 16***	0 31***	0 32***	0 15***	0 043	0 043	0 049	0 045	0 042	0 052[a]
Loss_Reaction$_3$	0 14*	0 08[a]	0 039	0 16*	0 10*	0 035	0 024	-0 01	-0 005	0 028	-0 009	-0 002
(Ret – R$_{VW\ (IND)}$)	0 001	-0 000	-0 000	0 001	-0 000	-0 0002	-0 001	-0 001*	-0 004*	-0 001[a]	-0 001*	-0 001*
CHG-Mgt Comp	*n a*	*n a*	0 002	*n a*	*n a*	0 003	*n a*	*n a*	0 005	*n a*	*n a*	0 006
NIBEX	-0 000	-0 000	-0 000	-0 000	-0 000*	-0 000	0 000	0 000	-0 000	0 000	0 000	-0 000
Ret (Run-up)	0 000	0 000	0 0002	-0 000	0 000	0 000	0 001	0 001*	0 0004*	0 001	0 001*	0 0004*
Mkt-Cap	0 015	0 09***	0 04***	0 009	0 09***	0 03***	-0 06***	0 007	0 009	-0 06***	0 009	0 009
MB	0 09***	0 03***	0 03***	0 09***	0 03***	0 03***	0 103***	0 042***	0 04***	0 103***	0 042***	0 04***
Debt/Assets	0 14*	0 112	-0 011	0 12[a]	0 006	-0 057	-0 25***	-0 24***	-0 15***	0 24***	-0 25***	-0 2***
FCF	0 000	-0 000**	-0 000	0 000*	-0 000	-0 000	0 000	-0 000	-0 000*	-0 000	-0 000*	-0 00*
Intangibles/Assets	-0 072	0 045	0 065	-0 065	0 085	0 071[a]	-0 05	0 069	0 056	-0 052	0 070	0 057
Relative Size	0 39***	1 32***	0 92***	0 39***	1 43***	0 94***	0 35***	1 03***	0 80***	0 35***	1 09***	0 82***
Cash Comp Ratio	*n a*	0 017	-0 031	*n a*	0 064	-0 022	*n a*	-0 135***	-0 09**	*n a*	-0 13***	-0 08**
Insider Ownership	*n a*	-0 005	-0 007	*n a*	-0 016	0 013	*n a*	0 154	0 073	*n a*	0 178	0 080
Related Target	-3 94***	-2 72***	-1 03***	-3 89***	-2 55***	-0 86***	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*
λ (endog Correction)	2 11***	1 46***	0 57***	2 08***	1 37***	0 48***	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*
Intercept	0 26***	-0 46***	-0 18***	0 29***	-0 51***	-0 19***	0 42***	-0 022	-0 033	0 45***	-0 047	-0 045
No Obs	7349	2341	2127	7158	2275	2096	7349	2341	2127	7158	2275	2096
R^2	23 2%	38 4%	42 5%	23 1%	38 4%	41 7%	22 5%	36 7%	42 1%	22 4%	36 7%	41 3%

TABLE XII
IMPACT OF LOSS AVERSION USING MANAGERIAL COMPENSATION PROXIES ON PREMIUMS PAID BY SERIAL BIDDERS

The below table summarize the regression results of proxies of cash and non-cash managerial compensation on premiums paid by bidders The results are reported for three (3) definitions for premiums (i) 1-Day Premium (ii) 1-Week Premium and (iii) 4-Weeks Premium. Two models are used to explain premiums using either 2 proxies of cash compensation changes to the management team or non-cash compensation changes to the management team. The results are reported using company-level and Fama-French industry-level (median) data for control variables Results using FF-Industry medians are reported in ***italics.***

Model (1): Premium - *proxy* = $\alpha + \beta_1$ *Change in Cash Compensation of Top Executive* + β_2 *Change in Cash Compensation of Other Members Of Management* + β_3 *Ret* + β_4 *MB* + β_5 *Debt/Assets* + β_6 *Intangibles/Assets* + β_7 *Relative Size* + β_8 *Cash Compensation Ratio* + β_9 *Insider Ownership* + ε

Model (2): Premium - *proxy* = $\alpha + \beta_1$ *Change in Non-Cash Compensation of Top Executive* + β_2 *Change in Non-Cash Compensation of Other Members Of Management* + β_3 *Ret* + β_4 *MB* + β_5 *Debt/Assets* + β_6 *Intangibles/Assets* + β_7 *Relative Size* + β_8 *Cash Compensation Ratio* + β_9 *Insider Ownership* + ε

	Cash Comp. Changes for Top Executive and Mgt						**Non-Cash Comp. Changes for Top Executive and Mgt**					
	Company Level Controls			*FF-Industry Level Controls*			*Company Level Controls*			*FF Industry Level Controls*		
Variables	1-Day Prem	1-Week Prem	4-Weeks Prem	1-Day Prem	1-Week Prem	4-Weeks Prem	1-Day Prem	1-Week Prem	4-Weeks Prem	1-Day Prem	1-Week Prem	4-Weeks Prem
CHG % – Cash Comp Top Executive	-5 224***	-4 56*	-5 09**	-4 29***	-4 106*	-3 24[1]	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*
CHG % – Cash Comp of Mgt Team	-10 46***	-7 67[d]	-8 10*	-8 49***	-6 77	-5 06	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*
CHG % – Non Cash Comp Top Executive	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	-1 31	-0 946	-1 148	-1 02	-1 14	-1 18
CHG % – Non Cash Comp of Mgt Team	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	6 42***	6 74**	5 49**	6 65***	7 171**	6 11**
Ret (Price Run-up)	-0 035*	-0 037	-0 059**	*-0 078***	*-0 014*	*0 143****	0 042**	-0 042	-0 065**	*-0 08***	*0 018*	*-0 146****
MB	1 406***	1 28*	3 31***	*4 736****	*4 181***	*5 74****	1 35***	1 22[1]	3 25***	*4 51****	*3 87***	*5 45***
Debt/Assets	24 881***	34 098***	40 29***	*7 362*	*3 893*	*1 73*	22 31***	31 83**	38 12***	*5 34*	*1 65*	*0 261*
Intangibles/Assets	-4 901***	-14 58	-15 34*	*-2 743*	*-18 76*	*12 84*	-6 339	-15 81	-16 72*	*-3 74*	*-19 74*	*13 82*
Relative Size	-1 507	1 989	-6 86**	*35 16****	*30 09****	*36 09****	-1 278	2 164	-6 74**	*35 43****	*30 39****	*36 41****
Cash Comp Ratio	-2 187	-7 77	-4 85	-6 208	-10 06[d]	-10 57*	-3 751	-8 769	-5 89	-7 19*	-11 04*	-11 51**
Insider Ownership	14 39	18 75	17 12	26 30*	32 03	21 82	13 526	18 39	15 83	25 56*	31 39	21 10
Intercept	26 18***	32 75***	34 19	23 22***	33 22***	36 97***	27 35***	33 59***	34 93***	24 08***	34 16***	37 82***
No Obs	704	701	702	846	843	843	704	701	702	846	843	843
R^2	3 1%	1 7%	5 37%	5 82%	2 04%	4 52%	3 4%	2 03%	5 5%	6 4%	2 46%	4 9%

TABLE XIII
DESCRIPTIVE STATISTICS OF MANAGERIAL ENTRENCHMENT (OWNERSHIP) SUBSAMPLES

Descriptive statistics reported for managerial ownership (entrenchment) subsamples (top and bottom quartiles of the full sample) using insiders ownership.

	4th Quartile Sub-sample					1st Quartile Sub-sample				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Premium	36.74	41.58	13.77	28.81	55.70	33.41	30.15	14.35	26.87	47.40
Deal/Asset Ratio	0.362	2.301	0.023	0.065	0.207	0.170	0.525	0.006	0.028	0.131
Lag1 SCAR	0.065	1.06	-0.492	0.000	0.664	-0.056	1.018	-0.66	0.00	0.517
Loss_Reaction1	0.036	0.187	0.00	0.00	0.00	0.051	0.219	0.00	0.00	0.00
(Ret – $R_{VW\text{-}IND}$)	25.51	76.08	-14.77	14.97	51.95	16.32	88.92	-13.49	2.95	24.50
CHG in Mgt Comp.	0.639	2.191	-0.152	0.189	0.788	0.424	1.972	-0.177	0.143	0.519
Ret (Run-up)	43.85	79.68	-1.557	27.87	70.59	30.99	95.97	-6.82	15.87	42.23
MB	3.041	4.799	1.096	1.705	2.871	2.053	2.486	0.883	1.424	2.239
Leverage	0.212	0.188	0.025	0.196	0.333	0.221	0.154	0.097	0.216	0.319
Intangibles/Assets	0.141	0.158	0.016	0.081	0.216	0.144	0.172	0.010	0.076	0.213
Relative Size	0.172	0.406	0.017	0.053	0.161	0.146	0.292	0.007	0.031	0.138
Insider Shareholding	0.107	0.095	0.040	0.076	0.134	0.001	0.001	0.000	0.001	0.002
Cash Comp. Ratio	0.503	0.274	0.273	0.484	0.713	0.433	0.216	0.267	0.408	0.577

TABLE XIV

MANAGERIAL ENTRENCHMENT ROBUSTNESS: TESTING THE IMPACT OF INSIDER'S OWNERSHIP ON LOSS AVERSION EFFECTS

Model (1): Dependent = $\alpha + \beta_1$ *PCAR_1* $+ \beta_2$ *PCAR_2* $+ \beta_3$ *PCAR_3* $+ \beta_4$ *Loss_Reaction*$_1$ $+ \beta_5$ *Loss_Reaction*$_2$ $+ \beta_6$ *Loss_Reaction*$_3$ $+ \beta_7$ *(Ret* $- R_{VW\ IND}$*)* $+ \beta_8$ *Change in Mgt Compensation* $+ \beta_9$ *Ret* $+ \beta_{10}$ *MB* $+ \beta_{11}$ *Debt/Assets* $+ \beta_{12}$ *Intangibles/Assets* $+ \varepsilon$

Model (2): Dependent = $\alpha + \beta_1$ *PCAR_1* $+ \beta_2$ *PCAR_2* $+ \beta_3$ *PCAR_3* $+ \beta_4$ *Loss_Reaction*$_1$ $+ \beta_5$ *Loss_Reaction*$_2$ $+ \beta_6$ *Loss_Reaction*$_3$ $+ \beta_7$ *(Ret* $- R_{VW\text{-}IND}$*)* $+ \beta_8$ *Change in Mgt Compensation* $+ \beta_9$ *Ret* $+ \beta_{10}$ *MB* $+ \beta_{11}$ *Debt/Assets* $+ \beta_{12}$ *Intangibles/Assets* $+ \beta_{13}$ *Cash Compensation Ratio* $+ \beta_{14}$ *Relative Size* $+ \varepsilon$

The above two models are used to reproduce the choice and premium regressions results in two sub samples representing the top and bottom quartiles of the main sample sorted by extent of insider's ownership. The results produced for the two sub samples reflect the impact of the extent of managerial entrenchment in their companies on the loss aversion results in M&A deals.

Variables	High Management Entrenchment (*N=986*)								Low Management Entrenchment (*N=985*)							
	Public/Private		*Local/Foreign*		*Related/Unrelated*		*Premium*		*Public/Private*		*Local/Foreign*		*Related/Unrelated*		*Premium*	
	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2
PCAR_1	0 094[c]	0 10*	0 001	-0 01	0 05	0 05	-0 001	0 003	0 023	-0 003	-0 05	-0 05	-0 004	-0 02	0 000	0 012[b]
PCAR_2	-0 08	-0 07	0 02	0 05	-0 032	-0 02	0 02[a]	0 002	-0 07[d]	-0 06	0 006	0 02	-0 051	-0 04	0 02	0 016*
PCAR_3	0 06	0 06	-0 07	-0 08	0 04	0 04	-0 01	0 004	0 06	0 07	0 09*	0 09[c]	-0 058	0 06	-0 01	-0 009
Loss_Reaction$_1$	0 13	0 08	0 72***	0 71***	-0 29	-0 31	-0 09	-0 04	-0 14	-0 24	0 15	0 15	-0 226	-0 27	-0 049	-0 012
Loss_Reaction$_2$	-0 59**	-0 59[c]*	-0 10	-0 11	-0 83***	-0 83***	-0 08	-0 06	-0 25	-0 14	0 04	0 12	-0 75[c]**	-0 74[c]**	0 17[c]**	0 11**
Loss_Reaction$_3$	-0 36	-0 49[a]	0 19	0 22	-0 19	-0 27	-0 07	-0 019	-0 01	0 001	0 31	0 43*	-0 12	-0 14	-0 03	0 066
(Ret – $R_{VW\ IND}$)	0 001	0 001	-0 002	-0 002	0 002	0 001	0 000	0 000	0 001	0 001	0 003	0 003	0 002	0 002	0 000	-0 000
CHG-Mgt Comp	-0 09***	-0 11**	-0 03	-0 03	-0 04	-0 04	0 02[a]	0 01	0 01	0 03	-0 05	-0 081	0 18*	0 22[c]**	-0 01	-0 013[b]**
Price Runup (Ret)	-0 001	-0 001	0 001	0 001	-0 002	-0 002	-0 001[a]	-0 001	-0 001	-0 002	-0 002	-0 002	-0 000	-0 001	0 000	0 0002
MB	0 08***	0 06*	0 02	0 02	0 03	0 02	0 04***	0 05***	0 04	0 04	0 022	0 01	0 0172	0 01	0 06[c]**	0 07[c]**
Debt/Assets	-1 12***	-0 97***	0 14	0 37	-1 97***	-1 88***	0 13	-0 14**	-0 21	0 07	-0 14	0 03	-0 314	-0 197	0 022	-0 12[b]
Intangibles/Assets	0 58[b]	0 48	-0 04	-0 11	-0 49	-0 52	-0 015	0 08	1 13[c]**	1 11[c]**	-0 49	-0 69*[c]	0 42	0 32	0 03	0 14**
Cash Comp Ratio	*n a*	-0 12	*n a*	-0 09	*n a*	-0 05	*n a*	-0 03	*n a*	0 38	*n a*	-0 38	*n a*	0 15	*n a*	-0 05
Relative Size	*n a*	-0 45***	*n a*	-0 54**	*n a*	-0 24*	*n a*	0 68***	*n a*	-2 10[c]**	*n a*	-0 82[c]**	*n a*	-0 71[c]**	*n a*	0 835[c]**
Intercept	0 87***	1 06[c]**	-0 92***	-0 83***	1 82***	1 89[c]**	0 09[c]**	-0 006	0 27[c]*	0 35[c]*	-0 66[c]**	-0 38*[c]	0 94[c]**	1 00[c]**	0 03	-0 06[b]
Concordant %	66 1%	70 1%	56 2%	60 7%	70 3%	70 9%	*n a*	*n a*	59 7%	73 4%	56%	62 0%	61 7%	66 7%	*n a*	*n a*
Discordant %	33 3%	29 3%	42 0%	38 3%	28 9%	28 3%	*n a*	*n a*	39 5%	26 2%	42 7%	37 2%	37 2%	32 4%	*n a*	*n a*
Tied %	0 6%	0 5%	1 7%	1 0%	0 8%	0 8%	*n a*	*n a*	0 8%	0 4%	1 3%	0 8%	1 1%	0 8%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	7 1%	50%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	9 74%	50 1%

TABLE XV
DESCRIPTIVE STATISTICS OF OVERCONFIDENCE SUBSAMPLES

Descriptive statistics reported for overconfidence subsamples using 3 overconfidence proxies

PANEL A: Top and Bottom Quartiles (sub-samples) by Number of Transactions

	4th Quartile Sub-sample					1st Quartile Sub-sample				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Premium	30 75	32 74	9 65	26 07	42 72	29 81	30 93	13 7	25 5	40 7
Deal/Asset Ratio	0 12	0 436	0 005	0 018	0 075	0 287	1 34	0 02	0 071	0 213
Lag1 SCAR	-0 018	1 10	0 67	-0 001	0 662	0 018	0 97	0 41	0 00	0 434
Loss_Reaction1	0 051	0 221	0 00	0 00	0 00	0 047	0 212	0 00	0 00	0 00
(Ret – $R_{VW\ IND}$)	15 08	61 23	-13 0	4 10	30 00	301 8	678 7	0 177	2 94	25 93
CHG in Mgt Comp	0 546	1 331	-0 137	0 178	0 644	0 353	1 022	-0 134	0 118	0 484
Ret (Run-up)	34 99	66 95	0 71	26 00	54 00	313 9	676 3	-8 78	15 37	42 15
MB	2 29	4 41	0 77	1 44	2 56	2 094	3 328	0 854	1 250	2 153
Leverage	0 218	0 144	0 12	0 21	0 29	0 225	0 173	0 068	0 219	0 346
Intangibles/Assets	0 159	0 163	0 015	0 11	0 26	0 112	0 147	0 000	0 049	0 170
Relative Size	0 088	0 206	0 006	0 021	0 07	0 232	0 480	0 023	0 074	0 232
Insider Shareholding	0 031	0 059	0 003	0 007	0 022	0 037	6 89	0 002	0 007	0 027
Cash Comp Ratio	0 417	0 225	0 248	0 395	0 562	0 521	0 238	0 335	0 506	0 692

PANEL B: Top and Bottom Quartiles (sub-samples) by Options Ratio Held by Insiders

	4th Quartile Sub-sample					1st Quartile Sub sample				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Premium	33 88	33 53	14 39	27 27	46 87	32 95	32 89	13 7	27 62	45 31
Deal/Asset Ratio	0 284	0 759	0 026	0 081	0 252	0 173	1 177	0 007	0 027	0 120
Lag1 SCAR	0 052	1 095	0 59	0 00	0 621	-0 053	1 089	-0 65	0 00	0 525
Loss_Reaction1	0 041	0 198	0 00	0 00	0 00	0 053	0 225	0 00	0 00	0 00
(Ret – $R_{VW\ IND}$)	43 67	105 5	-7 91	21 96	63 64	297 6	690 4	-18 49	-2 06	11 69
CHG in Mgt Comp	0 646	1 982	-0 104	0 255	0 893	0 322	0 943	-0 147	0 123	0 447
Ret (Run-up)	65 72	112 4	7 867	42 15	85 07	306 3	688 2	-13 84	5 38	29 33
MB	3 40	6 14	1 225	1 869	3 125	1 456	1 857	0 707	1 057	1 697
Leverage	0 209	0 184	0 033	0 195	0 321	0 261	0 152	0 156	0 258	0 355
Intangibles/Assets	0 189	0 203	0 019	0 111	0 302	0 115	0 143	0 008	0 060	0 168
Relative Size	0 161	0 322	0 018	0 055	0 159	0 201	0 441	0 011	0 045	0 196
Insider Shareholding	0 045	0 075	0 006	0 017	0 046	0 028	0 067	0 001	0 004	0 014
Cash Comp Ratio	0 437	0 237	0 258	0 408	0 584	0 509	0 236	0 337	0 500	0 662

PANEL C: Top and Bottom Quartiles (sub-samples) by Log of Dollar Value of Options

	4th Quartile Sub-sample					1st Quartile Sub sample				
Variables	Mean	STD	Q1	Median	Q3	Mean	STD	Q1	Median	Q3
Premium	33 36	33 93	12 95	26 22	46 31	32 29	32 86	12 11	26 03	44 90
Deal/Asset Ratio	0 216	0 694	0 007	0 031	0 135	0 183	0 627	0 015	0 053	0 166
Lag1 SCAR	0 006	1 085	-0 604	0 00	0 584	0 034	1 038	-0 48	0 00	0 585
Loss_Reaction1	0 042	0 201	0 00	0 00	0 00	0 048	0 214	0 00	0 00	0 00
(Ret – $R_{VW\ IND}$)	39 89	99 14	4 139	16 55	50 64	294 4	687 9	-24 64	-4 63	14 14
CHG in Mgt Comp	0 766	2 458	-0 118	0 239	0 892	0 301	0 874	-0 168	0 104	0 448
Ret (Run-up)	62 55	107 2	11 58	39 74	74 78	304 1	686 9	-17 31	3 351	26 36
MB	3 62	6 068	1 247	2 071	3 855	1 338	1 124	0 730	1 026	1 521
Leverage	0 199	0 161	0 060	0 190	0 293	0 226	0 157	0 089	0 230	0 337
Intangibles/Assets	0 173	0 183	0 029	0 102	0 266	0 119	0 148	0 007	0 061	0 172
Relative Size	0 101	0 241	0 005	0 021	0 077	0 235	0 454	0 023	0 079	0 248
Insider Shareholding	0 027	0 057	0 002	0 005	0 022	0 041	0 099	0 002	0 008	0 032
Cash Comp Ratio	0 360	0 219	0 207	0 320	0 461	0 568	0 238	0 398	0 577	0 761

TABLE XVI

MANAGERIAL OVERCONFIDENCE ROBUSTNESS: TESTING THE IMPACT OF OVERCONFIDENCE ON LOSS AVERSION EFFECTS

Model (1): Dependent = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8$ *Change in Mgt Compensation* $+ \beta_9 Ret + \beta_{10} MB + \beta_{11}$ *Debt/Assets* $+ \beta_{12}$ *Intangibles/Assets* $+ \varepsilon$

Model (2): Dependent = $\alpha + \beta_1 PCAR\_1 + \beta_2 PCAR\_2 + \beta_3 PCAR\_3 + \beta_4 Loss\_Reaction_1 + \beta_5 Loss\_Reaction_2 + \beta_6 Loss\_Reaction_3 + \beta_7 (Ret - R_{VW\ IND}) + \beta_8$ *Change in Mgt Compensation* $+ \beta_9 Ret + \beta_{10} MB + \beta_{11}$ *Debt/Assets* $+ \beta_{12}$ *Intangibles/Assets* $+ \beta_{13}$ *Cash Compensation Ratio* $+ \beta_{14}$ *Relative Size* $+ \varepsilon$

The above two models are used to reproduce the choice and premium regressions results in two sub samples representing the top and bottom quartiles of the main sample sorted by three (3) managerial overconfidence proxies, namely (i) number of deals conducted by bidders (ii) value of in-the-money options held by management (iii) ratio of in-the-money options held by management to company's market capitalization The results produced for the various sub samples reflect the impact of the extent of managerial overconfidence on the loss aversion results in M&A deals.

PANEL A: Top and Bottom Quartiles of Managerial Overconfidence by Number of Deals

Variables	Bidders with 13 Deals or More (Q4 / N=1106)								Bidders with 4 Deals or Less (Q1 / N=1145)							
	Public/Private		*Local/Foreign*		*Related/Unrelated*		*Premium*		*Public/Private*		*Local/Foreign*		*Related/Unrelated*		*Premium*	
	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2
PCAR_1	-0 03	-0 03	0 02	0 01	0 02	0 01	0 002	-0 000	-0 016	-0 02	0 02	0 02	-0 06	-0 06	0 023[x]	0 014[x]
PCAR_2	-0 02	-0 02	-0 03	-0 04	0 05	0 04	0 002	-0 003	0 07	0 05	-0 17**	-0 19[xx]	0 13[x]	0 11	0 041[xx]	0 021
PCAR_3	-0 02	-0 03	-0 03	-0 04	-0 07[x]	-0 08[x]	0 032[xx]	0 03*[x]	0 01	0 01	-0 06	-0 06	-0 12	-0 12	0 058	0 004
$Loss\_Reaction_1$	-0 38*	-0 36[x]	-0 01	-0 001	0 10	0 16	-0 05	-0 02	0 20	0 21	0 06	0 07	0 16	0 14	0 031	0 000
$Loss\_Reaction_2$	-0 06	-0 11	0 07	0 07	0 51**	0 46[xx]	-0 03	-0 03	0 49*	0 49[x]	-0 19	-0 20	0 47[x]	0 45[x]	0 24[xxx]	0 22[xxx]
$Loss\_Reaction_3$	0 21	0 26	-0 16	-0 21	0 18	0 24	0 07	0 06	-4 47	-4 49	4 26	4 01	-4 11	-3 98	-0 06	0 027
$(Ret - R_{VW\ IND})$	-0 001	-0 001	0 001	0 001	0 001	0 001	0 001[x]	0 001[xx]	-0 001	-0 002	0 000	0 000	0 004*	0 004[x]	-0 000	-0 000
CHG-Mgt Comp	0 12***	0 09**	0 001	-0 02	0 11***	0 11***	0 05***[x]	0 03[xx]	-0 037	-0 11*	0 011	0 02	-0 045	-0 103[x]	0 02	0 001
Ret (Run-up)	0 001	0 001	-0 000	-0 0002	-0 002	-0 002	0 000	0 000	0 001	0 002	-0 000	-0 000	-0 004[x]	-0 004	0 000	0 000
MB	-0 04*[x]	-0 04**	-0 03**	-0 03**	-0 03	-0 02	0 02[xxx]	0 02***[x]	-0 05	-0 041	-0 013	0 002	-0 04	-0 04	0 06*[xx]	0 07[xx]*
Debt/Assets	0 17*[x]	0 04	-1 24***	-1 37***	1 45***	1 39***	-0 02	-0 17	0 43	0 23	0 41	0 26	1 05[xxx]	0 86[xx]	0 15[x]	-0 06
Intangibles/Assets	-1 45***	-1 45***	-0 89***	-0 85***	-0 44	-0 39	0 09	0 15[x]	-1 34*[xx]	-1 29[xxx]	-0 75[x]*	-0 66*	-0 40	-0 48	-0 04	0 12
Relative Size	*n a*	1 77**[x]	*n a*	0 80**	*n a*	0 74**[x]	*n a*	1 04***[x]	*n a*	0 63[xxx]	*n a*	0 65[xx]*	*n a*	0 48*[x]	*n a*	0 61[xxx]
Cash Comp Ratio	*n a*	-0 18	*n a*	-0 15	*n a*	0 01	*n a*	-0 012	*n a*	-0 56*[x]	*n a*	0 12	*n a*	-0 62[xx]	*n a*	-0 06
Intercept	-0 17*	-0 23	1 31**[x]	1 34***	-1 38**[x]	-1 49***	0 013	-0 05	-0 56*[xx]	-0 37[xx]	-0 92**	0 72[xx]*	-1 23*[xx]	-0 98*[xx]	0 07*[x]	-0 04
No Obs	806	793	806	793	805	793	805	793	822	817	822	817	822	817	822	817
Concordant %	63 6%	70 7%	67 0%	68 1%	65 9%	68 4%	*n a*	*n a*	61 8%	70 7%	60 4%	64 0%	63 7%	70 9%	*n a*	*n a*
Discordant %	35 8[x]	28 9%	32 3%	31 3%	33 2%	30 8%	*n a*	*n a*	37 4%	28 8%	38 2%	35 0%	35 3%	28 3%	*n a*	*n a*
Tied %	0 5%	0 4%	0 6%	0 6%	0 9%	0 8%	*n a*	*n a*	0 8%	0 5%	1 4%	1 0%	1 0%	0 7%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	15 9%	36 9%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	7 02%	50 6%

TABLE XVI – *Continued*

MANAGERIAL OVERCONFIDENCE ROBUSTNESS: TESTING THE IMPACT OF OVERCONFIDENCE ON LOSS AVERSION EFFECTS

PANEL B: Top and Bottom Quartiles of Managerial Overconfidence by Value of Options Held by Management

Variables	Q4 – Top Quartile of Options Value (N=1096)								Q1 – Bottom Quartile of Options Value (N=1097)							
	Public/Private		*Local/Foreign*		*Related/Unrelated*		*Premium*		*Public/Private*		*Local/Foreign*		*Related/Unrelated*		*Premium*	
	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2
PCAR_1	-0 10***	-0 10**	-0 005	-0 008	-0 007	-0 006	0 003	0 004	0 02	0 016	0 05	0 05	-0 077[1]	-0 075[1]	-0 001	-0 004
PCAR_2	0 002	-0 01	-0 08*	-0 07[+]	0 026	0 029	0 008	0 006	0 03	0 026	0 012	-0 01	0 015	0 009	0 014	0 007
PCAR_3	-0 07*	-0 08*	-0 06[4]	-0 07*	-0 09[+]	-0 087[+]	0 013	0 011	-0 06	-0 058	-0 056	-0 059	-0 039	-0 05	0 007	0 009
$Loss\_Reaction_1$	-0 12	-0 19	0 06	0 061	0 068	0 06	-0 03	-0 049	0 26	0 289[4]	-0 098	-0 105	0 34[+]	0 37[+]	-0 035	-0 032
$Loss\_Reaction_2$	0 005	-0 07	-0 05	-0 066	0 83***	0 82***[+]	0 125[4]	0 084	0 29	0 24	-0 01	-0 122	0 22	0 19	0 072	0 014
$Loss\_Reaction_3$	-0 14	-0 15	-0 17	-0 18	0 21	0 24	0 002	0 010	0 13	0 16	-0 51[+]+	-0 59[+]+[+]	-0 02	-0 02	-0 025	-0 047
$(Ret - R_{VW\ IND})$	0 002	0 002	0 002	0 003[4]	-0 001	-0 002	0 001	0 001[+]	-0 002	-0 002	-0 003[1]	-0 002	0 003	0 003	-0 000	-0 0003
CHG-Mgt Comp	-0 025	-0 03	-0 021	-0 014	0 023	0 02	0 002	0 005	0 21[+]+[+]	0 18[+]+[+]	0 08[4]	0 124[+]+	-0 203[+]+[1]	-0 23[+]+[+]	0 04[+]+[+]	0 011[1]
Ret (Run-up)	-0 002	-0 002	0 000	-0 000	-0 000	-0 000	0 001	0 0003	0 000	0 001	0 003	0 002	-0 004	-0 003	0 000	0 0002
MB	-0 03**	-0 03*	-0 021*	-0 02*	-0 04	-0 04	0 024***[+]	0 026[+]+[+]	-0 08	-0 06	-0 043	-0 02	-0 15[+]	-0 16*[4]	0 06[+]+[1]	0 074[+]+[+]
Debt/Assets	0 36	0 08	-1 41***	-1 59***	0 41	0 198	0 096	-0 17	0 51*	0 23	-0 33	-0 57[+]	1 13*[+]	0 95[+]+	0 049	-0 155[+]*[+]
Intangibles/Assets	-0 67***[+]	-0 76***[+]	0 402	0 41	0 59**[+]	0 59**[+]	0 21*	0 19**[+]	-0 72*[+]	-0 56	-0 64**[+]	-0 47	-1 79[+]+[+]	-1 88[+]+[+]	-0 159[+]+	0 006
Relative Size	*n a*	2 02***	*n a*	1 27	*n a*	0 70***[+]	*n a*	1 41***[+]	*n a*	0 73***[+]	*n a*	0 34*[+]	*n a*	0 41***[+]	*n a*	0 54[+]+[+]
Cash Comp Ratio	*n a*	0 21	*n a*	0 17	*n a*	-0 24	*n a*	-0 031	*n a*	-0 21	*n a*	0 55[+]*	*n a*	-0 12	*n a*	-0 033
Intercept	-0 27***[+]	-0 31**[+]	1 001***[+]	0 87***[+]	-1 22	-1 17	-0 010	-0 077	-0 66[+]+[+]	-0 71	1 02[+]+[+]	0 67[+]+[+]	-1 03[+]+[+]	-1 04[+]+[+]	0 084[+]+	-0 007
No Obs	823	817	823	817	823	817	823	817	828	818	828	818	828	818	828	818
Concordant %	61 2%	72 1%	62 9%	65 4%	63 1%	67 1%	*n a*	*n a*	61 8%	71 6%	58 5%	63 3%	69 0%	73 0%	*n a*	*n a*
Discordant %	38 1%	27 4%	36 4%	34 0%	35 8%	31 9%	*n a*	*n a*	37 4%	27 8%	40 3%	35 9%	30 4%	26 4%	*n a*	*n a*
Tied %	0 7%	0 5%	0 7%	0 6%	1 2%	1 0%	*n a*	*n a*	0 8%	0 5%	1 2%	0 8%	0 6%	0 5%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	13 3%	42 8%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	4 95%	56 4%

TABLE XVI – *Continued*

MANAGERIAL OVERCONFIDENCE ROBUSTNESS: TESTING THE IMPACT OF OVERCONFIDENCE ON LOSS AVERSION EFFECTS

PANEL C: Top and Bottom Quartiles of Managerial Overconfidence by Ratio of Options Held by Management to Market Cap

Variables	Q4 – Top Quartile of Options Ratio (N=1095)								Q1 – Bottom Quartile of Options Ratio (N=1103)							
	Public/Private		*Local/Foreign*		*Related/Unrelated*		*Premium*		*Public/Private*		*Local/Foreign*		*Related/Unrelated*		*Premium*	
	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2	Model-1	Model-2
PCAR_1	-0 13***	-0 13**	-0 02	-0 02	-0 056	-0 06	0 001	0 003	-0 002	-0 005	0 033	0 022	-0 037	-0 033	-0 002	-0 008
PCAR_2	-0 006	-0 039	-0 14***	-0 14***	0 018	0 005	0 014	-0 000	-0 006	-0 013	-0 069[†]	-0 082[†]	0 065	0 059	0 014	0 007
PCAR_3	-0 028	-0 022	0 055	0 061	-0 023	-0 02	0 020	0 026*	-0 10[†††]	-0 096[†††]	-0 064	-0 064	-0 05	-0 047	0 008	0 013[†]
Loss_Reaction$_1$	-0 114	0 012	0 011	0 026	0 35	0 42*	-0 05	0 025	0 141	0 165	-0 068	-0 08	0 32*	0 34*	-0 031	-0 024
Loss_Reaction$_2$	0 11	0 22	-0 39[a]	-0 34	0 26	0 31	-0 097	-0 014	0 211	0 166	-0 182	-0 25	0 31[†]	0 29[†]	0 051	0 011
Loss_Reaction$_3$	0 19	0 27	-0 40*	-0 38*	0 83***	0 86***	-0 02	0 019	0 030	0 122	-0 51*[†]	-0 60***[†]	-0 15	-0 10	-0 038	-0 022
(Ret – $R_{VW\,IND}$)	0 001	-0 000	0 003[a]	0 002	-0 000	0 000	0 000	-0 000	-0 0016	-0 003[†]	0 001	0 002	0 002	0 001	0 000	0 000
CHG-Mgt Comp	0 026	0 015	0 010	0 005	0 005	0 02	0 004	0 003	0 103***[†]	0 053	0 087*[†]	0 124**[†]	-0 06	-0 103[†]	0 034***[†]	0 01[a]
Ret (Run-up)	0 000	0 001	-0 002	-0 001	0 000	-0 000	0 001	0 001**[†]	0 0016	0 003	0 000	-0 000	-0 003	-0 001	-0 000	0 000
MB	-0 02	-0 02	-0 005	-0 006	-0 028	-0 012	0 023***[†]	0 024***[†]	-0 106**[†]	-0 08*[†]	-0 14**[†]	-0 11**[†]	-0 034	-0 036	0 038***[†]	0 061***[†]
Debt/Assets	0 81**	0 47[a]	0 37	0 189	0 59	0 292	0 016	-0 33***[†]	0 05	-0 152	-0 49	-0 70**	0 978***[†]	0 88**[†]	0 019	-0 14***[†]
Intangibles/Assets	-0 63**	-0 61**[†]	-0 25	-0 225	0 27	0 48	0 069	0 17**[†]	-0 72**	-0 62[†]	-0 39	-0 277	-0 93**[†]	-0 94**[†]	-0 071	0 077
Relative Size	*n a*	0 85***	*n a*	0 61**	*n a*	0 59***	*n a*	0 92***[†]	*n a*	0 74***[†]	*n a*	0 35**[†]	*n a*	0 38***[†]	*n a*	0 54***[†]
Cash Comp Ratio	*n a*	-0 49*	*n a*	-0 21	*n a*	0 42	*n a*	-0 112	*n a*	-0 51**[†]	*n a*	0 57**[†]	*n a*	-0 38	*n a*	-0 013
Intercept	-0 86***	-0 77***[†]	1 07***	1 104***	-1 52***	-1 86***[†]	0 098**[†]	0 026	-0 272**	-0 154	1 11***[†]	0 77**[†]	-1 02**[†]	-0 89***[†]	*n a*	-0 025
No Obs	753	749	753	749	753	749	753	749	831	821	831	821	831	821	831	821
Concordant %	61 6%	71 0%	61 3%	63 2%	63 2%	68 7%	*n a*	*n a*	60 5%	69 3%	59 8%	63 7%	61 0%	65 4%	*n a*	*n a*
Discordant %	37 6%	28 4%	37 4%	35 8%	35 1%	30 0%	*n a*	*n a*	38 8%	30 2%	39 3%	35 6%	38 1%	33 8%	*n a*	*n a*
Tied %	0 8%	0 6%	1 3%	1 0%	1 7%	1 3%	*n a*	*n a*	0 7%	0 5%	0 9%	0 6%	0 9%	0 8%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	13 8%	39 1%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	3 13%	57 3%

TABLE XVII
DESCRIPTIVE STATISTICS OF PERIODS SUBSAMPLES

Descriptive statistics reported for 3 sub-periods under study (i) 1990 – 1996 (ii) 1997 – 2000 (iii) 2001 – 2005.

	Y 1990 – 1996 (N=6021)			Y 1997 – 2000 (N=6951)			Y 2001 – 2005 (N=3610)		
Variables	Mean	STD	Median	Mean	STD	Median	Mean	STD	Median
Premium	36.86	55.14	28.57	32.61	36.56	26.69	33.70	42.51	25.51
Deal/Asset Ratio	0.47	2.22	0.101	4.62	29.48	0.100	0.230	0.707	0.062
Lag1 SCAR	0.084	0.891	0.000	0.067	1.050	0.000	0.035	1.014	0.000
Loss_Reaction1	0.046	0.208	0.000	0.037	0.190	0.000	0.039	0.195	0.000
(Ret – $R_{VW\text{-}IND}$)	49.17	101.9	4.497	19.82	106.7	-0.046	123.2	387.3	11.35
CHG in Mgt Comp.	0.362	0.929	0.167	0.574	1.658	0.229	0.397	1.774	0.086
Ret (Run-up)	69.28	101.7	22.36	49.21	110.09	27.19	126.0	385.7	15.73
MB	1.837	2.319	1.272	2.99	6.677	1.436	1.730	1.651	1.264
Leverage	0.245	0.286	0.196	0.252	0.247	0.217	0.218	0.211	0.179
Intangibles/Assets	0.099	0.153	0.018	0.124	0.181	0.037	0.171	0.185	0.108
Relative Size	0.387	2.356	0.102	0.318	1.053	0.082	0.286	1.814	0.076
Insider Shareholding	0.028	0.060	0.007	0.036	0.074	0.007	0.031	0.088	0.007
Cash Comp. Ratio	0.561	0.219	0.558	0.461	0.234	0.443	0.439	0.232	0.404

TABLE XVIII
INDUSTRY & TIME PERIODS ROBUSTNESS: REGRESSIONS WITH INDUSTRY MEDIANS

The robustness of loss aversion results on target choices and premium is tested over various time periods while using Fama-French industry wide medians data points for control variables rather than company level data The results are replicated for three (3) time periods correspond to major M&A waves including (i) 1990 – 1996 (ii) 1997 – 2000 and (iii) 2001 – 2005

PANEL A: M&A Choices and Premiums Paid of 1990 – 2005 and 1990 – 1996 Periods with Correction for Heteroscedasticity & Coliniarity

	Full Sample Period: Years 1990 – 2005								**Sub-sample (1): Years 1990 – 1996**							
Variables	Public	Public	Local	Local	Related	Related	Prem	Prem	Public	Public	Local	Local	Related	Related	Prem	Prem
PCAR_1	0 022	-0 018	0 003	0 007	0 001	-0 0003	0 005	0 003	-0 014	0 005	0 053	0 046	-0 028	0 021	-0 001	0 009
PCAR_2	0 009	0 019	-0 04*	-0 039*	0 009	0 0212	0 015***	0 015**	0 026	0 066	0 147***	0 146**	0 047	0 07	0 038***	0 039***
PCAR_3	-0 04*	0 04*	0 009	-0 012	0 052**	0 0257	0 003	0 006	0 04	0 034	0 144**	0 147**	0 022	0 016	0 002	0 003
Loss_Reaction$_1$	0 05	0 07	0 056	0 065	0 26***	0 29***	0 003	0 0014	0 29*	0 288*	0 065	0 024	0 403***	0 285*	0 009	0 006
Loss_Reaction$_2$	0 23***	0 24***	0 043	0 015	0 43***	0 42***	0 014	0 010	0 21	0 070	0 367*	0 435*	0 585***	0 439**	0 048	0 025
Loss_Reaction$_3$	0 15*	0 168*	0 190*	0 158	0 129	0 162	0 025	-0 025	0 39*	0 49*	0 387	0 362	0 244	0 324	0 037	0 042
(Ret – R$_{VW\ IND}$)	-0 0001	0 0002	0 000	0 0001	0 0007	0 001	0 000	0 000	-0 000	0 000	0 0001	0 001	0 0001	0 001	0 001***	0 001***
CHG-Mgt Comp	0 03***	0 019*	0 026*	0 029*	0 0011	0 003	0 016***	0 014***	0 12***	0 102*	0 022	0 005	0 067	0 031	0 012	0 041***
Ret – *Median*	*0 0001*	*0 0004*	*0 002****	*0 002***	*0 0011*	*0 002***	*0 0002*	*0 0002*	*0 003*	*0 005****	*0 0034*	*0 001*	*0 003*	*0 006*	*0 0007*	*0 001*
MB – *Median*	*0 14****	*0 139****	*0 147****	*0 142****	*0 0161*	*0 022*	*0 067****	*0 059****	*0 247****	*0 193****	*0 360****	*0 329****	*0 115**	*0 037*	*0 091****	*0 083****
Debt/Assets–*Median*	*0 16*	*0 059*	*0 421***	*0 266*	*0 812****	*0 69****	*0 087*	*0 069*	*0 377*	*0 115*	*1 45****	*1 113***	*1 09***	*1 271****	*0 159*	*0 168*
Intangibles/Assets – *Median*	*1 72****	*1 73****	*1 259****	*1 334****	*0 183*	*0 359*	*0 014*	*0 049*	*0 626*	*0 779*	*0 557*	*0 443*	*0 356*	*1 122*	*0 267*	*0 281*
Relative Size–*Median*	*1 062****	*1 101****	*0 309*	*0 523***	*0 974****	*0 89****	*0 347****	*0 459****	*0 300*	*0 372*	*1 279****	*1 382****	*1 04****	*1 05***	*0 433****	*0 536****
Cash Comp Ratio	*n a*	0 304***	*n a*	0 074	*n a*	0 177	*n a*	0 048	*n a*	0 162	*n a*	0 276	*n a*	0 367	*n a*	0 169***
Insider Ownership	*n a*	1 08**	*n a*	0 119	*n a*	1 252**	*n a*	0 239**	*n a*	2 79*	*n a*	0 204	*n a*	1 65	*n a*	0 474***
Intercept	0 29***	0 132	1 28***	1 247***	1 40***	1 436***	0 008	0 024	0 0325	0 055	1 92***	1 73***	1 02***	0 774***	0 013	0 083
Concordant %	62 3%	63 1%	59 5	59 6%	61 2%	61 8%	*n a*	*n a*	63 0%	64 6%	67 6%	68 2%	64 8%	66 4%	*n a*	*n a*
Discordant %	37 1%	36 3%	39 3	39 2%	37 5%	37 0%	*n a*	*n a*	36 5%	34 9%	31 8%	31 2%	34 4%	33 0%	*n a*	*n a*
Tied %	0 6%	0 6%	1 2%	1 1%	1 3%	1 3%	*n a*	*n a*	0 5%	0 4%	0 6%	0 6%	0 7%	0 6%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	3 4%	3 4%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	7 7%	8 9%

TABLE XVIII – *Continued*
INDUSTRY & TIME PERIODS ROBUSTNESS: REGRESSIONS WITH INDUSTRY MEDIANS

The robustness of loss aversion results on target choices and premium is tested over various time periods while using Fama-French industry wide medians data points for control variables rather than company level data. The results are replicated for three (3) time periods correspond to major M&A waves including (i) 1990 – 1996 (ii) 1997 – 2000 and (iii) 2001 – 2005.

PANEL B: M&A Choices and Premiums Paid of 1997 – 2000 and 2001 – 2005 Periods with Correction for Heteroscedasticity & Coliniarity

	Sub-sample (2): 1997 – 2000								**Sub-sample (3): Years 2001 – 2005**							
Variables	Public	Public	Local	Local	Related	Related	Prem	Prem	Public	Public	Local	Local	Related	Related	Prem	Prem
PCAR_1	0 014	0 018	-0 006	-0 003	0 06*	0 068*	0 008	0 0087	-0 081**	-0 076**	0 038	0 046	-0 062*	-0 068*	0 006	0 003
PCAR_2	-0 008	0 011	0 002	0 010	0 002	-0 004	0 008	0 0064	0 006	-0 005	-0 047	-0 053[3]	0 002	0 025	0 011[1]	0 011
PCAR_3	-0 06**	-0 062*	-0 015	-0 021	-0 057	-0 042	0 0003	0 0061	-0 026	-0 036	0 036	0 037	-0 073*	-0 033	0 003	0 003
Loss_Reaction$_1$	0 047	0 096	-0 089	-0 142	0 125	0 247[+]	0 021	0 012	-0 40*	-0 43*	-0 031	-0 011	0 092	0 161	-0 033	-0 035
Loss_Reaction$_2$	0 29*[+]	0 34**	-0 137	-0 075	0 317**	0 425***	-0 010	-0 002	0 03	0 077	-0 262	-0 21	0 294	0 309	0 025	0 0361
Loss_Reaction$_3$	-0 019	-0 004	-0 137	-0 09	0 093	0 083	-0 022	-0 019	0 217	0 271	-0 220	-0 177	0 085	0 178	-0 030	-0 031
(Ret – $R_{VW\ IND}$)	-0 0001	-0 0004	0 000	0 0002	0 000	0 0004	0 001***	0 001***	-0 000	-0 0000	0 000	0 000	-0 003***	-0 002***	-0 000	-0 000
CHG-Mgt Comp	0 023	0 012	0 05*	0 040[a]	-0 014	0 008	0 019***	0 021***	0 017	0 009	0 008	0 011	0 006	-0 010	0 006	0 006[3]
Ret – *Median*	*0 001*	*0 001*	*0 004****	*0 004****	*0 0015*	*-0 002*	*-0 001***	*-0 0008**	*-0 002*	*0 001*	*-0 0012*	*0 001*	*0 001*	*-0 002*	*0 000*	*-0 000*
MB – *Median*	*0 184****	*-0 189****	*-0 135****	*-0 146****	*0 044*	*0 0005*	*0 054****	*0 045****	*-0 078*	*-0 093*	*0 164***	*0 138**	*0 089*	*0 107*	*0 064****	*0 064****
Debt/Assets–*Median*	*-0 305*	*-0 344*	*-0 62**	*-0 598[a]*	*1 536****	*1 43****	*0 135*	*0 051*	*-0 294*	*0 167*	*0 338*	*0 45*	*0 731****	*0 65**	*0 030*	*-0 022*
Intangibles/Assets – *Median*	*-0 611*	*-0 754[a]*	*-1 584****	*1 882****	*0 038*	*0 216*	*0 025*	*0 222*	*-1 616****	*-1 441****	*0 620**	*-0 517*	*0 843***	*1 04 **	*0 087*	*0 1166*
Relative Size–*Median*	*0 79****	*0 78**	*0 357*	*0 157*	*0 798****	*0 256*	*0 207***	*0 3455***	*1 82****	*1 791****	*-0 523*	*0 367*	*0 707**	*0 696*	*0 432****	*0 436****
Cash Comp Ratio	*n a*	0 31*	*n a*	-0 193	*n a*	0 401[+]*	*n a*	-0 003	*n a*	-0 438**	*n a*	0 075	*n a*	0 043	*n a*	0 003
Insider Ownership	*n a*	-2 25***	*n a*	0 81	*n a*	-1 30[a]	*n a*	0 126	*n a*	0 131	*n a*	-0 019	*n a*	0 831	*n a*	0 205[+]*
Intercept	-0 161	0 094	1 215***	1 35***	-1 72***	-1 80***	0 042	0 041	-0 582***	-0 42**	1 12***	1 001***	-1 63***	-1 656***	-0 005	-0 015
Concordant %	61 1%	63 3%	61 9%	62 2%	63 0%	64 9%	*n a*	*n a*	62 5%	62 5%	57 0%	56 9%	61 1%	61 7%	*n a*	*n a*
Discordant %	38 2%	36 2%	37 1%	36 9%	35 7%	34 3%	*n a*	*n a*	36 8%	36 8%	41 8%	42 0%	37 5%	36 9%	*n a*	*n a*
Tied %	0 7%	0 6%	0 9%	0 8%	1 3%	1 1%	*n a*	*n a*	0 7%	0 7%	1 2%	1 2%	1 4%	1 4%	*n a*	*n a*
R^2	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	6 96%	5 7%	*n a*	*n a*	*n a*	*n a*	*n a*	*n a*	3 0%	3 3%

AHMED ESSAM EL-BAKRY

WORK EXPERIENCE

[2004 -2011] Old Dominion University — USA
Graduate Research Assistant & Finance Instructor

[2003 -2007] Skopos Consulting Co. — Kuwait
Finance & Strategy Consultant/Analyst - Part time

[2000 - 2004] Alexandria University & Arab Academy for Science and Tech. — Egypt
Finance & Management Instructor

[Summer 1999] Unilever Egypt (Fine Foods Co.) — Egypt
Market Research Analyst - Internship

[Summer 1998] The Egyptian Company for Mobile Services (Mobinil) — Egypt
Logistics Supervisor - Internship

EDUCATION

[2011] Doctor of Philosophy - Finance — Old Dominion University — Virginia, USA
GPA 3.97
Title: "The Behavior & Choices of Serial Bidders in M&A Transactions: A Prospect Theory Approach"

[2008] Master of Arts in Economics — Old Dominion University — Virginia, USA
GPA 4.00

[2003] MBA — Arab Academy for Science and Technology — Alexandria, Egypt
GPA 3.88 Top of Finance Track

[2000] Bachelors (Business Administration) — Alexandria University — Alexandria, Egypt
Grade: 89% V. Good with First Class Honors - Top of Class

PROFESSIONAL CERTIFICATION

[2005 - Present] Chartered Financial Analyst (CFA®) — CFA Institute — Virginia, USA

MEMBERSHIPS

- Member of the CFA Institute — Charlottesville, VA, USA
- Member of the Phi Kappa Phi Honor Society — Virginia, USA